

B U L L E T

University of Missouri-St. Louis 1996-97 Undergraduate & Grad



University of Missouri-St. Louis
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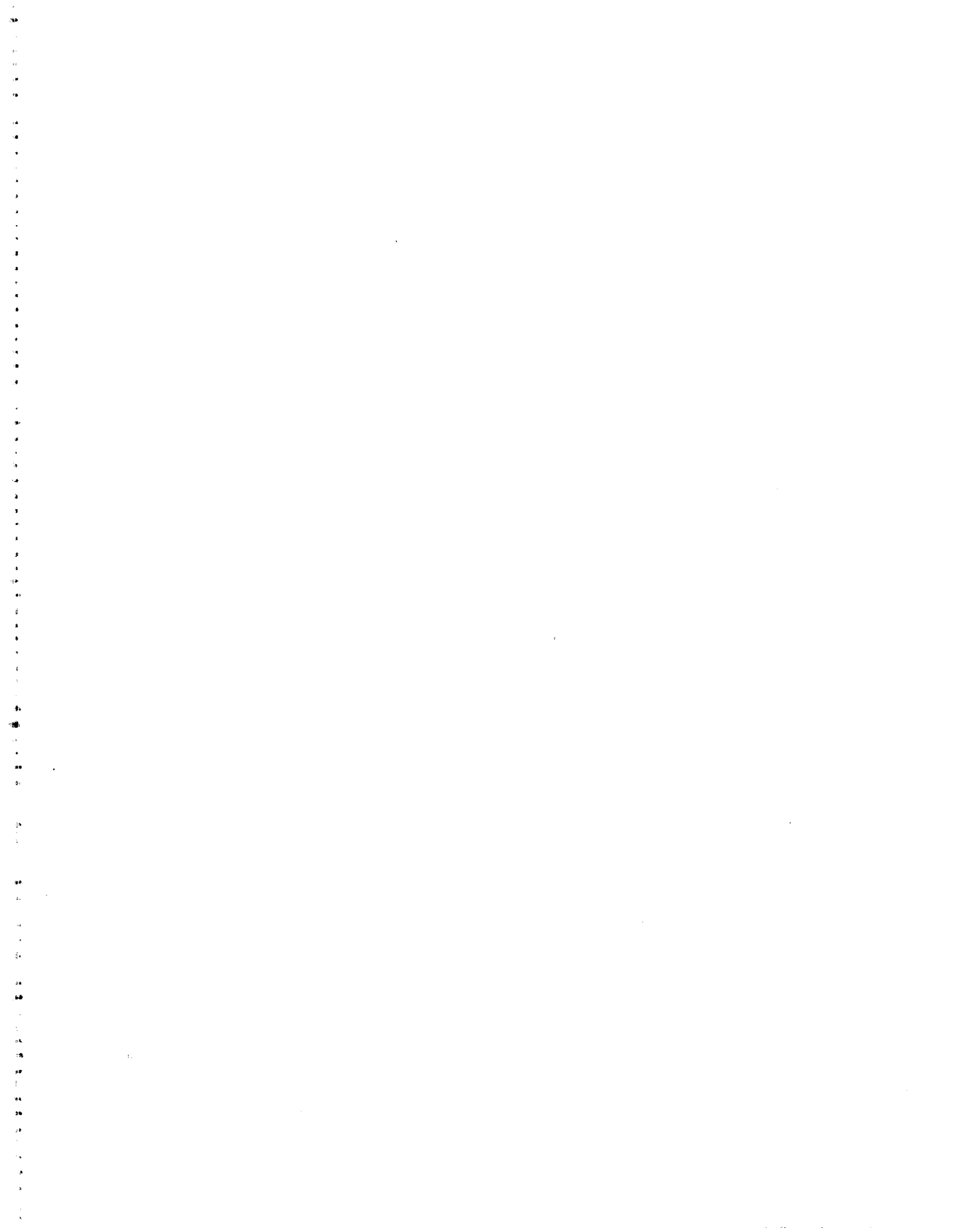


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Instructional Areas

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

accounting
adult education
American studies
anthropology
archaeology
art
art history
astrophysics
athletic coaching
biochemistry
biology
black studies
business administration
chemistry
Chinese
classical studies
communication
communication theory and rhetoric
comparative politics
computer science
counselor education
criminology and criminal justice
early childhood education
East Asian studies
economics
educational administration
educational foundations
educational psychology
educational research and evaluation methods
educational technology
elementary education
employee training and development
engineering
English
European studies
Fine arts
foreign languages
French
geophysics
German
gerontology
Greek
Hebrew
history
home economics
interdisciplinary studies
international relations
Italian
Japanese
jazz studies
Latin American Studies
Latin
legal studies
management and organizational behavior
management information systems
management science
marketing
mass communication
mathematics
music
music education
nursing
philosophy
photographic studies
physical education
physics
political science
Portuguese
pre-architecture
pre-engineering
prejournalism
prelaw
premedicine
pre-optometry
prepharmacy
probability and statistics
psychology
public administration
public affairs journalism
public law
radio and television
religions
Reserve Officer Training Corps
Russian
secondary education
social work
sociology
Spanish
special education
statistics
studio art
urban politics
urban studies
women's 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.

On June 22, 1988, the North Central Association voted full accreditation to the University of Missouri-St. Louis for a ten-year period at the 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 is 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.

For the benefit of prospective students, academic departments generally maintain current employment information including average starting salary, forecast of job opportunities, number of students being graduated, and number employed. Students may contact their major department for the latest information available.

While students should study current employment data, these points should also be considered: (1) Employment conditions are subject to sudden change and may change considerably over a four-year period; (2) A student who excels is most likely to find employment; (3) A degree from a quality institution generally provides a competitive edge in the job market; (4) A degree offers more than a job opportunity.

Information regarding the provision of auxiliary aids and services to qualified students with disabilities can be found in Admissions and Academic Policies of the University of Missouri-St. Louis Bulletin. Students considering such assistance should contact the Administrator for Special Student Programs at 516-5211 voice or 516-5212 TT for further details.

Address inquiries regarding admission to all divisions of the University of Missouri-St. Louis 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-Rolla, or the University of Missouri-Kansas City, write directly to the Director of Admissions at the campus concerned.

Course Numbering

Each course bears a distinguishing number which identifies it within the department or academic unit and indicates, broadly, its rank. The numbering system is as follows:

Course Descriptions and Guide to Course Lists

1 to 99, primarily for freshmen and sophomores.

100 to 199, primarily for upperclassmen, no graduate credit.

200 to 299, for undergraduates and appropriate professional and graduate students, except those whose graduate majors are in the department in which the course is given.

300 to 399, for undergraduate; appropriate professional, and graduate students without restriction as to students' graduate majors.

400 to 499, primarily for graduate and appropriate professional students in special programs; upper-class students are admitted to courses in this series only with the approval of the graduate dean.

500 to 599, for professional optometry students. Other students are admitted to courses in this series only with the approval of the Optometry Dean. In addition, these numbers are used for courses offered in the cooperative MSN program between UM-St. Louis and UM-Kansas City.

General Education Requirement Courses

Courses which fulfill the University's general education requirements, as outlined in the Academic Policy section of this Bulletin, are listed at the beginning of each departmental course section.

Each list of course numbers also is identified by one of the following breadth of study areas:

[H] Humanities requirement

[SM] Natural sciences and mathematics requirement

[SS] Social sciences requirement

Eye Protection Law

It is now a law in the state of Missouri that every student, teacher, and visitor must wear approved eye protection devices when participating in or observing certain university courses. Definitely included in this act, which is posted along with University policy in selected buildings on this campus, are courses requiring chemical, physical, combined chemical-physical laboratories and shops, as well as certain vocational, technical, and industrial arts courses. Consult your instructors for exact requirements. Approved safety glasses and goggles must meet ANSI Standard Z87.1-1968 and are available from the UM-St. Louis Bookstore.

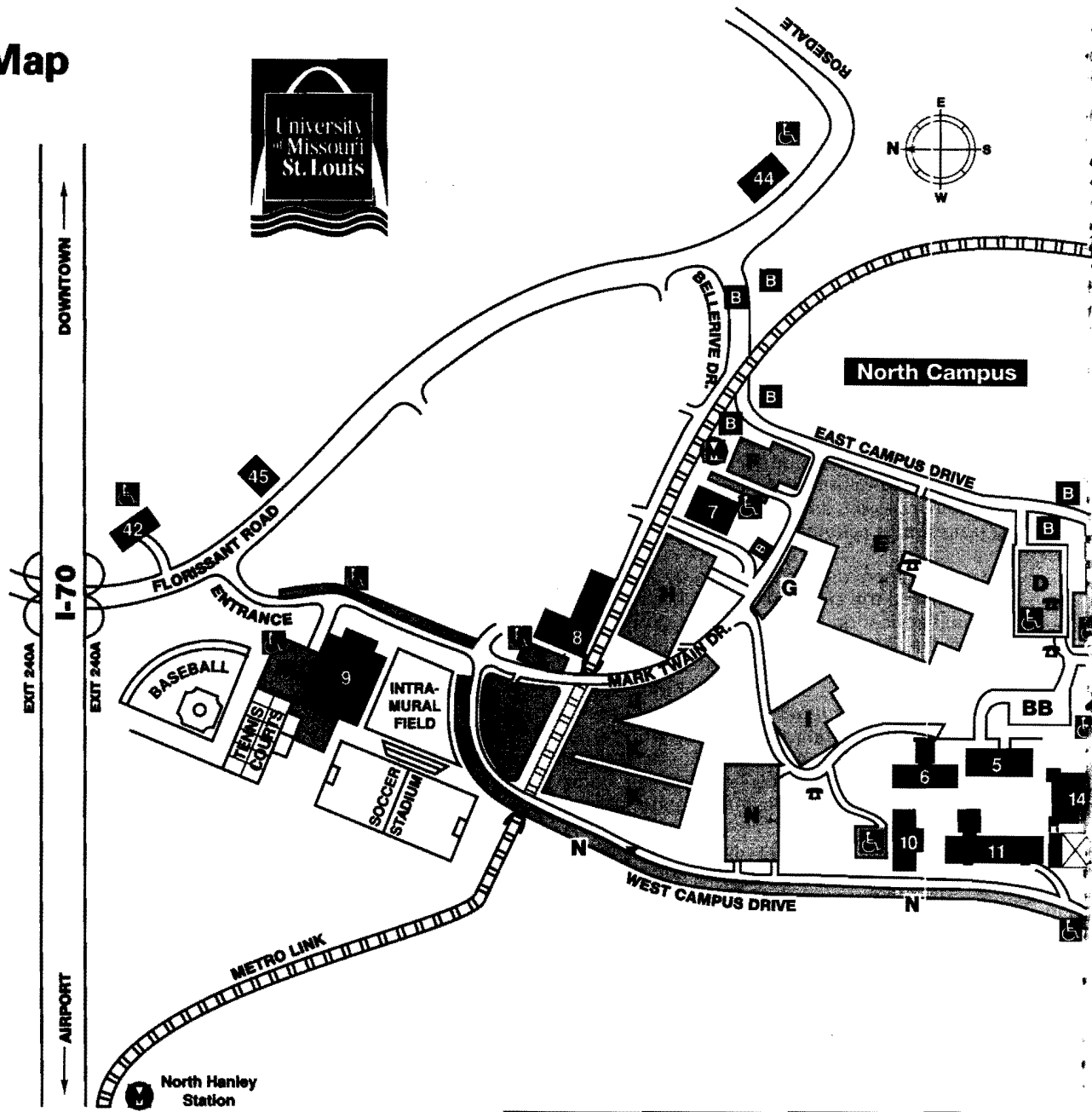
University Policy on Equal Opportunity

The Curators of the University of Missouri do hereby reaffirm and state the policy of the University of Missouri on Equal Employment/Educational Opportunity. Equal Opportunity is and shall be provided for all employees and applicants for employment on the basis of their demonstrated ability and competence without discrimination on the basis of their race, color, religion, sex, national origin, age or disability. Equal opportunity is and shall be also provided for all students and applicants for Admission in compliance with existing legislation. The President of the University shall establish affirmative action procedures to implement this policy.

Inquiries regarding compliance with these regulations may be directed to the:

Office of Equal Opportunity/Affirmative Action,
the University of Missouri-St. Louis,
St. Louis, Missouri 63121-4499, (314) 516-5689.

Campus Map



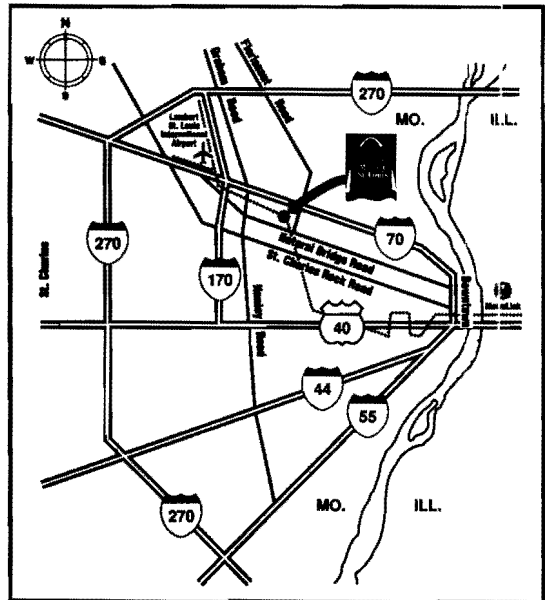
Parking Facilities

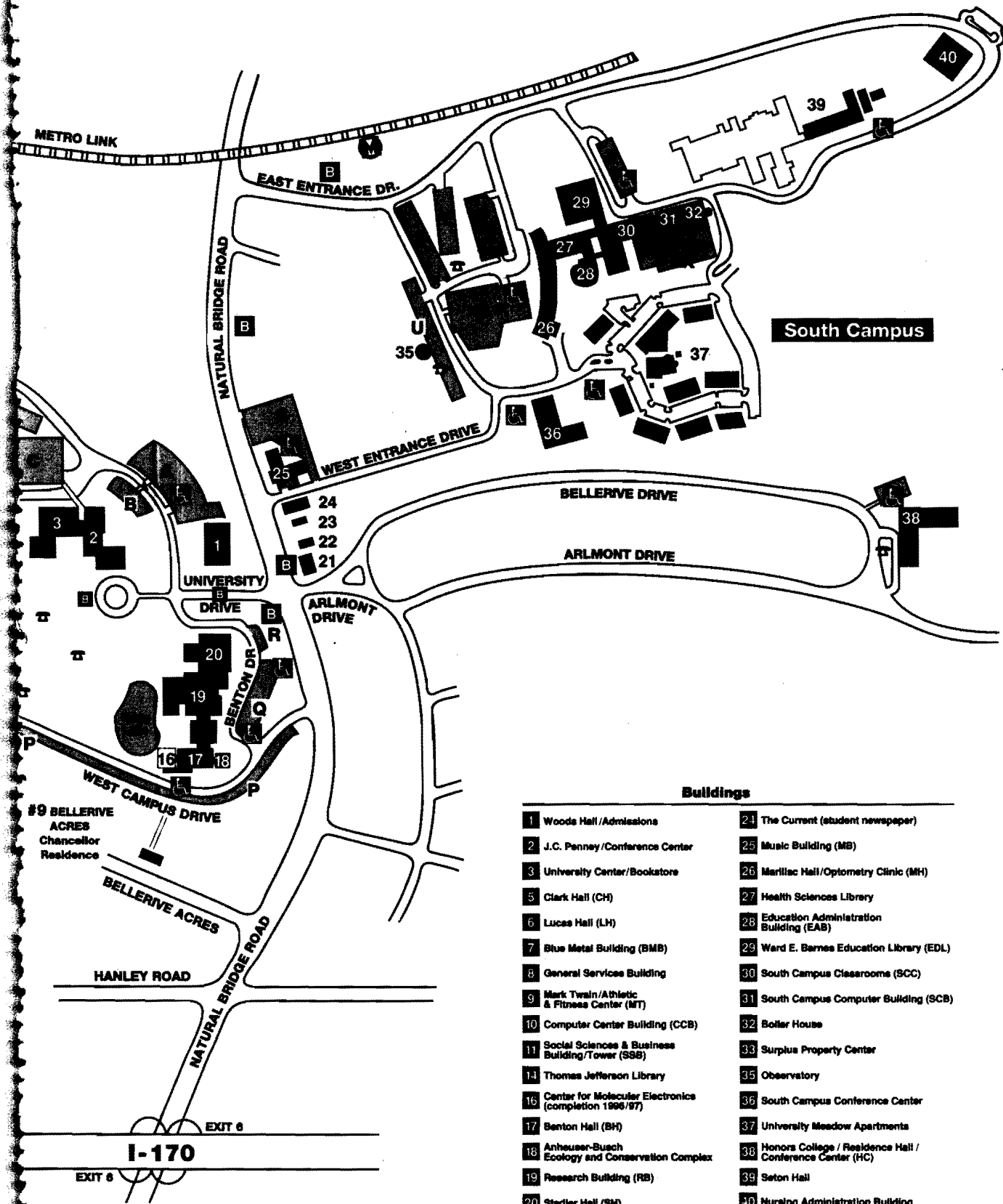
Designation	Lot
Students	CDEFQHIJKMNSTUV
Faculty/Staff	ACFHMPQRSVWXX
Visitors	ABGFLMNPWSX
Accessible	ACFLMNPQSVX
Service Vehicles	ALMNPR
Cycles	CDNPU
Car Pool/Cont. Ed.	C

Key

Emergency Telephone	BI-State Bus Stop
Accessible Parking	MetroLink Station

*TDD is available in 301 Woods Hall, 201 J.C. Penney and 222 GSB. For more information on accessibility, contact the Administrator for Special Student Programs, 301 Woods Hall, (314) 516-5211.





Buildings

1 Woods Hall / Admissions	24 The Current (student newspaper)
2 J.C. Penney / Conference Center	25 Music Building (MB)
3 University Center / Bookstore	26 Marillac Hall / Optometry Clinic (MH)
5 Clark Hall (CH)	27 Health Sciences Library
6 Lucas Hall (LH)	28 Education Administration Building (EAB)
7 Blue Metal Building (BMB)	29 Ward E. Barnes Education Library (EDL)
8 General Services Building	30 South Campus Classrooms (SCC)
9 Mark Twain / Athletic & Fitness Center (MT)	31 South Campus Computer Building (SCB)
10 Computer Center Building (CCB)	32 Boiler House
11 Social Sciences & Business Building / Tower (SSB)	33 Surplus Property Center
14 Thomas Jefferson Library	35 Observatory
16 Center for Molecular Electronics (completion 1996/97)	36 South Campus Conference Center
17 Benton Hall (BH)	37 University Meadow Apartments
18 Anheuser-Busch Ecology and Conservation Complex	38 Honors College / Residence Hall / Conference Center (HC)
19 Research Building (RB)	39 Seton Hall
20 Stadler Hall (SH)	40 Nursing Administration Building
21 Alumni Center	42 Eldercare Center
22 Alumni & Constituent Relations	44 Fine Arts Building
23 International House	45 Surplus Storage Center

Note: Missing numbers allow for future growth.

University Programs and Offices

Academic Affairs, Vice Chancellor

401 Woods, 516-5371

Administrative Services, Vice Chancellor

243 General Services Bldg., 516-6100

Admissions

101 Woods, 516-5451

Alumni Relations

421 Woods, 516-5776

Alumni Center

7956 Natural Bridge, 516-5722

Anthropology Department

607 Tower, 516-6020

Art and Art History Department

506 Lucas, 516-5975

Arts and Sciences, College of

305 Lucas, 516-5501

Academic Advising

303 Lucas, 516-5300

Athletics Office

225 Mark Twain, 516-5641

Behavioral Studies Department

469 Marillac Hall, 516-5782

Biology Department

223 Research Bldg., 516-6200

Bookstore

50 University Center, 516-5763

Bridge Program

201 WEB Education Library, 516-5196

Business Administration, School of

487 SSB Bldg., 516-5881

Cable TV Studio

116 Lucas, 516-6180

Cafeteria, "Underground"

University Center

Career Placement Services

308 Woods, 516-5111

Cashier's Office

204 Woods, 516-5151

Center for Academic Development (CAD)

507 Tower, 516-5194

Center for Business and Industrial Studies

461 SSB Bldg., 516-5857

Center for Cornea and Contact Lens Research

441 Marillac, 516-6259

Center for Economic Education

306 Tower, 516-5248

Center for International Studies

366 SSB Bldg., 516-5753

Center for Metropolitan Studies

362 SSB Bldg., 516-5273

Center for Molecular Electronics

3115-I Benton, 516-5340

Center for Excellence in Urban Education

359 Marillac Hall, 516-5862

Center for Science and Technology

315 Benton, 516-5349

Chancellor's Office

401 Woods, 516-5252

Chemistry Department

315 Benton, 516-5311

Child Development Center

130 South Campus Classroom Bldg., 516-5658

Communication Department

590 Lucas, 516-5485

Computing, Office of

103 SSB Bldg., 516-6000

Continuing Education-Extension, Office of

201 J.C. Penney;

Credit, Courses, 516-5655

Noncredit Courses, 516-5961

Counseling

427 SSB Bldg., 516-5711

Criminology and Criminal Justice Department

598 Lucas, 516-5031

Development Office

421 Woods, 516-5664

Disabled, Students

301 Woods, 516-5211

Dispute Resolution Program

362 SSB Bldg., 516-6040

Economics Department

408 SSB Bldg., 516-5351

Education, School of

201 Education Administration Bldg., 516-5109; Office of

Teacher Education, 155 Marillac, 516-5937; Graduate

Studies in Education, 201 WEB Library, 516-5483

Educational Studies Department

269 Marillac, 516-5944

Eldercare Center

8351 S. Florissant, 524-0155

Elementary and Early Childhood Education Department

369 Marillac, 516-5791

English Department

494 Lucas, 516-5541

Engineering

228 Benton, 516-6800

Evening College

324 Lucas, 516-5161

Facilities Management

234 General Services Bldg., 516-6300

Financial Aid

209 Woods, 516-5526

Foreign Languages and Literatures Department

554 Clark, 516-6240

Gallery 210

218 Lucas, 516-5976

Gerontology

406 SSB Bldg., 516-5280

Graduate School

341 Woods, 516-5900

Graphics

252 General Services, 516-5167

Health Center

127 Woods, 516-5671

History Department

484 Lucas, 516-5681

Horizons

427 SSB, 516-5730

Human Resources

211 General Services Bldg., 516-5804

Instructional Technology Center

304 SSB Bldg., 516-6171

KWMU 90.7 FM Radio

105 Lucas, 516-5968

University Programs and Offices

Libraries

Thomas Jefferson, 516-5050;
 Ward E. Barnes Education, Library, South Campus
 Complex, 516-5571; Health Sciences Library, South
 Campus Complex, 516-5110
Mathematics and Computer Science Department
 500 Clark, 516-5741
Mathematics and Science, Education Center
 246 Benton, 516-5650
Music Department
 211 Music Bldg., 516-5980
Nursing, Barnes College of
 119 South Campus Classroom Bldg., 516-6067
Office of Equal Opportunity/Affirmative Action
 414 Woods, 516-5689
Optometry, School of
 331 Marillac, 516-5606;
Academic Advising 343, Marillac, 516-5607;
 Admissions, 344 Marillac, 516-6263
Optometry, Clinic
 152 Marillac, 516-5131
Payroll
 211 General Services, 516-5237
Philosophy Department
 599 Lucas, 516-5631
Physical Education Department
 225 Mark Twain, 516-5226
Physics and Astronomy, Department
 517 Benton, 516-5931
Pierre Laclède Honors College
 516-6870
Police
 44 Blue Metal Office Building, 516-5155
Political Science Department
 807 Tower, 516-5521
Pre-Employment Training Program
 313 Marillac, 516-5746
Printing Services
 261 General Services Bldg., 516-5233
Psychology Department
 325 Stadler, 516-5391
Public Policy Administration
 406 Tower, 516-5145
Public Policy Research Centers
 362 SSB Bldg., 516-5273;
 The James T. Bush Sr., Center; Center for, Metropolitan
 Studies; Public Policy, Extension/Survey and Applied
 Research
Purchasing
 201 General Services Bldg., 516-5366
Records and Transcripts
 232 Woods, 516-5676
Registrar's Office
 232 Woods, 516-55545
Registration
 232 Woods, 516-5545
Research, Office of
 338 Woods, 516-5897
Residential Life
 Seton Hall, 516-6877
ROTC
 Washington University, 935-5546

Safety & Risk Management

265 General Services Bldg., 516-6363
Social Work Department
 589 Lucas, 516-6385
Sociology Department
 707 Tower, 516-6364
Spirit
 440 Woods, 516-5663
Sports Information
 225 Mark Twain, 516-5660
Student Affairs, Vice Chancellor
 301 Woods, 516-5211
Student Employment Program
 346 Woods, 516-5317
Tutorial Services
 507 Tower, 516-5194
UM-Rolla Engineering Education Center
 34 Blue Metal Office Bldg., 516-5431
**UM-St. Louis/Washington University Joint
 Undergraduate Engineering Program**
 228 Benton, 516-6800
University Center
 267 University Center, 516-5291
University Communications
 421 Woods, 516-5827
University Meadows
 516-7500
University Relations,
 426 Woods, 516-5778
University Relations, Vice Chancellor
 426 Woods, 516-5255
Urban Information Center
 442 CCB Bldg., 516-6000
Veteran Affairs, Office of
 232 Woods, 516-5546
Video Instructional Program
 115 Lucas 516-5370
Women's Center
 211 Clark, 516-5380
Women's and Gender Studies
 548 Lucas, 516-5581

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 Vacant, Director, Physical Plant

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 Karyn A. Kulage-Nance, Ed.D., Institutional Research Associate
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 Joann Wilkinson, B.A., Planning and Budgeting Specialist

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 M. Sharon Biegen, Ph.D., Director, Counseling Service
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 Lucinda R. Vantine, B.A., Manager, Special Events
 Maureen Zegel, B.A., Manager, Media Relations
 Ellen B. Horan, B.S., Marketing Manager

Emeriti

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 William L. Franzen, Dean Emeritus
 Virgil N. Sapp, Dean Emeritus
 Joy E. Whitener, Dean Emeritus

Academic Calendar

1996 Fall Semester

August

- 26 Monday, Classes Begin: 8:00 a.m.
- 31 Saturday, Labor Day Holiday begins at 3:00 p.m.

September

- 3 Tuesday, classes resume 8:00 a.m.

November

- 27 Wednesday, Thanksgiving holiday begins 11:00 p.m.

December

- 2 Monday, classes resume 8:00 a.m.
- 9 Monday, classes end at 11:00 p.m.
- 10, 11 Tuesday, Wednesday, intensive study days *
- 12 Thursday, final examinations begin
- 20 Friday, first semester closes, end of day

1997 Winter Semester

January

- 12 Sunday, mid-year commencement

January

- 13 Monday, Classes Begin: 8:00 a.m.
- 20 Monday, Dr. Martin Luther King Holiday

March

- 8 Saturday, Spring recess begins: 3:00 p.m.
- 17 Monday, classes resume at 8:00 a.m.

May

- 1 Thursday, classes end at 11:00 p.m.
- 2, 5 Friday, Monday, Intensive Study Days*
- 6 Tuesday, final examinations begin
- 13 Tuesday, second semester closes, end of day
- 18 Sunday, annual commencement

1997 Four-Week May Intersession

May

- 20 Tuesday, classes begin 8:00 a.m.
- 26 Monday, Memorial Day Holiday

June

- 13 Friday, session closes, end of day

1997 Eight-Week Summer Session

June

- 16 Monday, classes begin: 8:00 a.m.

July

- 4 Friday, Independence Day Holiday

August

- 6, 7 Wednesday, Thursday, Final Examinations
- 7 Thursday, session closes: end of day
- 10 Sunday, summer commencement

Classes for the eight-week session begin June 16 and end August 7

* Intensive Study Days—No classes held: no exams scheduled

Introduction to UM-St. Louis

The University of Missouri-St. Louis is one of four campuses that constitute the University of Missouri, the ninth largest university in the United States. Founded in 1839 upon the ideals of Thomas Jefferson, the University of Missouri became a land-grant institution following passage of the Morrill Act by Congress in 1862.

The University remained a single-campus institution until 1870 when the Rolla campus was opened. Two campuses were added in 1963. The private University of Kansas City became UM's Kansas City campus, and an entirely new campus was started in St. Louis.

In the 1960s a movement began across the country toward the 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.

UM is governed by a nine-member Board of Curators appointed by the governor and confirmed by the state Senate. The Curators name the president of the University. Each campus is supervised by a chancellor.

UM-St. Louis, the fourth campus of the University of Missouri, was established in 1963. The notion of a major public institution serving the St. Louis area evolved from a dream to a solid reality, and today exceeds the expectations of those who created it.

Since the doors of the old Administration Building opened more than 25 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. In general, our faculty members are younger than their counterparts at older, established institutions. More than 90 percent of the full-time 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 hundreds of thousands of dollars each year in research funding.

Student enrollment has grown from 600 in 1963 to more than 16,000 in the 1995-96 school year. 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, the University of Missouri-St. Louis has grown to a large modern campus of some 73 buildings on 250 acres, offering a full university experience.

The curriculum has grown to include 42 undergraduate programs, 25 master's programs, seven preprofessional programs, ten doctoral programs, and one professional degree program. There are programs which answer the particular needs of older students returning to school; of students pursuing pre-architecture, prelaw, premedicine, prepharmacy, pre-engineering, or prejournalism courses; of students interested in urban careers; and of those who need special help in tackling university-level work. There are also opportunities for students to combine their academic course work with internships that often lead to job offers.

Mission Statement

As one of the four campuses comprising the University of Missouri, the University of Missouri-St. Louis has served the citizens of the St. Louis metropolitan area since 1963. It shares the University's land-grant tradition and is committed to research and public service. The productive scholars on the campus' faculty contribute significantly to the theoretical and applied research in their fields. The campus' business, chemistry, political science, and metropolitan studies programs already are internationally recognized. As it develops, the campus will support other centers of excellence in departments or clusters of departments as the quality of scholarship achieves consistent international recognition.

In addition to its role to advance knowledge as part of a comprehensive research university, the University of Missouri-St. Louis has a special responsibility, determined by its urban location and its shared land-grant tradition. It works in partnership with other key community institutions to help the St. Louis region progress and prosper.

Through its seven schools and colleges, the campus provides opportunities for all the people of the metropolitan area, including the economically disadvantaged, to receive high quality and accessible liberal arts, career, professional, and graduate education.

Through a careful melding of strengths in scholarly research, teaching, and community service, the University of Missouri-St. Louis plays a leadership role in advancing scholarship; providing quality undergraduate, graduate, and professional instruction to the large and diverse numbers of students in the St. Louis area, while it contributes to economic development throughout the state and region.

In shaping and evaluating its undergraduate curriculum, the University of Missouri-St. Louis fosters intellectual independence, sound judgment, clarity of expression in writing, aesthetic refinement, and sharpened analytical skills. The campus provides high quality undergraduate, graduate, and professional instruction to an ethnically, racially, and economically diverse student body. Special efforts are made to fulfill the University's land-grant mandate to serve the working people of the state. Because most of the campus' graduates remain in the metropolitan area, they enhance the economic development and quality of life of the metropolitan area and the state.

Introduction to UM-St. Louis

These research, instructional, economic development and community service missions are accomplished by on-campus and extension programs in the schools and colleges of Arts and Sciences, Business, Education, Nursing, and Optometry, as well as the Evening College and the Division of Continuing Education-Extension. In addition, the campus' humanities, fine arts, and performing arts programs enrich the cultural life of the metropolitan area.

The University of Missouri-St. Louis will work vigorously to achieve equal opportunity for all within the campus community through a strong affirmative action program.

The University: Academic Structure

The academic structure of the University consists of the College of Arts and Sciences, School of Business Administration, School of Education, Evening College, Graduate School, Barnes College of Nursing, School of Optometry, UM-St. Louis/Washington University Joint Engineering Program and Continuing Education-Extension.

The College of Arts and Sciences, the largest of the divisions, includes 18 academic departments that combine the best features of two different educational worlds. One world consists of general educational offerings and provides students with opportunities to acquire a breadth of knowledge and a foundation in the basic skills of intellectual inquiry. The other world supplies the basic preparation for the student's professional life by providing learning experiences leading to a career in a specific field.

The School of Business Administration maintains a balance between the specialization of professional courses and the diversity of liberal arts. Besides training students as qualified professionals for the business world, the School of Business Administration, through its bachelor's degree and master's degree programs expands student capability in communication, analysis, and judgment, thus enabling our graduates to deal more effectively with today's complex economic environment.

The School of Education acts on the premise that developing and maintaining a quality educational setting in an urban area requires both advancing the field of education and meeting changing societal needs. The faculty is committed to producing quality research, teaching excellence, and extending these research and teaching capabilities to the community. The School does these things through its undergraduate and graduate teacher-education offerings and through the School's activities both on campus and in the field.

The Evening College was established to provide a university education for those who cannot attend classes during the day. For those interested in traditional university study, the Evening College offers almost all of the degree programs available to day students and ensures that these programs conform to the same standards and requirements as their daytime counterparts. For students seeking innovative approaches to education, the Evening College has the Bachelor of General Studies (BGS) Program, a unique concept designed for mature individuals who want more

flexibility in reaching their educational goals. BGS students choose courses from the UM-St. Louis curriculum that they view as important to their education, and their degree program's structure will thus vary according to their needs. Most campus services available to day students are also available to Evening College students.

Programs offered in the UM-St. Louis 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 carefully structured to meet the needs of the metropolitan area and to give students the skills and professional competence to succeed in today's world.

The School of Optometry is one of 17 schools of optometry in the United States. The School provides its students with a professional optometric education and clinical experience. Facilities are furnished with the newest equipment for teaching and research. The School operates the University Eye Center located on campus, the Optometric Center of St. Louis located in the Central West End, and the East St. Louis Eye Center, jointly owned and operated by the UM-St. Louis School of Optometry and Southern Illinois University at Edwardsville.

The Pierre Laclède Honors College, newly inaugurated in 1989, brings together a highly select group of 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. These Honors Scholars follow a special curriculum that combines a series of innovative Honors College classes and course work done for Honors credit in their major areas. They actively engage in their education in small seminars led by some of the University's finest teachers. In addition to offering scholarships and stipends, the Honors College has unique features such as the Community Mentorship Program which links Scholars with model urban citizens who share their interests.

The Barnes College of Nursing offers innovative programs at the bachelor's, master's and doctoral levels. The Bachelor of Science in Nursing is available for the individual wishing to pursue a program of studies which will lead 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 is available which avoids repeating basic nursing course work. The Master of Science in Nursing is a cooperative program with UM-Kansas City School of Nursing and offers studies in Adult, Children and Women's Health. Practitioner options are also available (Family, Pediatric, and Women) as part of the MSN program. The PhD in Nursing offers studies focused on Health Promotion and Protection, Health Restoration and Support, and Health Care Systems. Studies at all three levels may be pursued full-time or part-time.

UM-St. Louis/Washington University Joint Undergraduate Engineering Program. In a pioneering program, the

Introduction to UM-St. Louis

University of Missouri-St. Louis and Washington University have joined forces to offer Bachelor of Science degrees in mechanical, electrical and civil engineering. Students who enter the program take about half of their coursework—mathematics, physics, chemistry, humanities and social sciences, and some elementary engineering subject—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. 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.

The Continuing Education-Extension Division 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. In 1992-93 over 79,000 participants were served in 2,300 credit and noncredit programs.

The Office of International Student Services of the Center for International Studies provides and coordinates services for undergraduate and graduate international students including admissions, visa and immigration matters, information requests, credentials evaluation, non-academic advising, initial campus arrival, orientation, social activities, and referrals to other campus academic and non-academic departments.

In cooperation with other units, the office arranges campus tours and information sessions for international students provides assistance with initial arrival and settling-in, and encourages international students to participate in student life including international student organization, the resident hall mentoring program, international student speakers bureau, and other campus and community activities. Also see section on *Students from Other Countries* on page 19.

The University: Student Life

UM-St. Louis is an educational institution that both provides opportunities for all students through a demanding curriculum. But 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. And, if that's not enough, the St. Louis area offers still more recreational, sports, and cultural events.

The University offers a wide range of varsity and intramural sports of interest to UM-St. Louis students, whether as players or spectators. On the varsity level, the UM-St. Louis 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, swimming and golf teams frequently play in national

tournaments. The expanding women's program includes varsity competition in basketball, soccer, softball, volleyball, swimming, and tennis. The UM-St. Louis 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, a swimming pool, 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.

The University: Its Graduates

The graduates of the University of Missouri-St. Louis reflect the diversity found in a metropolitan community. The University has more than 45,000 graduates living in all fifty 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. Our alumni can be found in companies and organizations throughout the region and nation. UM-St. Louis has graduated more than 6,000 accountants, 600 nurses and 400 doctors of optometry. With more than 8,000 graduates, the School of Education is the largest educator of teachers in the St. Louis metropolitan area.

The graduates of UM-St. Louis are establishing a new kind of university - a public, metropolitan institution with a commitment to academic excellence and service to the community. We are proud of the tradition these alumni have established and we are committed to continue to be a valuable asset to our community and to the region.

Undergraduate Study

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

Admission and Application Procedure

Admission for First-Time Freshmen

The University of Missouri has a uniform policy for the admission of freshman students to its four campuses. The four campuses are of equal stature in the University system, and a common standard is applied at each campus. The procedure for regular admission from high school is described in this publication.

Selection of students for regular admission is based on high school class rank, performance on a standardized college aptitude test, and required high school units. Students must also submit their high school transcripts and, where appropriate, recommendations by persons knowledgeable of their potential for success in university-level education.

Admission Procedure

Students applying as first-time freshmen (i.e., students without previous college work) need to submit to the University of Missouri-St. Louis Director of Admissions three documents:

- 1) **Undergraduate Application for Admission form:** You may request one by calling the Office of Admissions at (314) 516-5451.
- 2) **High School Transcript and Class Rank:** The transcript must be sent directly from the high school to the UM-St. Louis Admissions Office. The transcript should indicate the class rank at the time of application and all courses satisfactorily completed. For those students applying during their senior year in high school, which will include most applicants, class rank as of the end of six semesters (end of junior year) will be used. If a later class rank is available at the time application is made, it should be used.
- 3) **College Aptitude Test:** The University's freshman admissions procedure requires that a test score be submitted for each applicant. This requirement may be met by a score from any one of the following College Aptitude Examinations:

American College Testing Program (ACT) These tests are administered at many locations across the country under the auspices of the ACT program. Students who participate in this program should request that score reports be sent to the university campuses to which they apply.

Cooperative School and College Ability Test (SCAT) This test is administered to Missouri high school students through the statewide Missouri College Testing Program. The student should request that a record of his or her score be sent to the university campus to which he or she applies for admission.

Scholastic Aptitude Test (SAT) This test is administered at many locations across the country under the auspices of the College Entrance Examination Board. Students who take the SAT should request that score reports be sent to the campuses to which they apply.

Admission Requirements (Effective Fall 1996)

Any high school graduate is admissible without further data upon submission of a transcript or other evidence indicating he or she meets both the following requirements:

- 1) **At least 16 units of credit** (1 unit=1 year in class) as follows:

English: Two units emphasizing composition or writing skills are required. One of the remaining two units may be in speech or debate—**4 units**

Mathematics: (Algebra 1 and higher)—**3 units**

Science: Not including general science, one of 2 units which must be a laboratory course—**2 units**

Social Studies: **3 units**

Fine Arts: **1 unit**

Three additional units selected from foreign language, English, mathematics (Algebra 1 and higher), science, or social studies. Among these options, two units of foreign language are strongly recommended.

The sixteen units are considered minimum and for those individuals interested in specific fields, e.g., engineering, business, the sciences, a fourth year of high school math is strongly recommended.

- 2) **In addition**, each student will be evaluated on the basis of High School Rank Percentile (HSCR) and Test Score.

The University seeks a heterogeneous student body reflecting diversity of race, ethnicity, age, geography, (including international students) and physical disability. Factors given prime consideration for admission to undergraduate study are an applicant's previous academic success and the quality of the record presented. Applicants who do not meet the criteria set forth in sections 1 and 2 may be considered by applying to the Director of Admissions. Additional factors considered for admissions include:

- Extensive extracurricular activity involving school, church, or community;
- Outstanding talent and/or abilities;
- Number and scope of college preparatory courses taken;
- Evidence of marked improvement over time in high school academic record;
- Significant work experience and/or family responsibilities;
- Supporting evidence attesting to one or more of the above in student's own hand (in the form of essay).

Out-of-State Freshmen The same admissions requirements apply to all out-of-state freshmen who have graduated from an accredited high school. Students should be aware that the University of Missouri-St. Louis provides limited

Undergraduate Study

Residence Hall facilities. **Nonresident students must pay nonresident educational fees in addition to regular educational fees.**

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. Completed applications, including high school transcripts and test scores, should be on file by July 1 to guarantee that they will receive full consideration. Datelines are July 1 for the Fall Semester; December 1 for the Winter Semester; and May 1 for the Summer Session.

Acceptance

Upon acceptance to the Fall or Winter Semester, students must submit a final high school transcript indicating their class rank and graduation date. First-time freshmen must take placement examination in mathematics. Arrangements for this exams are made with students through the Office of Admissions after notification of admission.

Advanced Standing for Entering Freshmen

The University of Missouri-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 accounting, 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 and must be on file before the first day of classes. A brochure with detailed information is available in the Office of Admissions.

Dual High School/University Enrollment

Superior high school students may be admitted in a special, student category for the purpose of taking one or more university courses concurrently with their final year or two of high school or during the summer session prior to these years. Students must submit a regular application for admission, as well as a special request which includes a high school recommendation. Students are admitted on an individual basis on the basis of academic standards that exceed those required for regular admission from high school. Admission is limited and governed by available space, and students must meet the prerequisites for the desired course or courses.

College Level Examination Program

Individuals over age 18 who have had no previous college work may earn advanced credit through the College Level Examination Program (CLEP) General Examination, provided they score at or above the 50th percentile. A maximum of 28 semester hours of credit may be earned. In addition, CLEP offers subject examinations for credit in one specific area. These examinations can be taken any time, provided the student has not taken a course in the test area. A score at or above the 50th percentile must be earned to receive

credit. Consultation with an adviser is recommended. CLEP tests are given the third week of every month. Contact the Office of Admissions at 516-5451 for complete information. A brochure with detailed information is available.

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

High school graduates who do not meet the regular admission standards may be admitted on a trial basis in the summer session. Usually enrollment is for six hours and if grades of C or better are earned, the student may submit an application at the end of the summer session. If space is available, the application is reviewed and the student is permitted to enroll in the fall semester.

High School Equivalency Applicants

Individuals may seek admission on the basis of high school equivalency earned from performance on the United States Armed Forces Institute General Educational Development (GED) tests. Admission is based on an evaluation of the educational merits of military and other experiences since leaving school, GED test scores, and performance on other aptitude tests.

Veterans and Mature Adults

Applicant may be admitted as special or irregular students, not degree candidates, 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. Admission is based on special preparation, attainment, or exceptional aptitude as judged by an evaluation of military and other experiences, test scores, and other indicators of potential success at the University. Students can become degree candidates on the basis of their performance in university course work.

Transfer Students

Missouri state institutions of higher education welcome transfer students; however, students should be aware that actual requirements for degrees vary from institution to institution. This factor makes it particularly important that students who plan to transfer make contact, very early in their academic career, with the campus from which they eventually wish to graduate. By arranging in advance for appropriate courses to be taken prior to transfer, they can likely minimize their problems. Your own campus dean's office or Office of Admissions can help you contact the institution to which you might transfer if you need assistance.

Students transferring from other colleges and universities must submit the following information to the UM-St. Louis Director of Admissions:

Undergraduate Study

- 1) Undergraduate Application for Admission;
- 2) High School Transcript;
- 3) Official Transcripts from all colleges/universities attended.

Official transcripts must be sent by each institution directly to the Admissions Office. Hand-carried credentials are not accepted. All credentials submitted for admission become the property of the University. The above material should be submitted by July 1 for the Fall Semester; December 1 for the Winter Semester; and May 1 for the Summer Session.

A transferring student who has completed less 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.

Transfer applicants applying to the University of Missouri-St. Louis from regionally accredited colleges or universities with grade point averages of 3.0 or higher, based on a 4-point system, may be admitted at any time. Students with grade point averages of 2.5 or higher may be accepted **any time during the semester before desired admission**, while students with grade point averages of 2.0 or higher may be accepted any time during the last half of the semester before desired admission. UM-St. Louis may not admit any student who is under suspension or dismissal or whose previous record shows work of an inferior or unsatisfactory quality.

CBHE Statement

Students transferring to the University of Missouri-St. Louis and students transferring out of UM-St. Louis may utilize the Coordinating Board of Higher Education 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. These requirements are detailed on the page prior to the Appendix in this catalogue.

Advanced Standing

According to a recent Articulation Agreement among public institutions within the state of Missouri, the following guidelines will govern transfer of credit to the University of Missouri-St. Louis from colleges and universities within the state of Missouri. These guidelines also apply to students transferring to the University of Missouri-St. Louis from schools located outside the state of 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 the University of Missouri-St. Louis. The University, however, will treat all grades on courses attempted on the same basis as that of the 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 for work of the senior year is not granted. To receive recognition, claims for advanced standing must be made by students within one semester after entrance.

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 the applicability of any courses, the student should contact the advising office of their academic unit.

The University of Missouri-St. Louis Bulletin: Undergraduate Catalogue in effect at the time of the transfer student's initial enrollment in a college will govern the degree requirements, provided the student has had continuous, full-time enrollment and remains in the same degree program after transferring to UM-St. Louis. If full-time continuous enrollment has not been maintained, or if students change their program objective, the catalogue in effect at the time of a student's latest enrollment, or at the time the student elects the new program, may be followed.

Degree checks, that is, 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. Should any questions arise, a student should contact the advising office of their academic unit.

Associate Degree Transfers from Junior 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 the specialized lower division degree requirements of departments or divisions of the University. 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 located in Missouri, other University of Missouri campuses, and other divisions on this University campus.

Credit earned in or transferred from a community college shall normally be limited to approximately half the baccalaureate degree program requirement, and to the first two years of the undergraduate educational experience.

Transfer Within the University of Missouri System

A student not in good standing at another campus of the University of Missouri (suspended or dismissed) is not eligible to enroll at the University of Missouri-St. Louis campus.

Undergraduate Study

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 of the transferring student.

Questions concerning acceptability of credit should be referred to the Director of Admissions. Unresolved problems related to transferability of credit may be appealed to the Senate Committee on Admissions and Student Financial Aid.

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.

Students from Other Countries

Prospective students living outside the United States and its possessions should write the Director of Admissions at least one year before the date of desired admission for information about and admission to the University of Missouri-St. Louis and the approximate expenses and for the required application forms. Upon approval of application papers and official records, students are notified by official letter. Students should not make plans to leave their countries without first obtaining permission to enter the University.

All students must take the Test of English as a Foreign Language (TOEFL). Write to Test of English as a Foreign Language, Educational Testing Service, Princeton, New Jersey 08540.

Foreign students now studying in the United States may be admitted only after completion of at least 24 semester hours of work, with a grade of C or better, in an accredited school offering a college-level program, provided that school's letter of admission was the basis for the student's receiving a visa. To complete their credential file, students must furnish original and official transcripts from each school attended, both in this country and abroad. Students should not consider admittance final until they receive an official acceptance letter.

Former Students

Former students not currently enrolled should file a request for a Permit to Re-Enroll with the Director of Admissions at least 30 days before the registration period. If Fall Semester applicants receive an Early Admission decision, they may preregister in July and August; preregistration for the Winter semester and the Summer Session is limited to students enrolled during the preceding term.

Visiting Students

Students who do not wish to earn a degree from the University of Missouri-St. Louis may be admitted to the Summer Session as visiting college students. Admission requires certification by the student's college or university that the student is in good standing and has permission to

enroll in approved course work for transfer credit back to that institution. Application forms for certification can be obtained from the Office of Admissions. At the end of the session, students must request that their grades be reported by transcript to their respective schools.

Auditor

A student may enroll as an auditor in any course with the prior consent of the instructor and dean of the School or College in which the auditor is 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.

Evening College Applicants

The admission procedure for the Evening College is the same as for the day division. For further information, see the next section, "Enrollment and Academic Advising: Evening College," and the Evening College special section of this *Bulletin*.

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 requests for permits to re-enroll.

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 at the Office of Admissions.

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

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. If cancellation is made before the first day of class work begins, a full refund of fees (less \$20 for the cost of handling registration) will be made by mail. For the refund schedule for cancellation of registration after class work begins, see the "Fees: Refund of Fees" section of this *Bulletin*.

Undergraduate Study

Enrollment and Academic Advising

In most cases, incoming undergraduate students are admitted to the College of Arts and Sciences or the Evening College. Students seeking admission to nursing are advised by the Barnes College of Nursing. Exceptions are transfer students who meet the specific admission requirements of the School of Business Administration, the School of Education.

Students in the College of Arts and Sciences planning to pursue degrees in the School of Education or the School of Business Administration remain in the College until they obtain 60 credit hours with a cumulative grade point average of 2.0. However these students may seek advising services from Education or Business after they have completed 30 hours of coursework. Refer to the School of Business Administration or the School of Education sections in this Bulletin for additional admission requirements.

Students in the Evening College who have completed 40 semester hours must declare their majors. They are assigned according to their choice of major to departmental advisers in the College of Arts and Sciences or advisers in the appropriate School. Nursing students meeting all requirements are admitted directly to and advised by the Barnes College of Nursing. Those not meeting admission requirements are admitted to the College of Arts and Science or the Evening College until requirements are met. Such students continue to be advised by the Barnes College of Nursing even though enrolled in one of the other colleges.

The dean's office in every division, except in the Office of Undergraduate Studies in Education, will assist students in the assignment of academic advisers and with the following matters: making a change in course schedule, evaluating transfer credit, withdrawing from school, placing a course on a satisfactory/unsatisfactory basis, availing oneself of grade modification, and filing for degree candidacy.

College of Arts and Sciences

All incoming students may receive professional academic advice in the dean's office, 303 Lucas Hall, (314) 516-5300. Students expecting to major in business administration or education who have completed fewer than 30 credit hours and students who have not declared a major in the College of Arts and Sciences may also receive academic advising in the dean's office. Faculty advisers for those students considering a career in one of the health sciences or in law are also located in the dean's office.

Since it is important for students to determine what specific requirements must be satisfied to complete their chosen baccalaureate program, they are urged to declare a major as soon as possible. Once students have declared a major, they should inform the department's office so that the appropriate academic adviser can be assigned. The adviser, 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 transferring into the College from other institutions may seek assistance from the dean's office to effect as smooth a transition as possible. The College will evaluate all transfer credit to determine its applicability to the specialized degree requirements of the College.

School of Business Administration

The School of Business Administration's Office of Academic Advising has available a staff of professional academic advisors who provide assistance to students in planning their academic careers and in dealing with the following concerns:

- Appropriate Course Selection
- School of Business Administration Requirements
- General Education Requirements
- Evaluation of Transfer Credit
- Course Prerequisites
- School Policy and Regulations
- 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 College of Arts and Sciences or the Evening College should submit an official declaration of their major to the dean's office of the College to which they have been admitted. When they have completed 30 hours of credit, they will then be assigned to the School of Business Administration for advisement.

Transfer students at the junior or senior level who have been admitted to the School of Business Administration should contact the advising office and plan to meet with an advisor early in the semester for an evaluation of transfer credit and the planning of their degree programs.

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

School of Education

Students wishing to prepare for teaching careers may choose either of the following alternatives:

- 1) After completing 60 hours of course work at the University or another accredited institution, students who intend to teach in elementary, early childhood, special education, business education, or physical education settings must apply for admission to the the Teacher Education Program by competing the Formal Application.
- 2) Students who intend to teach in other secondary school classrooms may elect to apply for admission to the School 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.

Undergraduate Study

With either option, 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 (155 Marillac Hall) 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, sequences of courses, prerequisites, graduation requirements, and related matters should be directed to that Office.

Evening College

The Evening College academic advising staff helps students plan degree programs or select courses appropriate to their individual needs. Their services are available to all new and current undergraduate Evening College students. Advisers will review transfer credit courses, prerequisites, and degree requirements. Once Evening College students have declared a major, usually after completing approximately 40 semester hours of credit, they are assigned to a faculty adviser in the student's area of study. A Declaration-of-Major form must be completed in the Evening College office so that the faculty adviser may be assigned. For an appointment, call the Evening College Office, (314) 516-5162.

Barnes College of Nursing

The Barnes College of Nursing 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. program (B.S.N. Completion) which avoids repeating previous nursing education.

With both options, students must meet University and Barnes College of Nursing requirements. Careful planning is necessary to sure appropriate course sequencing. Students are strongly encouraged to develop a plan of study in conjunction with a nursing academic advisor 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 National League for Nursing and Missouri 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.

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.

Credit Hours

All candidates for baccalaureate degrees must complete 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.

Basic Skills

All students must show from their high school or college transcript, by examination or by appropriate courses, competency in basic communicative and mathematical skills. Students should check with their divisional dean's office at the end of the first year to verify that their proficiency in these skills has been properly recorded.

An additional communicative skill requirement must also be completed before graduation. Students should check with their divisional dean's office at the beginning of their senior year to verify that fulfillment of this requirement has been recorded.

Communicative Skills (two requirements)

- 1) Either submit a satisfactory score on the English Placement Test. (Contact the Office of Admissions for test date schedule.) or achieve a grade of C or better in a college-level English Composition course—at the University of Missouri-St. Louis, English 10, Composition.
- 2) Effective since the Fall Semester, 1985, students wishing to complete a degree at the University of Missouri-St. Louis must complete English 210, Advanced Expository Writing, or its equivalent with a grade of C or above.

Mathematical Skills

Proficiency in the basic mathematical skills area will be demonstrated by obtaining either:

- 1) A grade of C- or better in a college-credit mathematics course having at least intermediate algebra as a prerequisite, or
- 2) A satisfactory score on the University's Mathematics Proficiency Test. The proficiency test is over mathematics at the level of college algebra. The test should be passed before the student completes 24 hours of course work at UM-St. Louis. The test may be taken at most twice. Test dates are given in the Schedule of Classes.

Undergraduate Study

Breadth of Study

Students must complete at least 42 hours in the following three areas, with at least three courses in each area. (Courses meeting these requirements are listed at the beginning of each departmental section.)

- 1) Humanities: art history or art appreciation (applied art and music courses do not count); literature; music history, literature, theory, or appreciation; philosophy and logic; theatre appreciation, theory, and history. (Symbol [H])
- 2) Natural sciences and mathematics: applied mathematics; astronomy; atmospheric science; biology; chemistry; computer science; geology; mathematics; physics; statistics. (Symbol [SM])
- 3) Social sciences: anthropology; communication; criminology and criminal justice; economics; geography; history; political science; psychology; social work; sociology. (Symbol [SS])

Other Requirements

American History and Government

Students must satisfactorily complete a course or courses in American history or government taken at the University of Missouri 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, Introduction to Criminology and Criminal Justice
Hist 3, American Civilization I
Hist 4, American Civilization II
Hist 6, Honors American Civilization
Hist 202, Black History in the United States
Hist 207, The History of Missouri
Hist 302, United States History: Revolution and the New Nation, 1763 to 1815
Hist 311, Topics in American Constitutional History
PolSci 11, Introduction to American Politics
PolSci 121, Civil Liberties
PolSci 130, State Politics
PolSci 135, Introduction to Urban Politics
PolSci 140, Public Administration
PolSci 230, The American Presidency
PolSci 231, Congressional Politics
PolSci 233, Introduction to Political Behavior
PolSci 235, Political Parties and Elections
PolSci 240, Bureaucratic Politics
PolSci 242, Introduction to Public Policy
PolSci 245, Urban Administration
PolSci 320, Introduction to American Constitutional Law
PolSci 331, Legislative Processes
PolSci 346, Urban Planning and Politics

Courses Not Approved for Degree Credit

ELE ED 082, Effective Reading and Study Skills
English 09, English Composition
Psych 09, Seminar in Career Choice and Life Planning

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, Computer Keyboarding and Formatting
SEC ED 362, 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.

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. All students are required to participate in such studies as requested. Students who do not comply will not be able to register for the next semester or if in their final semester not be allowed to graduate. In their fifth and tenth years 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 must file a degree application form with their respective dean's office at least one year before the expected graduation date. 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.

Academic Policy

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: in the preceding March.
Winter Semester Schedule: in the preceding October.
Summer Session Schedule: in the preceding March.

The University reserves the right to cancel without notice any course listed in the Bulletin or the course schedules for any semester or to withdraw any course which does

Undergraduate Study

not have adequate enrollment at the close of registration.

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 three semester hours meets for three periods weekly for one semester, a two-credit course two periods a week for a semester, and so on. Normally, the lecture or recitation period is fifty minutes long and the laboratory period one hour and fifty minutes.

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

Grading System

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

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

S/U = Satisfactory/Unsatisfactory (applied when a student has formally requested this option for a course—see information below)

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).

At the end of each semester and summer session, the Registrar informs students of their grades. A copy will be mailed to parents at the student's request.

Attention Education Majors: Professional Education courses must be completed with a grade point average of 2.50 and no grade lower than a "C" (2.0). 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 students who do not officially drop a course or officially withdraw from the University, a mark of Y (unauthorized withdrawal—no basis for evaluation) is given. After a two-semester waiting period has elapsed, the Y will be changed to an F, unless the student can demonstrate sufficient reason for not having completed the requirements of the course. The instructor (or the chairperson of the department, if the instructor is no longer on the faculty) may then change the Y to "Excused." Initiating the process is the student's responsibility.

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 elect to take up to 18 credit hours during their academic careers at UM-St. Louis 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, and academic departments may designate other courses within their jurisdiction which may not be taken under the option.

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.

A satisfactory grade—"S"—is recorded when an instructor assigns the grade of "A," "A-," "B+," "B," "B-," "C+," "C," "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."

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. If a student earns a "D+," "D," "D-," or "F," the course may be repeated. All grades earned will affect the calculation of one's cumulative grade point average; the course hours, however, will only be counted once in calculating hours towards one's degree. (See Grade Modification.)

Undergraduate Study

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

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.

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

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 description.

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

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. Make-up 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 two weeks of the semester or the first week 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 the 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. The Y later changes to F or, with the instructor's permission, to "Excused." (See page 25 for a fuller explanation of the Y grade.)

After the allowable period mentioned previously, "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 two weeks of a regular semester and the first week of a Summer Session. No approvals need be received during this time. However, after the second week of a regular semester and the first week 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, 230 Woods Hall.

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.

Undergraduate Study

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 the 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 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 dean's approval.

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 the temporary 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 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 shall 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 re-enroll. 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 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.

Honors

Pierre Laclède Honors College

The Pierre Laclède Honors College offers a select group of academically qualified and intellectually serious students the opportunity to focus a significant portion of their undergraduate careers upon a special Honors curriculum. Prospective Honors Scholars must apply for admission into the Honors College.

Honor Societies

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

Alpha Phi Sigma (Criminology and Criminal Justice)
Alpha Sigma Lambda (Evening College)
Beta Alpha Psi (School of Business Administration, Accounting Majors)
Beta Gamma Sigma (School of Business Administration)
Beta Sigma Kappa (School of Optometry)
Financial Management Association National Honor Society (Finance)
Kappa Delta Pi (School of Education)
Omicron Delta Epsilon (Economics)
Phi Alpha Theta (History)
Phi Epsilon Kappa (Physical Education)
Phi Kappa Phi (Campus-wide)
Pi Sigma Alpha (Political Science)
Psi Chi (Psychology)
Sigma Delta Pi (Spanish)
Sigma Iota Rho (International Studies)
Sigma Tau Delta (English)

Dean's List At the end of each semester the College of Arts and Sciences, School of Business Administration, School of Education, the Evening College, and the Barnes College of Nursing 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.

Undergraduate Study

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 (whether for themselves or others), faculty members, or administrators. Nominees are selected on the basis of scholastic ability (a cumulative grade point average of 2.5 or higher), 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 267 of the University Center.

Latin Honors

To graduate with Latin honors, students must have attended the University of Missouri-St. Louis for at least 60 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 60 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 August 1990.)

Transcripts and Commencement

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's Office. There is a \$3.00 charge per transcript.

Students transferring to another University of Missouri campus may ask the UM-St. Louis Registrar to furnish a transcript to the Office of 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'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.

Commencement

Degrees are conferred at commencement with candidates present for the awarding of diplomas. Only in unusual circumstances may degrees be conferred in absentia.

Veteran Affairs

The Veteran Affairs Office, 232 Woods Hall, serves as liaison to various government offices to provide information on educational benefits, privileges, and

responsibilities relating to Veteran Administration benefits. A certifying official is available to answer veterans' questions and process official paperwork.

Veterans are certified to the Veteran Affairs Regional Office (VA) 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 232 Woods 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 516-5676.

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. Students should be aware that fees shown are current as this publication goes to press, but fee changes may occur while this Bulletin is still in use.

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

Educational Fees (1996-97)

All students enrolled in the University must pay an Educational Fee based on either the schedule for Missouri residents or the schedule for nonresidents which follows.

Undergraduate Educational Fee

Regular Semester

Missouri Residents \$121.00 per credit hour
*Nonresidents \$361.70 per credit hour

Intersession and Summer Sessions

The Educational Fee per credit hour for these sessions follows the same schedule as listed previously.

Partial Enrollment

Since the Educational Fee owed by a student is on a per-credit-hour basis, the Educational Fee for partial enrollment is assessed according to the above schedule.

Undergraduate Study

Fees for Auditing Courses

Courses taken as an auditor for reduced credit are counted at their normal credit value in computing the fees to be paid. Students enrolling in zero credit courses are also required to pay according to the equivalent course credit.

For Graduate Student Educational Fees, see section titled "Graduate Study: Fees"

For **Optometry Student Educational Fees**, see the section of this catalogue for the School of Optometry.

*Nonresident Students

Students who do not meet the residency requirements must pay the Nonresident Educational Fee according to the schedule above. A definition of "residency" is outlined in Tuition and Residency Rules, available in the cashier's office. Students are responsible for registering under the proper residence and paying the proper Educational Fee. They are also responsible for raising any questions if there is a possibility that they are subject to the Nonresident Educational Fee schedule.

Other Fees

Instructional Computing Fee

Students registered in the University are required to pay an Instructional Computing Fee of \$6.00 per credit hour.

Student Facility and Student Activity Fee

All students registered in the University are required to pay a Student Facility and Student Activity Fee. The fee shall be calculated at the rate of \$13.45 per credit hour up to a maximum of \$161.40 for 12 credit hours in regular sessions. In the Summer Session, the maximum fee is \$80.70 for six or more credit hours.

The Student Facility and Student Activity Fee is used for programs of broad interest within the University community. The fee for a full-time, regular semester is distributed as follows:

University Center—\$41.16
Athletic Program—\$74.76
Student Activities—\$20.16
Student Services—\$3.00
Recreation/Facility Fee—\$22.32
Total (for 12 credit hours)—\$161.40

Health Fee

Students registered in the University are required to pay a Health Fee of \$6.00 per semester; \$3.00 for Summer and Intersession.

Late Registration Fee

Students registering after the close of the regular registration period must pay the late fee, equal to the undergraduate Resident Educational fee for one credit-hour, \$121.00.

Parking Fees

Students wishing to operate motor vehicles on campus must register them and pay a fee at the time of registration.

Failure to comply with traffic regulations may subject students to disciplinary action, payment of an additional fee, and the denial of the privilege to operate a motor vehicle on campus. Copies of *Traffic Regulations for the University of Missouri-St. Louis* are available at the UM-St. Louis Police Office.

The parking fee for 1996-97 is \$3.88 per credit hour, up to a maximum of \$62.08 for 16 credit hours in the regular semester, for each motor vehicle used by a student on campus. Parking fees in the Summer Session are at the same per-credit-hour-rate up to a maximum of \$31.04 for eight or more credit hours. Students who do not drive regularly may park in the daily parking lot for a fee of \$1.00 a day. Special parking rates are available for car pools. Motorcycle and motor scooter fees are \$1.60 per credit hour up to a maximum of \$25.60 in the regular semester and \$12.80 in the Summer Session.

The revenue from parking fees is used to construct and maintain roads, parking garages, and surface parking; to rent parking space off campus when necessary; to pay for the printing of parking stickers and regulations; and to pay for all other related expenses. Detailed information on parking regulations and fee refunds is available from the cashier's office.

Parking fees are refundable under the same schedule as other fees. Students must return the scraps of the parking sticker to obtain a refund if they decide to cancel parking privileges. See the following "Refund of Fees" section.

Transcript Fee

There is a \$3.00 fee for a transcript.

Payment of Fees

All fees are due and payable at the time of registration. Students with delinquent accounts will not be allowed to enroll in subsequent semesters. Students receiving financial aid must present their fee statement to the cashier's office. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. Enrollment will be completed upon receipt of the first minimum payment for students electing this plan. Interest will be assessed on the unpaid balance of all students at the rate of one percent per month. More information about this plan is available at the cashier's office.

Personal Checks

Personal checks in payment of fees or other obligations to the University will be accepted only when the amount of the check does not exceed the amount due from the student.

A student, presenting a check to the University that is returned unpaid, shall pay a returned check charge of \$10.00.

Credit Cards

MasterCard, VISA, or Discover credit cards are accepted in payment of fees.

Undergraduate Study

Delinquent Indebtedness

All delinquent indebtedness to the University must be cleared before transcripts or diplomas will be released.

Student Insurance

An optional accident and sickness insurance plan is available at low cost to students and their dependents. Information concerning premiums and coverage is available upon request from the cashier's office.

Refunds

A student may be eligible for a refund after completion of fee reassessment having already paid an amount in excess of fee percentage due the University as defined within the "Fee Reassessment for Dropping Classes or Withdrawal from School" section.

Note: A minimum \$20.00 cancellation fee will be deducted on any official withdrawal from the University prior to the day classes begin. All refunds are made by mail and require three (3) to five (5) weeks processing time after withdrawal or dropped classes. Deductions may be made from the refund amount for any financial obligation due the University of Missouri.

Withdrawal

Students who wish to withdraw from the University after registering (or preregistering) MUST officially withdraw through the Registrar's Office. Failure to pay fees, failure to receive financial aid, or refusing financial aid does not constitute an official withdrawal from the University.

Fee Reassessment for Dropping Classes or Withdrawal from School

Fees will be reassessed for students who officially withdraw from the University or drop classes. Fees included in this reassessment are the Educational Fee, Student Activity Fee, Instructional Computing Fee and Parking Fee (if applicable). Such fees are reassessed and reduced in accordance with the following schedule:

Regular Semester

Withdrawal/Drop Classes	Fee % Reassessment	Fee % Due University
Before the Day Classes Begin	100%	\$20
For the 1st-5th Day of the Semester	90%	*10%
For the 6th-10th Day of the Semester	70%	*30%
For the 11th-25th Day of the Semester	50%	*50%
After 25th Day of the Semester	None	*100%

* Percentage of total fees assessed due and payable to the University.

Summer Session

Withdrawal/Drop Classes	Fee % Reassessment	Fee % Due University
Before the Day Classes Begin	100%	\$20
For the 1st-3rd Day of the Semester	90%	*10%
For the 4th-5th Day of the Semester	70%	*30%
For the 6th-13th Day of the Semester	50%	*50%
For the 13th Day of the Semester	None	100%

* Percentage of total fees assessed due and payable to the University.

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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: (1) completion of academic and professional degrees and certificates, and (2) attainment of personal and 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 departments or schools 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 records 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 department or school involved.

Inquiries concerning admission and requests for application forms should be sent to the Director of 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.

Different departments have different application deadlines, the earliest being Clinical Psychology which has a January 15 deadline for the fall semester. In general, completed applications should be filed with the Director of 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. Some departments with heavy enrollments have earlier final acceptance dates for admission and financial assistance. 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 aptitude test of the Graduate Record Examination (GRE). It is also required for the M.A. in Economics, English, History, Political Science, Psychology, and Sociology, the M.S. in Physics, and Physiological Optics.

Advanced GRE examinations in the subject area are required for the Ph.D. program in Chemistry, Physics, and Psychology and the M.S. in Chemistry and Physics. The Graduate Management Admissions Test (GMAT) is required for applicants to the M.B.A., M.I.S. and M.Acc. programs. Students who have not taken these examinations should do so at the earliest possible test date.

Admission of International Students

In addition to the general requirements for admission to the Graduate School, the following special provisions apply to international students.

International students whose native language is not English and who have spent less than two of the last three years in an English-speaking country are required to submit scores on the TOEFL examination or the verbal portion of the GMAT before a decision is made on admission. A student with a total TOEFL score below 500 or a verbal GMAT score below the 30th percentile will not be admitted to the Graduate School. The student must retake 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.

International applicants will be asked to provide a special summary of their educational experience to help provide a basis of comparison of their backgrounds with those of U.S. applicants. They will be asked to provide a statement of their financial situation and of the anticipated form of support for the period of graduate study.

Applications for the GRE, GMAT, and TOEFL examinations must be made several months before the test date. Information and application forms may be obtained from the Office of Admissions.

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

Non-Matriculated Student

- Non-Degree
- Graduate Certificate
- Education Certification
- Inter-campus Exchange
- Postdoctoral

Matriculated Students

Students who wish to take courses to obtain a UM-St. Louis degree must apply for status as matriculated graduate students. Classifications within this category include regular, restricted, and provisional students.

Regular Students

Students may be admitted as Regular graduate students if the undergraduate GPA and major field GPA are both 2.75 or above. A department or school may establish additional or 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

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maturity following completion of the undergraduate degree, etc. The courses in which such a student enrolls will apply in the regular way 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) a "B" average on courses taken on Restricted status, (b) a positive recommendation from the department or School, and (c) approval from the Graduate School.

Students with GPA's 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 in the regular way 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 department or School 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.

Non-matriculated Students

Students who wish to take courses solely for personal or professional development should apply for status as non-matriculated, non-degree 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 GRE scores. Change from non-matriculant to matriculant requires the submission of a new graduate admission application, and it occurs only upon subsequent recommendation by the department or School and approval by the Graduate School.

Non-degree Students

Students may be admitted as non-degree 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 department or school (including the department without an established program).

A non-degree student must maintain at least a 3.00 grade point average. A non-degree student wishing to take more than nine hours may be allowed to do so, contingent upon departmental recommendation. However, course work completed by a non-degree 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 nine semester hours. It may not be counted as part of the residence requirement for a degree.

Graduate Certificate Students

Graduate Certificate Students are students enrolled in established UM-St. Louis certificate programs. Admission requirements for students in these programs are the same as for matriculated students. They do not need specific departmental approval to take more than 9 hours. Graduate Certificate Students may transfer up to 18 hours of work which appears on a Graduate Certificate Program Plan to a Master's or Doctoral Program Plan, if such a transfer is approved by the department granting the 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 hours. All other conditions regarding admission and registration that apply to Non-Degree Students apply to Education Certification Students.

Inter-campus 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 Inter-campus Exchange Students. Such students should apply for admission as non-matriculated 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 the recommendation of the appropriate University division.

Traveling Scholars and Inter-University 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. Inter-University Graduate Exchange Students are Washington University or St. Louis University students who enroll by special arrangement through the Registrar on the home campus for courses not offered on their own campus.

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.

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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.

Students holding a baccalaureate degree who have not been admitted to the Graduate School must simultaneously apply for admission as a non-matriculated 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 satellite center are considered as taken in residence. Unless otherwise specified, all other off-campus and Continuing Education courses are considered nonresident courses.

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

Undergraduate Enrollment in 400-Level Courses

Undergraduate students at UM-St. Louis may enroll in 400-level courses for undergraduate credit. Approvals from the adviser, department chairperson, divisional dean, and Graduate Dean are required. Students subsequently admitted to the Graduate School may petition for graduate credit for 400-level courses which they took as undergraduates over and above those needed for their undergraduate degrees.

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 re-apply 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 adviser, 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. Students who preregister must pay their fees by announced deadlines or their registration is canceled.

Maximum Course Load

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

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 load of courses, but not both. Assistants may not work full time.

Petitioning Into or Out of a Course

Students must receive the approval of their advisers and the Dean of the Graduate School 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, their adviser, and the Dean of the Graduate School. 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, their adviser, and the Dean of the Graduate School. Otherwise, a grade of F is given. Students who stop attending classes without officially dropping courses also receive grades of F.

Transcripts

The director of Admissions 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 Office of Admissions. There is a \$3.00 charge per transcript.

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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 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 Office of Admissions, 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.

Academic Policy

Course Level

All UM-St. Louis 300- and 400-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 400-level courses. Individual departments or schools may have more restrictive requirements, requiring a higher proportion of 400-level credits.

Within the department in which a student is pursuing a degree, no 200-level course may be taken for graduate credit. However, outside the student's department, one 200-level course may be taken for graduate credit with the approval of the student's advisor and the instructor. In every such case, the student's advisor 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 0 to 199 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. Workshops or institutes tend to emphasize behavioral performance and the acquisition of skills and knowledge in a specific area. 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/non-credit 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 departments or Schools 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 department or School:

- 1) An examination given by the department or School.
- 2) 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 teaching graduate courses have complete discretion in assigning grades. Point assignments for grades are as follows:

A	=	4.0 points
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 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.

The satisfactory/unsatisfactory (S/U) option is not available to students taking courses at any level (200, 300, or 400) 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.

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. In such cases, course instructors may subsequently change F grades to other grades when all work has been completed. 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.

Grade Point Average (GPA)

All courses taken at UM-St. Louis for graduate credit figure into the calculation of the transcript GPA, including

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courses that may not be a part of the degree program. However, only those courses included in the degree or certificate program figure into 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.

Graduate courses taken by UM-St. Louis undergraduates and then petitioned into graduate credit will be included in GPA calculations. Extension work, institutes, workshops, and courses transferred from other universities or other UM campuses will not be included in any GPA calculation, even though the courses may be included as part of a degree program.

Probation

A department must place a graduate student on probation if the transcript GPA, based on a minimum of 3 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 departmental committee. 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 department or School, with copies sent to the Graduate School and the Admissions Office.

Dismissal

A graduate student can be dismissed from the Graduate School on the recommendation of the department or School 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 Admissions Office. Notification will be sent by the Graduate School to the Registrar's Office. Non-degree students must maintain the same standards required of students enrolled in degree or certificate programs. Upon recommendation of the School or department, non-degree students may be dismissed if their grade point averages fall below 3.0. They are dismissed if their grade point averages are below 3.0 at the end of 12 completed 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 hours must consist of courses drawn from the list of core courses for the particular certificate program. At least 12 hours must be completed in residence at UM-St. Louis. At least nine hours must be at the 400 level. No more than 6 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 department or School involved and the Dean of the Graduate School.

Thesis and Comprehensive Examinations

Although not a general Graduate School requirement, a thesis may be required by departments 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 department or School.

Comprehensive examinations, oral, written, or both, are required in most master's degree programs. Examinations are administered by a committee of not less than three graduate faculty members appointed by the Dean of the Graduate School on the recommendation of the department or School.

Dual Master's Degrees

With approval of the department or School 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 departments or Schools involved and the Dean of the Graduate School, students may simultaneously pursue two master's degrees under the following conditions:

- 1) No more than one-third of the credit hours required by either program may be applied to both programs.
- 2) Students must obtain approval of the departments, Schools, and program 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.

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 department or School, as long as the credits fall within the time limitations set for master's degrees. If the master's degree is in a different department or school 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 multi-disciplinary studies governed by guidelines approved by the relevant departments and the Graduate School may apply appropriate certificate credits in excess of this limit.

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Time Limitation

The maximum amount of time allowed for completion of a master's degree will be six years after the first 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.

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.

Cooperative Programs

In addition to the doctoral degree programs offered at the University of Missouri-St. Louis, limited opportunities exist for work in programs at other University of Missouri campuses. Specific inquiries should be directed to the chairperson of the department on the appropriate campus.

Credit Requirements

A minimum of 60 semester hours carrying graduate credit is required for every doctoral degree program. Departments or schools may require a greater number of hours for their programs.

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. These 46 hours may include credit hours taken for the dissertation. Special courses such as graduate institutes and workshops, as well as courses taken through Continuing Education-Extension, may be included as part of the residence requirement.

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 hours. Inclusion of such course work is subject to departmental 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 at UM-St. Louis or at another institution, appropriate credits may be applied toward meeting the requirement for the doctoral degree, subject to departmental or school approval. Such credits must constitute less than half of the total credits required for the doctorate. For example, for a doctoral degree requiring 90 hours of work beyond the bachelor's degree, no more than 44 credits from a master's degree may apply to the doctoral degree. Credit for courses taken for a master's degree is exempt from the eight-year time limitation.

Time Limitation

Doctoral degree work must be completed within eight years after the first course enrollment.

Comprehensive Examinations

Each department or school will determine the number of times a comprehensive examination may be taken by a student. The department or school must file with the Graduate School a statement specifying (a) the number of times the department 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 departmental or school recommendation of Graduate Faculty committee members.

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

Application for Candidacy

An Application for Candidacy should be filed immediately after the student has passed all comprehensive and language examinations, written or oral, as required by the department or school 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 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 four hours of dissertation credit, whichever comes later. That is, students who have taken more than four hours of dissertation credit by the end of the sixth semester must have successfully filed their dissertation proposal by that point. Students who have taken no more than four hours of dissertation credit by the end of the sixth semester have a later deadline: the point at which they intend to take their fifth dissertation credit.

It is understood that the dissertation research may evolve in directions quite different from the Dissertation Proposal,

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and the proposal is not intended to restrict the normal development of a research project. However, 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 Graduate School of a new dissertation proposal.

Continuous Enrollment

When students are advanced to candidacy, they must remain in continuous enrollment until the degree is awarded. If students are actively engaged in degree work 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 department 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.

Graduation

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, a newspaper schedule, distributed before each semester registration, available at the registrar's office. Students should be aware that fees shown are current as this publication goes to press, but fee changes may occur while this Bulletin is still in use.

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

Educational Fees (1996-97)

All students enrolled in the University must pay an Educational Fee based on either the schedule for Missouri residents or the schedule for nonresidents which follows.

Graduate Educational Fee

Regular Semester

Missouri Residents \$153.20 per credit hour
*Nonresidents \$460.60 per credit hour

Intersession and Summer Sessions

The Educational Fee per credit hour for these sessions follows the same schedule as listed above.

Partial Enrollment

Since the Educational Fee owed by a student is on a per-credit-hour basis, the Educational Fee for partial enrollment is assessed according to the above schedule.

Fees for Auditing Courses

Auditors are charged full fees and receive no academic credit.

For Optometry Student Educational Fees, see the section of this catalogue for the School of Optometry.

*Nonresident Graduate Students

Students who do not meet the residency requirements must pay the Nonresident Educational Fee according to the schedule above. A definition of "residency" is outlined in Tuition and Residency Rules, available in the cashier's office. Students are responsible for registering under the proper residence and paying the proper Educational Fee. They are also responsible for raising any questions if there is a possibility that they are subject to the Nonresident Educational Fee schedule.

Graduate Study

Other Fees

Instructional Computing Fee

Students registered in the University are required to pay an Instructional Computing Fee of \$6.00 per credit hour.

Student Facility and Student Activity Fee

All students registered in the University are required to pay a Student Facility and Student Activity Fee. The fee shall be calculated at the rate of \$13.45 per credit hour up to a maximum of \$161.40 for 12 credit hours in regular sessions. In the Summer Session, the maximum fee is \$80.70 for six or more credit hours.

The Student Facility and Student Activity Fee is used for programs of broad interest within the University community. The fee for a full-time, regular semester is distributed as follows:

Bond Retirement on University Center —\$34.08
 Athletic Program —\$57.84
 Student Activities —\$16.20
 Student Services —\$ 2.40
 Recreation/Facility Fee —17.40
 Total (for 12 credit hours) —\$161.40

Health Fee

Students registered in the University are required to pay a Health Fee of \$6.00 per semester; \$3.00 for Summer and Intersession.

Late Registration Fee

Students registering after the close of the regular registration period must pay the late fee, equal to the Undergraduate Resident Educational fee for one credit hour, \$121.00.

Parking Fees

Students wishing to operate motor vehicles on campus must register them and pay a fee at the time of registration. Failure to comply with traffic regulations may subject students to disciplinary action, payment of an additional fee, and the denial of the privilege to operate a motor vehicle on campus. Copies of Traffic Regulations for the University of Missouri-St. Louis are available at the UM-St. Louis Police Office.

The parking fee for 1996-97 is \$3.88 per credit hour, up to a maximum of \$62.08 for 16 credit hours in the regular semester, for each motor vehicle used by a student on campus. Parking fees in the Summer Session are at the same per-credit-hour rate up to a maximum of \$31.04 for eight or more credit hours. Students who do not drive regularly may park in the daily parking lot for a fee of \$1.00 a day. Special parking rates are available for car pools. Motorcycle and motor scooter fees are \$1.60 per credit hour up to a maximum of \$25.60 in the regular semester and \$12.80 in the Summer Session.

The revenue from parking fees is used to construct and maintain roads, parking garages, and surface parking; to rent parking space off campus when necessary; to pay for the printing of parking stickers and regulations; and to pay

for all other related expenses. Detailed information on parking regulations and fee refunds is available from the cashier's office.

Parking fees are refundable under the same schedule as other fees. Students must return the scraps of the parking sticker to obtain a refund if they decide to cancel parking privileges. See the "Refund of Fees" section below.

Final Semester Educational Fee

Candidates for graduate degrees who have completed degree requirements except for filing a thesis or dissertation and/or taking the final examination must register for at least one credit in the term in which they expect to receive the degree. Only students so registered may file applications for graduate degrees.

Thesis and Dissertation Fee

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

Payment of Fees

All fees are due and payable at the time of registration. Students with delinquent accounts will not be allowed to enroll in subsequent semesters. Students receiving financial aid must present their fee statement to the Cashiers Office. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. Enrollment will be completed upon receipt of the first minimum payment for students electing this plan. Interest will be assessed on the unpaid balance of all students at the rate of one percent per month. More information about this plan is available at the cashier's office.

Personal Checks

Personal checks in payment of fees or other obligations to the University will be accepted only when the amount of the check does not exceed the amount due from the student.

A student, presenting a check to the University that is returned unpaid, shall pay a returned check charge of \$10.00.

Credit Cards

MasterCard, VISA, or Discover credit cards are accepted in payment of fees.

Delinquent Indebtedness

All delinquent indebtedness to the University must be cleared before transcripts or diplomas will be released.

Refund of Fees

Students who officially withdraw from the University or drop courses for which they have been assessed fees, during either the regular semester or other sessions, will receive a refund in accordance with the schedule explained in the section "Undergraduate Study: Fees" under the heading "Refunds". Graduate students should refer to this section for such information.

Graduate Study

Financial Assistance

Teaching Assistantships

Most departments with established graduate programs offer teaching assistantships to qualified graduate students. Appointments are usually half-time appointments and carry stipends. Students receiving assistantships are expected to pay all Educational Fees but are exempt from the difference between the Missouri resident and the Nonresident Educational Fee. Students with these stipends must register for a minimum of six credit hours in semesters in which they hold the assistantship.

Teaching assistant appointments are made directly by the departments, and inquiries and applications should be addressed to the Director of Graduate Studies 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 appropriate department.

Since some departments observe different deadlines, applications should be submitted as early as possible. Appointments are normally announced by April 1 for the Fall Semester and by November 1 for the Winter Semester.

Research Assistantships

A small number of research assistantships are available in some departments and Schools. Conditions of appointments are generally similar to those of teaching assistantships. Inquiries should be addressed to the department or School.

Fellowships and Scholarships

A small number of doctoral fellowships may be available for graduate students. In addition, certain departments or divisions have available a limited number of traineeships, fellowships, or scholarships. For example, the School of Business Administration offers the following graduate scholarships.

Graduate Business Scholarship

Scholarship awarded to a graduate business student selected by the School of Business Administration faculty.

Noel K. Mahr Graduate Accounting Scholarship

Scholarship awarded to a minority graduate accounting major upon recommendation of the School of Business Administration faculty.

Motorola International Business Scholarship

An award for a graduate student interested in international business. The recipient is selected by the School of Business Administration faculty.

For more information consult individual departments.

Other Graduate Financial Aid

Graduate students may apply for both the Federal Perkins Loan (formerly NDSL) and the Federal College Work-Study Program, as well as the Federal Family Educational Loan Programs. Students who have earned their first baccalaureate degree are no longer eligible for federal and state grant programs. For information on the Federal Loan or Federal Work-Study Programs or for additional financial aid information or educational consumer information, contact the Student Financial Aid Office. Students must be enrolled at least half-time and meet the same eligibility requirements as undergraduates to receive financial aid. All deadlines stated in the undergraduate study section are applicable to graduate students.

Confidentiality Policy

The Family Educational Rights and Privacy Act of 1974

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, the admissions file, and the 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:

- a) 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.
 - b) The records of the University of Missouri Police Department which were created for a law enforcement purpose and are maintained by the police department.
 - c) 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.
 - d) All records on any University student which are created and maintained by a physician, psychiatrist, psychologist, or other recognized professional or para-professional acting in his professional or para-professional 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 Admissions and Records 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 Pub. Law 93-380 as amended, the University of Missouri-St. Louis will not make available to students the following materials:
 - a) Financial records of the parents of students or any information contained therein.
 - b) 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.
 - c) 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 his 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 his or her educational record in order to insure 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.

Confidentiality Policy

- 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:
 - a) 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.
 - b) 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.
 - c) 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.
 - d) The student shall be afforded a full and fair opportunity to present evidence relevant to the hearing.
 - e) The decision shall be rendered in writing within a reasonable period of time after the conclusion of the hearing.
 - f) 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 mail grade reports only to a student's permanent mailing address. Grades will not be mailed to parents unless the students in question have 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, shall provide the necessary appropriate auxiliary aid.

Requests for the assessments must be made to the Administrator for Special Student Programs 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 coordinator of services for students with disabilities and the department through which the requirement is fulfilled, will determine the appropriate modification or substitution.

Financial Aid

Student Financial Aid Programs

Student Financial Aid Programs: Grants, Scholarships and Loans

Financial assistance is available to qualifying undergraduates in the form of grants, loans, scholarships, and workstudy. Funds for these programs are available from federal, state, and institutional resources. Scholarships are provided by private, institutional, state, and federal funding. Scholarship requirements vary and may require the student have financial need.

Some scholarships require a separate application to the school, college, department or office which administers those scholarships. (See "Apply To" column in the following listings.)

For further information, contact the Student Financial Aid Office, University of Missouri-St. Louis, 209 Woods Hall, St. Louis, MO 63121. The phone number is (314) 515-5526; the fax number is (314) 516-5310.

Federal Student Financial Aid Programs

NOTICE: The Qualifications/Descriptions and the Maximum Academic Year Amount shown in the tables for the Federal Student Financial Aid Programs are based on information available at the time of printing. They are subject to change or modification.

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Federal Pell Grant	Financial need; undergraduate; gift assistance.	\$2,470	Student Financial Aid at 516-5526
Federal Supplemental Educational Opportunity Grant	Financial need; undergraduate; gift assistance; requires Pell Grant eligibility.	\$500	Student Financial Aid at 516-5526
Federal Work-Study	Part-time employment; financial need.	Hourly wage	Student Financial Aid at 516-5526
Federal Perkins Loan	Financial need; no interest while at least a half-time student; repayment begins following termination of at least half-time enrollment and 9 month grace period; interest at 5% during repayment.	\$500 undergraduate \$1,000 optometry	Student Financial Aid at 516-5526
Federal Direct Loan Program/Subsidized	Financial need; loan through U.S. Department of Education; LIMITS: undergraduate aggregate limit is \$23,000; aggregate graduate and professional including undergraduate loans is \$65,500; INTEREST: for borrowers for which the first disbursement is made on or after July 1, 1994, variable rate of the 91-day Treasury Bill plus 3.1%, adjusted annually, with a cap of 8.25%; REPAYMENT: begins 6 months following termination of at least half-time enrollment; up to 10-25 years for repayment. DEFERMENTS: (1) in-school at least half-time, (2) unemployment for up to 3 years and (3) economic hardship for up to 3 years. FEES: 4% origination.	\$2,625 freshman \$3,500 sophomore \$5,500 junior \$5,500 senior \$8,500 grad or professional	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Federal Direct Loan	Same as the Federal Direct Loan Program/Subsidized with the exception that it is not based on financial need; maximum academic year amounts include the amount of Federal Direct Loan/Subsidized which the student may be receiving; interest accruing during in-school and deferment periods may be paid or may be capitalized; aggregate undergraduate same limit as subsidized program; aggregate graduate and professional limit including undergraduate subsidized loans is \$138,500.	DEPENDENT \$2,625 freshman \$3,500 sophomore \$5,500 junior \$5,500 senior INDEPENDENT \$6,625 freshman \$7,500 sophomore \$10,500 junior \$10,500 senior \$18,500 graduate or professional	Student Financial Aid at 516-5526
Federal Direct PLUS Program (Parent Loan for Undergraduate Students)	Credit-based loan through U.S. Department of Education; not based on financial need; parent of dependent undergraduate is borrower; no aggregate loan limits; INTEREST: variable rate of the 52-week Treasury Bill plus 3.1%, adjusted annually, with a cap of 9.0%; REPAYMENT: interest and principle payments by parent borrower begin 60 days after disbursement. FEES: 3% origination.	Cost of education minus other financial aid	Student Financial Aid at 516-5526

Long-Term Loans

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Bryant Loan	Full-time student with financial need as determined by the Free Application for Federal Student Aid; INTEREST: Fixed at 8%; REPAYMENT: begins 6 months following termination of at least half-time enrollment; up to 5 years for repayment.	Varies	Student Financial Aid at 516-5526
Barnes Nursing Scholarship/Loan	Nursing student with financial need as determined by the Free Application for Federal Student Aid; must accept employment at Barnes Hospital. If employment not accepted the scholarship becomes an interest free loan; if no employment opportunities are available the loan will be excused.	Varies	School of Nursing at 516-6066.

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
HEAL (Health Education Assistance Loan)	Optometry student who has borrowed in the HEAL program prior to 10/1/95; INTEREST: variable interest rate based on the 91-day T-Bill + 1.85%; REPAYMENT: begins 12 months following termination of at least half-time enrollment; up to 25 years for repayment; FEES: 6% origination.	\$20,000 or up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
HPSL (Health Professions Student Loan)	Full-time Optometry student with financial need as determined by the Free Application for Federal Student Aid with parental information; INTEREST: fixed at 5%; REPAYMENT: begins 12 months following termination of at least full-time enrollment; up to 10 years for repayment and based on debt to income ratio.	Varies	Student Financial Aid at 516-5526
LDS (Loan for Disadvantaged Students)	Optometry student; African-American, Hispanic, Native Alaskan or Native American or from economically disadvantaged background; INTEREST: fixed at 1-5%; REPAYMENT: begins 12 months following termination of at least full-time enrollment; up to 10 years for repayment and based on debt to income ratio.	Varies	Student financial Aid at 516-5526
MEDFUNDS	Undergraduate and graduate Nursing and Optometry student; INTEREST: variable interest rate based on 91-day T-Bill + 2.4% while in school; based on 91-day T-Bill + 2.7% while in repayment; REPAYMENT: begins 6 months following termination of at least half-time enrollment for undergraduate student and 9 months for graduate student; up to 20 years for repayment; FEES: guarantee fee 9% or 6% with credit-worthy co-borrower.	\$20,000 or up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
Missouri Nurse Loan Program	Full-time Missouri resident Nursing student pursuing a B.A. or M.A.; INTEREST: fixed at 9.5%; REPAYMENT: begins 6 months following graduation; loan forgiveness if serving in a shortage area; up to 2 years for	\$5,000 for professional nurse education and \$2,500 for practical nurse education.	Bureau of Primary Care at (314) 751-6219

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Nursing Student Loan	<p>repayment if not serving in a shortage area.</p> <p>Full-time or part-time Nursing student pursuing a B.A. or M.A.; Must have exceptional need as determined by the Free Application for Federal Student Aid; INTEREST: fixed at 5% REPAYMENT: begins 9 months following termination of at least half-time enrollment; loan forgiveness options; up to 10 years for repayment.</p>	Varies	Automatically awarded to qualified students through Student Financial Aid Office (Funding is limited)
OPLoan	<p>Optometry students; INTEREST: Variable rate based on the 91-day T-Bill + 2.5% while in school; based on the 91-day T-Bill + 2.9% while in repayment; 12 month grace period; REPAYMENT up to 20 years for repayment; FEES: 7% guarantee.</p>	\$20,000 or up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
PEP (Professional Education Plan)	<p>Credit-based loan for graduate and professional study; INTEREST: rate will never exceed prime rate plus 2.0%; REPAYMENT: begins 6 months following termination of at least half-time enrollment; up to 20 years for repayment. FEES: guarantee 9% or 6% for credit worthy borrower or with credit worthy co-signer.</p>	\$7,500 on student's good credit; \$20,000 with a credit-worthy co-borrower. up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
PREMIER	<p>Undergraduate and graduate student with an annual income of at least \$15,000; INTEREST: variable rate based on the 52-week T-Bill + 3.10% (adjusted quarterly); REPAYMENT: begins 6 months following termination of at least half-time enrollment; up to 15 years for repayment. FEES: 5% guarantee for immediate repayment and 6% guarantee for deferred repayment.</p>	\$60,000 or up to cost of attendance less financial aid received.	Student Financial Aid at 516-5526
St. Louis Police/Urban League Scholarship/Loan	<p>Entering minority freshman student majoring in Criminology and Criminal Justice; St. Louis City residents; meet qualifications of the St. Louis City Police department; upon graduation work for St. Louis Metropolitan Police department;</p>	Full educational fees and book stipend	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	after 5 years of service the entire loan amount will be forgiven.		
TERI Supplemental Loan	Credit-based loan for undergraduate and graduate study with annual income of at least \$15,000. INTEREST: rate will never exceed prime rate plus 2.0%; REPAYMENT: options include: 1) immediate repayment, pay principle and interest in a fixed monthly amount; 2) deferred repayment, defer principle and pay only interest while student is enrolled in school (up to 4 years); up to 25 years for repayment. FEES: guarantee 5%.	Up to \$20,000 per academic year.	Student Financial Aid at 516-5526

Short-Term Loans

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Barnett Loan	Full-time; exceptional financial need; INTEREST: fixed at 10%.	Varies	Student Financial Aid at 516-5526
Bowling Emergency Loan	Evening College student; need; INTEREST: fixed at 10%. REPAYMENT: by the end of the semester.	\$250	Evening College at 516-5867
Emergency Loan	Part-time or full-time; GPA 2.0 or better; INTEREST: fixed at 12%.	\$100	Student Financial Aid at 516-5526
Emergency Loan for Optometry	Full-time Optometry student; INTEREST: fixed at 12%.	\$1,000	Optometry School at 516-5607

Scholarship Program-Freshmen

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Academic Scholarship	Competitive scholarship for incoming freshmen student who demonstrates academic promise by achieving an entrance college test score in upper twenty-five percent of scores or ranking in the upper twenty-five percent of their high school class are considered. Applicant must be admitted to	\$1000	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	UM-St. Louis by March 1 and attend full-time. Nonrenewable.		
Charles W. Armbruster Fellowship	Chemistry major with a competitive academic record. Renewable.	\$500	Chemistry department at 516-5313
John and Elizabeth Aton Science Scholarship	Preference given to women who are graduates of Rosati-Kain High school, majoring in Biology, Chemistry or Physics. Applicants must have a cumulative GPA of 3.2 and be enrolled as a full-time Freshman at UM-St. Louis. Renewable for up to three years.	\$1,000	Student Financial Aid at 516-5526
Biology Alumni Scholarship Fund	Scholarship awarded annually to high school seniors in the St. Louis area planning to attend UM-St. Louis in the fall term as biology teacher major. Applicants judged on academic achievement (science especially), interest and participation in science activities, good community spirit and expressed interest in teaching biology. Renewable.	\$250	Biology department at 516-6204
Black Faculty and Staff Association Scholarship	First-time Freshmen or evening student enrolled full or part-time and has a cumulative GPA of 2.0. Preference to African-American students from economically disadvantaged backgrounds. Renewable.	\$500	Student Financial Aid at 516-5526
Carpenter's District Council of Greater St. Louis AFL-CIO Scholarship	First-time Freshman who ranks in the top 25 percent of his/her high school class and 75th percentile or above on college entrance exams. Preference shall be given to any qualified student whose parent is a member of the St. Louis Carpenter District Council of Greater St. Louis AFL-CIO. Nonrenewable.	\$2,000	Student Financial Aid at 516-5526
Chancellor's Scholarship	Rank in the top quarter of high school class, high percentile on a college entrance test, admitted to UM-St. Louis by March 1 and attend full-time. Nonrenewable.	\$2,500	Student Financial Aid at 516-5526
Chancellor's Council Scholarship	High school Seniors or entering college freshmen at UM-St. Louis.	Varies	Pierre Laclède Honors College at 516-6870.

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	Preference given to students from economically disadvantaged backgrounds. Renewable.		
Curators' Scholarship	Missouri resident, rank in the upper 5% of class, score 28 or above on the ACT or combined 1170 on the SAT. Renewable.	\$3,500	Student Financial Aid at 516-5526.
Emerson Electric Co. Asian-American Scholarship	Scholarship awarded on even dated fall terms, (every other year). Candidates must be of Asian-American heritage, major in Undergraduate Engineering, Accounting, Finance or Computer Science with a cumulative GPA of 2.75 or submit an ACT score if Freshmen. Juniors and Seniors enrolled in the Joint Engineering program must complete a minimum of 18 credit hours per year. Renewable for up to four years.	\$1,000	Engineering program at 516-6800
Ferguson Rotary Scholarship	Preference to Freshmen but not excluded to Freshmen. Recipient must be from the Ferguson Rotary area which includes: Ferguson and Berkeley School Districts, the local Lutheran High School and Incarnate Word Academy. Student must maintain a 3.0 cumulative GPA and be enrolled in at least 6 credit hours. Essay required. Must reapply.	\$1,000	University Relations at 516-5267.
Peter W. and Helen M. Goode Scholarship Fund	First-time Freshmen, Missouri resident preference to student who Ranks in the top 10% of high school class has achieved scores on ACT or SAT in the top 15% of Missouri residents and has a cumulative high school GPA of 3.0. Renewable.	\$1,000	Student Financial Aid at 516-5526
Granger Biology Teacher Development Award	Scholarship awarded annually to high school seniors in the area planning to attend UM-St. Louis in the fall as a biology teacher major. Must reapply.	\$500	Biology department at 516-6204
Hargis Scholarship	Scholarship awarded to Belton Missouri High School graduates that demonstrate financial need	Varies	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	as determined by the Free Application for Federal Student Aid. Must reapply.		
INROADS/St. Louis, Incorporated Scholarship	First-time Freshmen enrolled in the INROADS/St. Louis College Component and be admitted to UM-St. Louis. Preference given to minority students. Candidate must complete the pre-engineering curriculum at UM-St. Louis in order to be admitted into the Joint Undergraduate Engineering Program, a cumulative GPA of 2.75 is required in all engineering courses. Renewable.	\$2,000	University Relations at 516-5267
INTERCO Scholarship	Minority student, high academic achievement in high school, Full-time enrollment. Renewable.	Full educational fees and books	Student Financial Aid at 516-5526
Key Work Force 2000 Scholarship	Competitive scholarship awarded to outstanding graduating high school senior who participated in the Key Program and are admitted to UM-St. Louis. Renewable.	Up to \$750 for educational fees	Key Program at 516-6404
Mark Twain Bancshares Scholarship	Minority full-time student with a cumulative GPA of 3.0. Renewable.	\$1,500	Student Financial Aid at 516-5526
May Department Stores/ Pierre Laclède Honors College Scholarship	Students enrolled in Honors College with outstanding academic abilities. Renewable.	Full educational fees	Pierre Laclède Honors College at 516-6870
Monsanto/Marguerite Ross Barnett Memorial Fund	Academically promising graduate of the Bridge program who is actively involved in the Bridge Program, minority from districts previously Involved in Bridge Program (University City, Normandy, Wellston and St. Louis City), completion of degree within 6 semesters, must maintain academic progress. Renewable.	\$2,000	Student Financial Aid at 516-5526
Monsanto Minority Math/ Science Scholarship	Preference given to students who have successfully completed the Bridge Program. Minority or economically disadvantaged students with a major in Math, Computer Science, Biology, Chemistry, Engineering or Physics and at least	\$2,000	Student Financial Aid at 516-5526.

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	a cumulative GPA of 2.4. Renewable.		
Marian Oldham Scholarship	Awarded to an African-American, first-time Freshman admitted to UM-St. Louis in a degree program. The award shall be made to a student(s) who ranks in the top 15 percent of his/her high school class, demonstrates leadership abilities at work or in school activities, and demonstrates financial need as determined by the Free Application for Federal Student Aid. Renewable.	\$1,600	Student Financial Aid at 516-5526
Payne Memorial Foundation Award	Awarded to graduates of South Pemiscot County or Cooter high schools. Renewable.	Varies	Student Financial Aid at 516-5526
John Perry Scholarship	Awarded to a dependent of UM-St. Louis staff employee enrolled at UM-St. Louis as a full-time, first-time Freshmen pursuing undergraduate degree. Nonrenewable.	\$500	Student Financial Aid at 516-5526
Reserve Officer Training Corps (ROTC) 4 Year Scholarship	High school Seniors/incoming Freshmen who apply by December 1, of the year prior to entering college. Applicants must score a minimum of 19-ACT or 850-SAT, possess a GPA of 2.5, be physically fit and at least age 17 before the scholarship starts. Renewable.	Full educational fees and book stipend	ROTC scholarship coordinator at 935-5537
Randy Sanderson/INROADS Scholarship	INROADS participant, first-time Freshman with a cumulative GPA of 2.5. Preference to Business Administration majors and/or graduates of Beaumont High School. Renewable.	Tuition and educational fees	University Relations at 516-5267
Saint Louis Symphony Scholarship	African-American full-time student attending UM-St. Louis; must be involved in at least one music ensemble with UM-St. Louis music department. Renewable.	\$2,000	Music department at 516-5981
St. Louis Police/Urban League Scholarship/Loan	Applicants must be entering Freshmen students, St. Louis City resident high school graduates, majoring in Criminology and Criminal Justice and meet the qualifications of the	Full educational fees and book stipend	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	St. Louis City Police department. Upon graduation from UM-St. Louis, participants will be hired by the St. Louis Metropolitan Police department. After five years of service, the entire amount of the loan will be forgiven. Renewable.		
Southwestern Bell Math/Science Scholarship	Applicants must be first-time Freshmen who have participated in the Engelmann Institute and/or Bridge Program and are enrolled full-time. Renewable for up to nine semesters.	\$2,000	Bridge Program at 516-5199
Herbert H. Sweeney Memorial Scholarship	Enrolled in the Joint Engineering, Program first-time Freshmen and transfer students must have "B" average from school of transfer. Renewable.	\$500	Engineering program at 516-6800
Three Rivers Drum	Candidate must provide proof of affiliation with a Native American Tribe. Pursing any undergraduate major and be making satisfactory academic progress toward the completion of a degree. Renewable as funds allow.	Full tuition and fees	Anthropology department at 516-6024
Rosalie Tilles Scholarship	Entering full-time Freshman who demonstrates capability of maintaining a cumulative GPA of 3.0, likelihood of community success, unique non-academic interests. Renewable for up to 3 additional undergraduate academic years.	Full educational fees	Student Financial Aid at 516-5526
Times Mirror Foundation Minority Journalism Scholarship	Preference given to students who have participated in the UM-St. Louis Minority Journalism Workshop and plan to attend UM-St. Louis and pursue a B.A. in Communication. Renewable up to four years.	\$1,000	Continuing Education at 516-5916
Margaret Bush Wilson Minority Scholarship	Freshmen student who has participated in the Bridge Program, pursuing a degree in Biology, Chemistry, Physics, Math or Computer Science. Renewable.	\$3,000	Student Financial Aid at 516-5526

Financial Aid

Scholarship Program-Transfer Students

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Charles W. Armbruster Fellowships	Chemistry major with a competitive academic record. Renewable.	\$500	Chemistry department at 516-5313
Community College Transfer Scholarship	Missouri resident graduating with an associate degree from an area community college, cumulative GPA of 3.25 or better. Enroll the semester immediately following graduation as a full-time student and be admitted to UM-St.Louis and be a Missouri resident. Recommendations from college administrators, deans or financial aid personnel will be accepted. Renewable.	\$1,000	Student Financial Aid at 516-5526
Community College President's Transfer Scholarship	Nominated by the Presidents of the Missouri Community Colleges. Renewable.	\$2,000	Student Financial Aid
Reserve Officer Training Corps (ROTC) 3 Year Scholarship	Awarded to students entering their Sophomore year. They must apply before December 1, of the year prior to college enrollment. Applicants must score a minimum of 19-ACT or 850-SAT, possess a minimum cumulative GPA of 2.5, be physically fit and at least age 17 before the scholarship starts. Renewable.	Full educational fees and book stipend.	ROTC scholarship coordinator at 935-5537
Residency Center Scholarship	St. Charles Community College or Jefferson Community College student who has participated in the 2+2 program, based on academic achievement. Renewable.	\$2,000	Student Financial Aid at 516-5526
School of Business Administration/Community College Transfer Scholarship	Awarded to student transferring from an area community college with a minimum of 30 credit hours completed and a minimum cumulative GPA of 3.5. Renewable up to 60 credit hours.	Varies	School of Business Administration At 516-5883
Herbert H. Sweeney Memorial Scholarship	Enrolled in the Joint Engineering Program, first-time freshmen and transfer students must have a "B" average from school of transfer. Renewable.	\$500	Engineering program at 516-6800

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Three Rivers Drum	Candidate must provide proof of affiliation with a Native American Tribe. Pursuing any undergraduate major and be making satisfactory academic progress toward the completion of a degree. Renewable as funds allow.	Full tuition and fees	Anthropology department at 516-6024

Scholarship Program-Missouri State

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Marguerite Ross Barnett Scholarship	Part-time student 18 or older, employed at least 20 hours a week, minimum cumulative GPA of 2.0 and demonstrates financial need as determined by the Free Application for Federal Student Aid. Renewable.	Educational fees	Student Financial Aid at 516-5526.
Missouri Academic Scholarship (Bright Flight)	Missouri residents in top 3% of state on ACT or SAT admission test. High school Seniors only and full-time enrollment required. Renewable.	\$2,000	High school counselor.
Missouri Minority Teachers Scholarship	Awarded to Missouri minority residents in top 25% of high school class and score at or above the 75% on the ACT or SAT, and will complete teacher training at a 4 year college. Renewable up to 4 years.	\$3,000	High school counselor or Student Financial Aid at 516-5526
Missouri Teacher Scholarship	Missouri residents in top 15% of high school class or score in top 15% on ACT or SAT test, high school Senior, complete teacher training at 4 year school. Nonrenewable.	\$2,000	High school counselor or Student Financial Aid at 516-5526
Missouri Professional and Practical Nursing Scholarship/Loan	Missouri residents enrolled in the nursing program. Preference to individuals from rural or under served areas and minority individuals. Full or part-time students. A portion of the loan will be forgiven if recipient works in a designated shortage area. Renewable.	Varies	Bureau of Primary Care at (314)751-6219

Financial Aid

Scholarship Program-Undergraduate College of Arts & Science

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alumni Agents Scholarship in Economics	Full-time student majoring in Economics. Award based on academic performance. Must be recommended by faculty	\$500	Economics department at 516-5353
Charles W. Armbruster Fellowship	Chemistry major with a competitive academic record. Renewable.	\$500	Chemistry department at 516-5313
Anthropology Alumni Scholarship	Full-time student majoring in Anthropology who demonstrates academic promise. Nonrenewable.	\$1,000	Anthropology department at 516-6024
Art Department Barbara/St. Cyr Scholarship	Awarded to undergraduate Art History major or Education major who has successfully completed Art 134. Students should be enrolled in at least 6 credit hours per semester and have at least a cumulative GPA of 3.0. Nonrenewable.	\$500	Art department at 516-6575
John and Elizabeth Aton Science Scholarship	Preference given to women who are graduates of Rosati-Kain High school, majoring in Biology, Chemistry or Physics. Applicant must have a cumulative GPA of 3.2 and be enrolled as a full-time freshman at UM-St. Louis. Renewable for up to three years.	\$1,000	Student Financial Aid at 516-5526
Biology Alumni Scholarship Fund	Scholarship awarded annually to high school seniors in the St. Louis area planning to attend UM-St. Louis in the fall term as biology teacher major. Applicants judged on academic achievement (science especially), interest and participation in science activities, good community spirit and expressed interest in teaching biology. Renewable.	\$250	Biology department at 516-6204
Ruth Boulicault Memorial Scholarship	Student who has completed a minimum of 12 credit hours in Political Science. Must be full-time undergraduate Junior majoring in Political Science. Student must demonstrate financial need, and be a resident of St. Louis county. Preference given to residents of Creve Couer. Nonrenewable.	\$400	Political Science department at 516-5523.

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Richard L. Brawley Memorial Science Scholarship	Must be a Junior or Senior majoring in Anthropology, Astronomy, Biology, Chemistry or Physics with a cumulative GPA of 2.5, enrolled full or part-time and demonstrate financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$250	Student Financial Aid at 516-5526
Jack and Carole Buck Family Communication Scholarship	Full-time student majoring in Communication with a cumulative GPA of 2.5. Nonrenewable.	Varies	Communication department at 516-5485
Roy Gene Burns History Scholarship	Full-time Senior majoring in History with outstanding academic progress, leadership and demonstrates financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$500	History department at 516-5681
Gay Carraway N.O.B.L.E. Memorial Scholarship	Preference to African-American students enrolled a minimum of six hours Junior or Senior level students must have a cumulative GPA of 2.8 and be a resident of St. Louis metropolitan area, pursuing a degree in Law Enforcement. Renewable.	up to \$1,000 for educational fees and books	Relations University at 516-5267
William and Erma Cooke Chemistry Scholarship	Student must be at least a Sophomore pursuing a degree in Chemistry with a cumulative GPA of 3.0. Student should exhibit financial need. Renewable.	\$1,000	Chemistry department at 516-5313.
Discover St. Louis Tours Scholarship	Preference to an instrumentalist, Music major. Selection based on academic record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	Varies	Music department at 516-5981
Doris Fishman AOJ Scholarship	Student must be a full-time Undergraduate Junior or Senior majoring in Criminal Justice with a cumulative GPA of 3.0. Eligible recipient will demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.	Varies	Criminology and Criminal Justice department at 516-5032
Economics Undergraduate Scholarship	Full-time student majoring in Economics. Award based on academic performance. Must be recommended by faculty.	\$200	Economics department at 516-5353.

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
English Department Alumni Scholarship	An English major enrolled in at least 6 hours per semester who has completed a minimum of 75 credit hours, of which 18 credit hours are in English (excluding English composition). Nonrenewable.	\$500	English department at 516-5541
Jeffrey Earl Scholarship	Outstanding Senior, based on academic achievement with a minimum cumulative GPA of 3.5. Nonrenewable.	Varies	Physics department at 516-5933
Foreign Language & Literature Scholarship	Must have Junior or Senior level in the Foreign Languages and Literatures department (i.e. enrolled in 200 or 300 level foreign language courses) and completed a minimum of 6 credit hours in a particular foreign language at UM-St. Louis. Students should have a minimum GPA of 3.25 in the department and a have an overall cumulative GPA of 2.75. Must reapply.	\$350	Foreign Languages and Literatures department at 516-6242
German Scholarship	Junior or Senior status in department (i.e. enrolled in 200 or 300 level courses. Must have completed 6 credit hours of German courses at UM-St. Louis with 3.00 GPA and a cumulative GPA of 2.5. Must reapply each semester.	\$1000	Foreign Languages and Literatures department at 516-6242
German Scholarship (Summer)	German major or minor attending summer language institute in a German speaking country, Junior or Senior status in department (i.e. enrolled in 200 or 300 level courses). Must have completed 6 credit hours of German courses at UM-St. Louis with 3.00 GPA and a cumulative GPA of 2.5. Nonrenewable.	\$1,500	Foreign Languages and Literatures department at 516-6242
Granger Biology Teacher Development Award	Scholarship awarded annually to high school seniors in the area planning to attend UM-St. Louis in the fall as a biology teacher major. Must reapply.	\$500	Biology department at 516-6204
Arnold B. Grobman Scholarship	Biology major who has completed 10 hours of Biology course work, primary interest in field biology, ecology, evolution, behavior of animals and plants, and have a minimum cumulative GPA of 3.0.	Varies	Biology department at 516-6204

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	Must be recommended by Biology faculty. Nonrenewable		
History Alumni Scholarship	Senior level enrolled at least part-time and working, and enrolled in History 393 the semester of the award. Nonrenewable.	\$500	History department at 516-5681
William T. Isbell II Scholarship	Scholarship awarded to full-time undergraduate Art History student from the St. Louis area. Must have a cumulative GPA of 2.5 or above with recommendation from Art department. An essay is required. Renewable.	\$750	Art department at 516-6575
Jennings Do-Dads Juvenile Justice Scholarship	Full-time Junior or Senior with a cumulative GPA of 3.0 majoring in Criminology or Criminal Justice. Student must have commitment to work in juvenile justice area. Renewable.	\$1,000	Criminology and Criminal Justice department at 516-5032
Thomas J. Knapp Memorial Scholarship Fund	Student showing interest in becoming a history teacher. Nonrenewable.	\$500	History department 516-5681
Mathematical Sciences Alumni Scholarship	Awarded to outstanding Junior or Senior majoring in Mathematical Sciences with a cumulative GPA of 3.5 and superior achievement in course work. Renewable	\$750	Mathematics department at 516-6355
Music Alumni Scholarship	Music major, selection based on academic record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	\$500	Music department at 516-5981
Music Faculty Scholarship	Music major, selection based on academic record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	\$500	Music department at 516-5981
Music Merit Scholarship	Music major, selection based on academic record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	Varies	Music department at 516-5981
Mark McDonough Memorial Scholarship	Full-time student majoring in Communication/broadcasting with a minimum cumulative GPA of 3.00.	Varies	Communication department at 516-5485

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	Selection consideration includes: personal character and integrity, potential in television as a career and demonstrates financial need. Nonrenewable.		
Mutual of Omaha Mariin Perkins Scholarship	Undergraduate Biology major who has demonstrated academic excellence and will be senior level when the scholarship is applied. Recipient will have a desire to work in wildlife conservation, natural resources, environmental education or some other related field or have demonstrated an interest in these areas through extra curricular activities. Must be nominated by Biology faculty. Nonrenewable.	\$1,000	Biology department at 516-6204
Physics & Astronomy Alumni Junior Scholarship	Physics Major, Junior level who has completed Physics courses 111 and 112 and earned a "B" or better. Nonrenewable.	\$500	Physics department at 516-5933
Physics & Astronomy Alumni Senior Scholarship	Physics major, Senior level who has earned the highest GPA in the class. Nonrenewable.	\$500	Physics department at 516-5933
Political Science Alumni Scholarship	Awarded to an outstanding Junior or Senior, Political Science major with at least 12 credit-hours of Political Science course work completed. Nonrenewable.	\$300	Political Science department at 516-5523
Politics in America Scholarship	Outstanding Political Science major, preference to student who has excelled in the study of American politics. Nonrenewable.	Varies	Political Science department at 516-5523
Psychology Alumni Scholarship	Student must possess and demonstrate leadership ability with evidence of significant contributions to the field of psychology. Student must be good academically with a nomination from the Department of Psychology faculty. Nonrenewable.	Varies	Psychology department at 516-5394
Muriel Pumphrey Scholarship	Preference given to female students majoring in Social Work. Renewable.	Varies	Social Work department at 516-6385
George Dewey Ross Memorial Scholarship	Sophomore, Junior, or Senior pursuing a degree. The recipient shall be an outstanding student who demonstrates	Varies	Student Financial Aid at 516-5526.

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	financial need as determined by the Free Application for Federal Student Aid and who is active in the community on behalf of the disadvantaged and/or themselves be a member of a racially or economically disadvantaged group. Nonrenewable.		
Saint Louis Symphony Scholarship	African-American full-time student attending UM-St. Louis; must be involved in at least one music ensemble with UM-St. Louis music department. Renewable.	\$2,000	Music department at 516-5981
Social Work Alumni Scholarship	Student demonstrates a commitment to community service, school participation and maintains a minimum cumulative GPA of 3.0. Nonrenewable.	Varies	Social Work department at 516-6385
Sociology Alumni Scholarship	Junior or Senior majoring in Sociology based on academic achievement. Nonrenewable.	Varies	Sociology department at 516-6366
Hilda E. Stroh Scholarship	Music major, selection based on record, performance skills, leadership qualities, and quality of ensemble participation. Must reapply.	Varies	Music department at 516-5981
Robert E. Smith Memorial Scholarship	Student must be a graduating Senior who is completing a writing Certificate and demonstrates strong assets in the writing program. Nonrenewable.	\$100	English department at 516-5587
Stuart and Evelyn Symington Scholarship	Awarded to an outstanding Junior or above, Political Science major with at least 12 hours in Political Science course work. Nonrenewable.	\$300	Political Science department at 516-5523
Times Mirror Minority Journalism Scholarship	Preference given to students who have participated in the Minority Journalism Workshop and who plan to attend UM-St. Louis. and pursue a B.A. degree in Communication. Renewable up to 4 years.	\$1,000	Communication department at 516-5485
Kathy Van Dyke Memorial Scholarship	Student must possess and demonstrate leadership ability with evidence of significant contributions to the field of psychology. Student	Varies	Psychology department at 516-5394

Financial Aid

Fund Name	Qualifications/Description	Year Amount	Maximum Academic Apply To
	must be good academically with a nomination from the Department of Psychology faculty. Nonrenewable.		
John & Bina Jo Walters Music Scholarship	Outstanding Junior or Senior Music major with community involvement and ensemble experience. Renewable.	\$2,250	Music department at 516-5981

Athletics

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Don Dallas Memorial Soccer Scholarship	Soccer player for at least one year, in good academic standing, and exhibiting sportsmanlike conduct on and off the field. Renewable for one year.	Varies	Athletic department at 516-5661
Stan Musial Baseball Scholarship	A member of the baseball team, with acceptable GPA throughout UM-St. Louis attendance, who has made a definite contribution to the sport while exhibiting good sportsmanship. Renewable.	Varies	Athletic department at 516-5661
Sean Phares Soccer Scholarship	Successful UM-St. Louis soccer player; cumulative GPA of 2.25, commitment to and achievement in UM-St. Louis soccer and demonstrates financial need. Preference to male students. Nonrenewable.	\$500	Athletic department at 516-5661

School of Business Administration

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alumni Agents Council Scholarship	Junior or Senior with a cumulative GPA of 3.0. Nonrenewable.	\$1,000	University Relations at 516-5267
Alumni Agents Accounting and Finance Scholarship	Alternates every other year between Accounting and Finance students. Awarded to a student who demonstrates financial need. Renewable.	\$1,950	School of Business Administration at 516-5883
Anheuser-Busch Employees Scholarship	Eligible students must have completed 90 hours or more, be admitted to the School of Business	\$500	School of Business Administration at 516-5883

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Deloitte & Touche Accounting Scholarship	Accounting majors, based on academic achievement. Renewable	\$1,000	School of Business Administration at 516-5883
Driemeier Scholars	Business major that has completed at least 24 credit hours at UM-St. Louis and has a total of between 45 and 60 credit hours, with a minimum cumulative GPA of 3.4. Renewable.	\$250	School of Business Administration at 516-5883.
A.G. Edwards Outstanding Finance Student Scholarship	Finance student, based on academic achievement.	\$1,500	School of Business Administration at 516-5883
Emerson Electric Co. Asian-American Scholarship	Scholarship awarded on even dated fall terms, (every other year). Candidates must be of Asian-American heritage, majoring in Undergraduate Engineering, Accounting, Finance or Computer Science with a cumulative GPA of 2.75 or submit an ACT score if Freshmen. Juniors and Seniors enrolled in the Joint Engineering program and must complete a minimum of 18 credit hours per year. Renewable for up to four years.	\$1,000	Engineering program at 516-6800
Enterprise Leasing Foundation Scholarship-The Enterprise Scholars	Based on academic ability. Renewable.	\$2,500	School of Business Administration at 516-5883
Ernst & Young LLP Accounting Scholarship	Accounting major based upon academic ability. Renewable.	\$1,000	School of Business Administration at 516-5883
David R. Ganz Accounting Scholarship	Student pursuing a Business degree with an emphasis in Accounting, minimum cumulative GPA of 3.0 and enrolled full-time. Eligible student will be a non-traditional student that is not immediately returning to college or entering college after high school. Renewable for 1 year.	\$1,000	School of Business Administration at 516-5883
Gearty Fox CPA Review Scholarship	Accounting student, based on academic achievement. Nonrenewable.	Free tuition to the Gearty Fox CPA Review Course	School of Business Administration at 516-5883

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	Administration, maintain a minimum cumulative GPA of 3.0 and demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.		
Arthur Andersen & Co. Accounting Scholarship	Junior student majoring in Accounting, based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Association of Government Accountants Scholarship	Award made to an Accounting major, based on academic achievement. Renewable.	\$500	School of Business Administration at 516-5883
Association for Systems Management Scholarship	MIS major, based upon academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Baird, Kurtz & Dobson Undergraduate Accounting Scholarship	Accounting major, based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Becker CPA Review Scholarship	Accounting major, based on academic achievement. Nonrenewable.	Free tuition to the Becker CPA Review Course	School of Business Administration at 516-5883
Buschart Scholarship	Employees of BT Office Products International, enrolled full-time and maintaining a cumulative GPA of 2.0 and demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.	Payment of tuition, books, and activity fees	Student Financial Aid at 516-5526
Business Alumni Entrepreneur Scholarship	Business major with an emphasis in Marketing, minimum cumulative GPA of 2.5 and demonstrated citizenship and demonstrates an entrepreneurial spirit. Renewable.	\$1,000	School of Business Administration at 516-5883
Business Alumni Undergraduate Scholarship	Business student in Senior year, minimum cumulative GPA of 3.2. Preference given to female students supporting at least one child. Nonrenewable.	\$1,500	School of Business Administration at 516-5883
Conviser Duffy CPA Review Scholarship	Accounting student, based on academic achievement.	Free tuition to Conviser Duffy CPA Review Course.	School of Business Administration at 516-5883
Jack Cox Accounting Scholarship	Accounting major, based on academic achievement. Renewable.	\$500	School of Business Administration at 516-5883

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
David P. Gustafson Memorial Scholarship for Overseas Studies	Business major students studying overseas. Preference to participants in the Missouri-London Program	\$500	School of Business Administration at 516-5883
Albert W. Haskell Memorial Accounting Scholarship	Senior majoring in accounting, enrolled full or part-time, minimum cumulative GPA of 3.0. Renewable.	\$600	School of Business Administration at 516-5883
KPMG Peat Marwick Accounting Scholarship	Accounting major, based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Dan Norris Scholarship	Management Science and Information Systems major enrolled full-time and working part-time, minimum cumulative GPA of 2.5. Recipient will have demonstrated a strong desire to help others. Nonrenewable.	\$500	School of Business Administration at 516-5883
Price Waterhouse LLP Accounting Scholarship	Accounting student based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
Rubin, Brown, Gornstein & Co. Accounting Scholarship	Accounting major, based on academic achievement. Renewable.	\$1,000	School of Business Administration at 516-5883
St. Louis Chapter of Missouri Society of CPA's Scholarship	Accounting major, based on academic achievement. Renewable.	\$500	School of Business Administration at 516-5883
School of Business Administration/Community College Transfer Scholarship	Awarded to student transferring from an area community college with a minimum of 30 credit hours completed and a minimum cumulative GPA of 3.5. Renewable up to 60 credit hours.	Varies	School of Business Administration At 516-5883
Service Corps of Retired Executives (S.C.O.R.E.) Scholarship	Full-time student must be able to demonstrate financial need. Must have completed two terms in their major with a minimum cumulative GPA of 3.0. Nonrenewable.	\$1,200	University Relations at 516-5267
Norbert Terre Memorial Scholarship	Accounting student based on academic achievement. Renewable.	\$2,000	School of Business Administration at 516-5883
Emery Turner Scholarship	Minority business student who demonstrates financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$400	School of Business Administration at 516-5883

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Mark Twain Bancshares Scholarship	Minority full-time student with a cumulative GPA of 3.0. Renewable.	\$1,500	Student Financial Aid at 516-5526

Center for International Studies

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
AT&T Study Abroad Scholarship	Student must be accepted for a UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need may also be considered. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
English Speaking Union Scholarship	Recipient shall be a resident of the St. Louis metropolitan area, in a UM-St. Louis Study Abroad or Exchange program in an English Speaking country, enrolled in any field of study. Undergraduate or graduate student. Must reapply	\$2,000	Center for International Studies at 516-5755
Marlyn Essman Scholarship	Student must be accepted for a UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need may also be considered. Undergraduate or graduate student. Must Reapply	\$1,000	Center for International Studies at 516-5755
Exchange Program Scholarship	Student must be accepted for an UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need may also be considered. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
Lynn A. Hesterberg Study Abroad Scholarship	Student must be accepted for a UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need may also be considered. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
Japanese American Citizens League Scholarship	Student must be enrolled full-time, taking a minimum of 12 credit hours, and maintain a cumulative grade point average of 3.0. Undergraduate or graduate student. Nonrenewable.	\$2,000	Center for International Studies at 516-5755

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
London Program Scholarship	Student participating in the Business Internship Program in London or the Missouri London Program. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
MiTek Study Abroad Scholarship	Student must be accepted for a UM-St. Louis Study Abroad or Exchange program. Merit is a primary consideration but financial need also may be considered. Undergraduate or graduate student. Must reapply.	\$1,000	Center for International Studies at 516-5755
Manfred Rommel Scholarship	Student must be enrolled in a University Exchange Program with the University of Stuttgart with a minimum cumulative GPA of at least 2.75. Must reapply.	\$500	Center for International Studies at 516-5755
William & Anne Tao Scholarship	Asian-American student, junior or senior, enrolled in at least 12 credit hours, enrolled in a Center for International Studies Study Abroad, Exchange, or on-campus program. Must maintain at least a minimum cumulative grade point average of 3.5. Must reapply.	\$1,500	Center for International Studies at 516-5755

School of Education

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alpha Delta Kappa Eileen McHugh Memorial Scholarship	Awarded each January to a female Senior majoring in Education with a minimum cumulative GPA of 2.8. Nonrenewable.	\$200	University Relations at 516-5267
Ward E. & Julia Barnes Education Scholarship	Student enrolled in the School of Education with a minimum cumulative GPA of 2.5. Must reapply.	Varies	Student Financial Aid at 516-5526
Steve Beran Memorial Fund Scholarship	Junior majoring in Physical Education (either Secondary or Elementary) and enrolled full-time. Recipients must demonstrate a dedication and enthusiasm for teaching. Renewable.	\$500	Student Financial Aid at 516-5526
Biology Alumni Scholarship Fund	Scholarship awarded annually to high school seniors in the St. Louis area planning to attend UM-St. Louis in the fall term as biology teacher major. Applicants judged	\$250	Biology department at 516-6204

Financial Aid

Fund Name	Qualifications/Description	Year Amount	Maximum Academic Apply To
	on academic achievement (science especially), interest and participation in science activities, good community spirit and expressed interest in teaching biology. Renewable.		
Granger Biology Teacher Development Award	Scholarship awarded annually to high school seniors in the area planning to attend UM-St. Louis in the fall as a biology teacher major. Must reapply.	\$500	Biology department: at 516-6204
Kenneth & Ruth Levinson Hook Scholarship	Female Senior Elementary Education major enrolled full-time, minimum cumulative GPA of 3.0 and member of Kappa Delta Pi or MISTA. Recipient shall be an outstanding student who demonstrates potential to be highly successful. Nonrenewable.	\$1,000	School of Education at 516-5937
Wednesday Club Centennial Scholarship	Student who is a resident of the St. Louis metropolitan area majoring in teaching, at least Junior level or above, minimum cumulative GPA of 3.5. The student must have a recent history of enrolling in at least 6 credit hours per semester for a sustained period. The recipient will demonstrate leadership with potential to be an excellent teacher. Renewable.	\$1,000	School of Education at 516-5937

Evening College

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alpha Sigma Lambda Scholarship	Recipient will be a member of the Beta Epsilon Chapter of Alpha Sigma Lambda. The Evening College Student honor society, who has contributed significantly to student life. Renewable.	Varies	Evening College at 516-5161
Evening College Alumni Scholarship	Evening College student seeking first B.A. with a minimum cumulative GPA of 2.0. Renewable.	Varies	Evening College at 516-5161
Julius Swiener Memorial Scholarship	Evening College student who demonstrates financial need. Renewable.	Varies	Evening College at 516-5161

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Wednesday Club of St. Louis Evening College Scholarship	Evening College undergraduate female of at least Junior level with a declared major and is working toward a degree and professional goal. The student will have completed at least six semester hours in the Evening College and maintained a minimum cumulative GPA of 3.0. Nonrenewable.	\$2,000	Evening College at 516-5161
Joy E. Whitener Evening College Scholarship	Evening College student with a minimum of six credit hours, minimum cumulative GPA of 2.0 and working toward first B.A. Additionally, the student must work at least part-time and have obligations beyond studies. This scholarship is awarded on merit financial need is a secondary consideration. Renewable.	Varies	Evening College at 516-5161

Barnes College of Nursing

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Barnes Nursing Scholarship	Degree seeking student in the nursing program based on financial need. Recipient must accept employment at Barnes Hospital, if he/she does not accept employment the scholarship becomes an interest free loan. If no employment opportunities are available the loan will be excused. Must reapply.	Varies	Barnes College of Nursing at 516-6066
Missouri League of Nurses Scholarship/Loan	Recommended by the Dean of the UM-St. Louis Barnes College of Nursing. Must reapply.	\$1,000	Barnes College of Nursing at 516-6066
Missouri Professional and Practical Nursing Scholarship/Loan	Missouri residents enrolled in the nursing program. Preference to individuals from rural or underserved areas and minority individuals. Full or part-time students. A portion of the loan will be forgiven if recipient works in a designated shortage area. Renewable.	Varies	Bureau of Primary Care at (314)751-6219
Nursing Alumni Scholarship	Returning student of Junior level in the UM-St. Louis' Barnes College of Nursing program who is	Varies	Barnes College of Nursing at 516-6066

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	making significant life style/career changes with a minimum cumulative GPA of 2.5. The recipient will have demonstrated leadership ability in the University setting and/or community and not eligible for any other tuition assistance or reimbursement through the student's, spouse's or parent's employment. Must reapply.		
Harry K. Waggoner Scholarship	Recipient must be enrolled in the BSN completion program with minimum cumulative GPA of 3.5 with 12 credit hours completed. Full-time and part-time students are eligible. Must reapply.	Varies	Student Financial Aid at 516-5526 Or Barnes College of Nursing at 516-6066
John S. Waggoner Scholarship	Recipient must be enrolled in the BSN completion program with minimum cumulative GPA of 3.5 with 12 credit hours completed. Full-time and part-time students are eligible. Must reapply.	Varies	Student Financial Aid at 516-5526 Or Barnes College of Nursing at 516-6066

Pierre Laclède Honors College

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Chancellor's Council Scholarship	High school Seniors or entering college Freshmen at UM-St. Louis. Preference given to students from economically disadvantaged backgrounds. Renewable.	Varies	Pierre Laclède Honors College at 516-6870
Julie & Robin Kerry Memorial Scholarship	Full-time student who works part-time and meets the following minimum cumulative GPA requirements: Sophomore - 3.2, Junior - 3.4, Senior - 3.5. The recipient will be of outstanding character and have recommendations from instructors. Nonrenewable.	\$300	Pierre Laclède Honors College at 516-6870
May Department Stores/ Pierre Laclède Honors College Scholarship	Students enrolled in Honors College with outstanding academic ability	Full educational fees	Pierre Laclède Honors College at 516-6870 Or Student Financial Aid at 516-5526
Harriet Woods Leadership Scholarship	Female student in the Pierre Laclède Honors College with demonstrated leadership ability. Nonrenewable.	\$1,000	Pierre Laclède Honors College at 516-6870

Financial Aid

Additional Undergraduate Program Engineering

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Citizens' Committee on Engineering Scholarship	Junior or Senior in the UM-St. Louis Joint Engineering Program at Washington University with a minimum cumulative GPA of 2.5 or if a continuing student a minimum cumulative GPA of 2.0. Preference given to non-traditional, African-American and female students. Renewable.	Educational and supplemental engineering fees for up to six credit hours.	Engineering program at 516-6800
Emerson Electric Co. Engineering Scholarship	Candidates must be female or minority student accepted to the Joint Undergraduate Engineering Program. The student must be a second Sophomore in good standing or Junior or Senior level with a minimum cumulative GPA of 2.75 and carry a minimum of 18 credit hours per year. Renewable up to four years.	Educational fees up to \$1,500 per semester, plus possible paid internship program at Emerson Electric Co.	Engineering program at 516-6800
Fru-Con Engineering Scholarship	Student majoring in Mechanical, Civil or Electrical Engineering and have a desire to enter the construction/engineering industry upon graduation. Based on academic achievement and extra curricular activities. Renewable.	\$1,250	Engineering program at 516-6800
INROADS/St. Louis, Incorporated Scholarship	First-time Freshmen enrolled in the INROADS/St. Louis College Component and be admitted to UM-St. Louis. Preference given to minority students. Candidate must complete the pre-engineering Curriculum at UM-St. Louis in order to be admitted into the Joint Undergraduate Engineering Program, a cumulative GPA of 2.75 is required in all engineering courses. Renewable.	\$1,000 per semester	University Relations at 516-5267
Herbert Sweeney Memorial Scholarship	Enrolled in the Joint Engineering, Program first-time freshmen and transfer students must have a "B" average from school of transfer. Renewable.	\$500	Engineering program at 516-6800

Financial Aid

Undergraduate Diversity Scholarships

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
African-American Alumni Chapter Book Stipend	Junior or Senior, full or part-time, maintaining a cumulative GPA of 2.5. Renewable.	\$200	Student Financial Aid at 516-5526
American Association of University Women	Independent part-time female undergraduate student maintaining a cumulative GPA of 2.5, demonstrating financial need as determined by Free Application for Federal Student Aid. Renewable.	Varies	Student Financial Aid at 516-5526
Black Faculty and Staff Association Scholarship	First-time Freshmen or evening student enrolled full or part-time and has a cumulative GPA of 2.0. Preference to African-American students from economically disadvantaged backgrounds. Renewable.	\$500	Student Financial Aid at 516-5526
Gay Carraway N.O.B.L.E. Memorial Scholarship	Preference to African-American students in a minimum of enrolled six hours at Junior or Senior level. Student must have a cumulative GPA of 2.8 and be a resident of St. Louis metropolitan area, pursuing a degree in Law Enforcement. Renewable.	Up to \$1,000 for educational fees and books	Relations University at 516-5267
Lena Key Cassidy Memorial Scholarship Fund	Preference to Junior or Senior single parents returning to formal higher education and undergoing significant lifestyle or career change, demonstrating financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Chancellor's Minority Journalism Workshop Scholarship	Recipients will have participated in the Minority Journalism Workshop majoring in Communication. Renewable up to four years.	\$1000	University Relations at 516-5267
Citizens' Committee on Engineering Scholarship	Junior or Senior in the UM-St. Louis Joint Engineering Program at Washington University with a minimum cumulative GPA of 2.5 or if a continuing student a minimum cumulative GPA of 2.0. Preference given to non-traditional, African-	Educational and supplemental engineering fees for up to six credit hours.	Engineering department at 516-6800

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	American and female students. Renewable.		
Emerson Electric Co. Asian- American Scholarship	Scholarship awarded on even dated fall terms, (every other year). Candidates must be of Asian-American heritage, Juniors and Seniors enrolled in the Joint Undergraduate Engineering program and must complete a minimum of 18 credit hours per year with a cumulative GPA of 2.75. Renewable for up to four years if recipient maintains a 2.75 GPA.	Full educational fees	Engineering program at 516-6800
Friends of Sharon Marglous Memorial Scholarship	Preference to female student 25 years or older who needs to enter or return to the workplace; resident of St. Louis County or City. Renewable.	Varies	Student Financial Aid at 516-5526
Elisabeth A. Horkits Scholarship Fund	Preference to women demonstrating financial need as determined by the Free Application for Federal Student Aid. Must be full-time student with a cumulative GPA of 3.0 and preferably from Lindbergh High School. Renewable.	Varies	Student Financial Aid at 516-5526
INROADS/St. Louis, Inc. Scholarship	First-time Freshmen enrolled in the INROADS/St. Louis College Component and be admitted to UM-St. Louis. Preference given to minority students. Candidate must complete the pre-engineering curriculum at UM-St. Louis in order to be admitted into the Joint Undergraduate Engineering Program, a cumulative GPA of 2.75 is required in all engineering courses. Renewable.	\$2,000	University Relations at 516-5267
INTERCO Scholarship	Minority student, high academic achievement in high school, full-time enrollment. Renewable.	Full educational fees and books	Student Financial Aid at 516-5526
Hazel L. Kohring Scholarship For Women in Transition	Displaced female, 25 or older, needing to enter or return to the work force. Must be a full-time student, have a cumulative GPA of 2.25 and be a St. Louis City or County resident. Renewable.	\$500	Student Financial Aid at 516-5526
May Department Stores Minority Scholarship	Preference to an African-American student with financial need and strong academic performance.	\$1,000	Career Planning and Placement at 516-5111

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	Internship may be required. Renewable.		
May Department Stores/ Pierre Laclède Honors College Scholarship	Member of the Pierre Laclède Honors College. Preference to minority student or St. Louis City resident who demonstrates financial need. Renewable.	\$2,000	Pierre Laclède Honors College at 516-6870 Or Student Financial Aid at 516-5526
Theodore McNeal Memorial Scholarship	Minority student desiring a career in public service, a graduate of an accredited St. Louis area high school, maintain a cumulative GPA of 2.5 or above. Nonrenewable.	\$400	Student Financial Aid at 516-5526
Monsanto/Marguerite Ross Barnett Memorial Fund	Academically promising graduate of the Bridge program who is actively involved in the Bridge Program, minority from districts previously involved in Bridge Program (University City, Normandy, Wellston and St. Louis City), completion of degree within 6 semester, must maintain academic progress. Renewable.	\$2,000	Student Financial Aid at 516-5526
Monsanto Minority Math/ Science Scholarship	Preference given to students who have successfully completed the Bridge Program. Minority or economically disadvantaged students with a major in Math, Computer Science, Biology, Chemistry, Engineering or Physics and at least a cumulative GPA of 2.4. Renewable.	\$2,000	Student Financial Aid at 516-5526.
Monxmode Foundation African-American Parent/ Child Scholarship	Missouri resident, African-American single parent with a cumulative GPA of 3.0. Must have completed between 60 and 90 credit hours and demonstrate financial need as determined by the Free Application for Federal Student Aid. Must be full-time and enrolled in a degree program. The recipient will have at least one child between the age of six weeks to five years. Renewable up to four semesters.	\$5,000 (for four semesters)	Student Financial Aid at 516-5526
Marian Oldham Scholarship	Awarded to an African-American, first-time Freshman admitted to UM-St. Louis in a degree program. The award shall be made to a	\$1,600	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	student(s) who ranks in the top 15% of his/her high school class, demonstrates leadership abilities at work or in school activities, and demonstrates financial need as determined by the Free Application for Federal Student Aid. Renewable.		
George Dewey Ross Memorial Scholarship	Sophomore, Junior, or Senior pursuing a degree. The recipient shall be an outstanding student who demonstrates financial need as determined by the Free Application for Federal Student Aid and who is active in the community on behalf of the disadvantaged and/or themselves be a member of a racially or economically disadvantaged group. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Randy Sanderson/ INROADS Scholarship	INROADS participant, first-time Freshman with a cumulative GPA of 2.5. Preference to Business Administration and/or graduates of Beaumont High School. Renewable.	Tuition and educational fees	University Relations at 516-5267
Southwestern Bell Math/Science Scholarship	Applicants must be first-time Freshmen who have participated in the Engelmann Institute and/or Bridge Program and are enrolled full-time. Renewable for up to nine semesters.	\$2,000	Bridge Program at 516-5199
Saint Louis Symphony Scholarship	African-American full-time student attending UM-St. Louis; must be involved in at least one music ensemble with UM-St. Louis music department. Renewable.	\$2,000	Music department at 516-5981
Lucinda DeLeftwich Templin Scholarship	Women demonstrating financial need as determined by the Free Application for Federal Student Aid. Must reapply.	Varies	Student Financial Aid at 516-5526
Times Mirror Foundation Minority Journalism Scholarship	Preference given to students who have participated in the UM-St. Louis Minority Journalism Workshop and plan to attend UM-St. Louis and pursue a B.A. in Communication. Renewable up to four years.	\$1,000	Continuing Education at 516-5916
Towards Independence Scholarship	Female in a transitional period, demonstrating financial need as	\$500	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	determined by the Free Application for Federal Student Aid. Renewable.		
Gwendolyn M. Tsadik Memorial Scholarship	Minority or disadvantaged student living in the St. Louis metropolitan area with special emphasis on inner-city youth. Students must have 24 credit hours from UM-St. Louis maintaining a cumulative GPA of 3.0 and pursuing a career in public service. First consideration given to immediate family member of Gwendolyn M. Tsadik. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Emery Turner Scholarship	Minority business student who demonstrates financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	\$400	School of Business Administration at 516-5883
University Women Scholarship	Undergraduate female, who has previously completed 12 credit hours at UM-St. Louis, returning to or continuing education after a significant lifestyle or career change. Must be a full or part-time student with a cumulative GPA of 2.5 and demonstrating financial need as determined by the Free Application for Federal Student Aid. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Margaret Bush Wilson Minority Scholarship	Freshmen students who have participated in the Bridge Program, pursuing a degree in Biology, Chemistry, Physics, Math or Computer Science. Renewable.	\$3,000	Student Financial Aid at 516-5526
Harriet Woods Leadership Scholarship	Female student in the Pierre Laclède Honors College with demonstrated leadership ability. Nonrenewable.	\$1,000	Pierre Laclède Honors College at 516-6870

Scholarship Program General Undergraduate

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alumni Association Scholarship	Must be a child of a graduate from UM-St. Louis and be enrolled at least 12 credit hours. Nonrenewable.	\$1,000	University Relations at 516-5267

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Alumni Agents Council Scholarship	Junior or Senior with a cumulative GPA of 3.0. Nonrenewable.	\$1,000	University Relations at 516-5267
Buschart Scholarship	Employees of BT Office Products International, enrolled full-time and maintaining a cumulative GPA of 2.0. Demonstrate financial need as determined by the Free Application for Federal Student Aid. Renewable.	Tuition, books, and activity fees	Student Financial Aid at 516-5526
Ray and Lucia Kramer Collins Memorial Scholarship	Students who are the sole supporter of one or more dependents demonstrating financial need as determined by the Free Application for Federal Student Aid. Student must be full-time and expect to complete degree in four additional semesters. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Farmers Insurance Group of Companies Scholarship	Insurance, Mathematics, Business Administration or Human Resources majors demonstrating financial need and maintaining a cumulative GPA of 2.75. Nonrenewable.	\$500	Student Financial Aid at 516-5526
Farmers Insurance Group of Companies Scholarship -UM System	Insurance, Mathematics, Business Administration or Human Resources majors demonstrating financial need and maintaining a cumulative GPA of 2.75. Nonrenewable.	\$500	Student Financial Aid at 516-5526
Ferguson Rotary Scholarship	Full or part-time students, preference to Freshmen but not excluded to Freshmen. Recipient must be from the Ferguson Rotary area which includes: Ferguson and Berkeley School Districts, the local Lutheran High School and Incarnate Word Academy. Must reapply.	\$1,000	University Relations at 516-5267
Friends of Dudley Grove Scholarship	Full or part-time student maintaining a cumulative GPA of 2.5, pursuing either undergraduate or graduate degree. Must have done volunteer work. Renewable.	\$500	Student Financial Aid at 516-5526
Friends of UM-St. Louis Scholarship	Full or part-time undergraduate students maintaining a cumulative GPA of 2.5 Must reapply each year.	Varies	Student Financial Aid at 516-5526
Jean DeBerry Fritsche Memorial Scholarship	Graduate from public high school in St. Louis County enrolled in	\$500	University Relations at 516-5267

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	office related business program and maintaining a cumulative GPA of 2.8. Must have completed two or more business courses. Must reapply.		
Clarke Mahaffy Scholarship	U.S. resident, full-time student demonstrating financial need as determined by the Free Application for Federal Student Aid. Student must maintain a minimum cumulative GPA of 2.0 as a Freshman, 2.5 as a Sophomore, 3.0 as a Junior or Senior. Renewable.	\$1000	Student Financial Aid at 516-5526
LaVerne Noyes Scholarship	Direct descendants of persons who served in the army or navy in World War I and honorably discharged. Renewable.	Varies	Student Financial Aid at 516-5526
Reserve Officer Training Corps (ROTC) Scholarship	Student must be a U.S. citizen, high school graduate, physically fit, and be at least 17 before the scholarship starts. Student must score a minimum of 19 on the ACT or 850 on the SAT and maintain a cumulative GPA of 2.5. Additional requirements may apply. Available to students on a competitive basis for four, three, and two-year periods.	Based on a tiered system paying \$12,000, \$8,000, \$5,000, and \$2,000 per year depending on the category and an additional allotment of \$450 for books and a tax free monthly subsistence allowance of \$150.	ROTC Scholarship Coordinator at 935-5537
St. Louis Mayors' Scholarship	Full or part-time undergraduate, resident of Missouri, maintaining a cumulative GPA of 3.0 for 24 hours of graded course work at UM-St. Louis. Must show evidence of a commitment to public service in the city of St. Louis. Must present a statement describing community service experiences and plans for applying University education in the area of public service. Requires three letters of recommendation. Nonrenewable.	Varies	Student Financial Aid at 516-5526
Tau Kappa Epsilon Scholarship	Full-time student, working at least part-time, involved in at least one student organization, maintaining a cumulative GPA of 2.2 with a minimum of 12 credit hours completed. Renewable up to one additional year.	Varies	Student Financial Aid at 516-5526

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Rosalie Tilles Scholarship	Entering full-time Freshman that demonstrates capability of maintaining a cumulative GPA of 3.0, likelihood of community success, unique non-academic interests. Renewable for up to 3 additional undergraduate academic years.	Full educational fees	Student Financial Aid at 516-5526
Trans World Airlines Inc. Scholarship	Student must be pursuing a career in natural resources or environmental law and must have completed at least 60 credit hours. Student must be enrolled in one of the four UM-system campuses. Must reapply.	Varies	Student Financial Aid at 516-5526

Scholarship Program Graduate

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Muriel E. Babcock Memorial Scholarship	UM-St. Louis Biology major who has graduated in the previous summer/fall or who plans to graduate in the coming spring with a cumulative GPA of 3.5 or above, has declared the intention to undertake a graduate program for research in the biological sciences. Nonrenewable.	Varies	Biology department at 516-6204
Department of Health and Human Services (DHHS) Professional Nurse Traineeship	Graduate student, U.S. citizen, attending full-time with a minimum cumulative GPA of 3.0. Special criteria is designated yearly by the DHHS. Recipient will demonstrate financial need and not receive any other federal support at the time of the grant. Must reapply.	Varies	Barnes College of Nursing at 516-6066
Stephen Mitchell Doyle Scholarship in Fund Tropical Ecology	M.S. or Ph.D. student who is conducting tropical research in either, ecology conservation or systematics. Student must submit a current curriculum vitae, budget justification for all items, and either a description of the proposed research and how funding will enhance the student's ability to carry out that research (500 word limit); or an abstract presentation (if applicable), and description (250 word limit) on how	\$750	Biology department at 516-6204

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
	proposed participation at the scientific meeting will enhance the student's graduate program. Nonrenewable.		
Economics Graduate Scholarship	Graduate student in the Economics program. Must be recommended by faculty.	\$200 minimum	Economics department at 516-6710
Graduate Business Scholarship	Graduate business student in the MBA, MACC, or MMIS program, demonstrates financial need and is based on academic achievement. Renewable.	Varies	School of Business Administration at 516-5883
Arnold B. Grobman Scholarship	Student must have completed 10 hours of Biology course work with A primary interest in field biology and have a minimum cumulative GPA of 3.0. Nonrenewable.	Varies	Biology department at 516-6204.
Noel K. Mahr Graduate Accounting Scholarship	Graduate minority student in Accounting requires recommendation from School of Business Administration. Should have undergraduate GPA of 3.4 or above. Renewable.	\$500	School of Business Administration at 516-5883
Raju Mehra Scholarship	International graduate student who has demonstrated outstanding work in Biology. Nonrenewable.	\$100	Biology department at 516-6204
Missouri Professional and Practical Nursing Scholarship/Loan	Missouri residents enrolled in the nursing program. Preference to individuals from rural or under served areas and minority individuals. Full or part-time students. A portion of the loan will be forgiven if recipient works in a designated shortage area. Renewable.	Varies	Bureau of Primary Care at (314)751-6219
Nursing Alumni Scholarship	Graduate student in the UM-St.Louis' Barnes College of Nursing program who is making significant life style/career changes with a minimum cumulative GPA of 3.0. The recipient will have demonstrated leadership ability in the University setting and/or community and not eligible for any other tuition assistance or reimbursement through the student's, spouse's or parent's employment. Must reapply.	Varies	Barnes College of Nursing at 516-6066

Financial Aid

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Robert E. Rea Mathematics Scholarship	A graduate student who has an elementary teaching certificate, minimum 3.0 GPA, and maintains a 3.5 GPA while in graduate school. Nonrenewable.	\$500	Mathematics and Computer Science department at 516-6355
Lewis J. Sherman Memorial Scholarship	Graduate or undergraduate student in Clinical Psychology, selection by faculty. Nonrenewable.	\$600	Psychology department at 516-5394
Kent A. Tomazi Memorial Student Research Fund	Independent research student in Biology studying electron microscopy activities. Student will help maintain library of books, Magazines and pamphlets on electronic microscopy within the library of the Electron Microscopy Suite I Study area. Nonrenewable.	Help defray cost of operational supplies, equipment, books, maintenance, etc.	Biology department at 516-6204

Scholarship Program General Graduate

Fund Name	Qualifications/Description	Maximum Academic Year Amount	Apply To
Lucinda DeLeftwich Templin Scholarship	Women demonstrating financial need as determined by the Free Application for Federal Student Aid. Must reapply.	Varies	Student Financial Aid at 516-5526
Friends of Sharon Marglous Memorial Scholarship	Preference to female student 25 years or older who needs to enter or return to the workplace; resident of St. Louis County or City. Renewable.	Varies	Student Financial Aid at 516-5526
Friends of Dudley Grove Scholarship	Full or part-time student maintaining a cumulative GPA of 2.5, pursuing either undergraduate or graduate degree. Must have done volunteer work. Renewable.	\$500	Student Financial Aid at 516-5526
LaVerne Noyes Scholarship	Direct descendants of persons who served in the army or navy in World War I and honorably discharged. Renewable.	Varies	Student Financial Aid at 516-5526
Towards Independence Scholarship	Female in a transitional period, demonstrating financial need as determined by the Free Application for Federal Student Aid. Renewable.	\$500	Student Financial Aid at 516-5526

Library Services

UM-St. Louis Libraries

Joan Rapp, Director of Libraries
M.L.S., Rutgers; M.A., University of Washington;
M.B.A., Southern Illinois University-Edwardsville

Librarians

Amy Arnott, Head, Access Services
M.A., University of Missouri-Columbia
Cheryle Cann, Head, Health Sciences Library
M.A., University of Missouri-Columbia
Linda d'Avignon, Reference Librarian
M.S., University of Illinois-Urbana-Champaign
Ellen Grewe, Head, Technical Services
M.A., University of Missouri-Columbia
Raleigh Muns, Reference Librarian
M.L.S., University of California-Los Angeles
David Owens, Technical Services Librarian
M.A., University of Missouri-Columbia
Frances Piesbergen, Reference Librarian/Government Documents
M.A., University of Missouri-Columbia
John Mark Scheu, Reference Librarian
M.A., A.B.D., University of Kansas; M.S., University of Illinois-Urbana-Champaign
Melissa Silvestre, Reference Librarian
M.L.S., University of California-Los Angeles
Sandra Snell, Head, Reference
M.A., University of Wisconsin; M.S., University of Illinois-Urbana-Champaign
Anne Taylor, Reference Librarian
M.L.S., University of Pittsburgh
Virginia Workman, Head, Ward E. Barnes Education Library
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. Housed in three locations—the Thomas Jefferson Library (North Campus), the Ward E. Barnes Education Library and the Health Sciences Library (both on South Campus)—the Libraries' collections consist of more than 600,000 volumes, 2,900 periodical subscriptions, one million U.S. Government documents, and over one million items in microform.

Materials from all University of Missouri libraries can be identified through LUMIN, the online catalog. Interlibrary Loan provides fast delivery of materials from other libraries across the country. Many automated databases are available, in both online and CD-ROM formats.

The libraries are open more than 85 hours per week during regular sessions. Specific hours for various library services are posted in all libraries.

Western Historical Manuscript Collection and University Archives

Archivists

Ann N. Morris, Associate Director, Western Historical Manuscript Collection; Archivist, University Archives
M.A., Webster University
Kenneth F. Thomas, Senior Manuscript Specialist, Western Historical Manuscript Collection
M.A., University of Missouri-St. Louis
William M. (Zelli) Fischetti, Senior Manuscript Specialist, Western Historical Manuscript Collection
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 (WHMC) 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 catalogue 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 am to 4:45 pm and until 9 pm on Tuesday. Archival and manuscript material does not circulate.

University Center

The University Center houses University food services, the Bookstore, Normandy Bank, University Center, and Student Activities administrative offices and meeting rooms. Student government offices and the Black Culture Room are also located in the University Center. Lounge space provides a comfortable environment for relaxation or study and a TV room and amusements area provide places for recreation.

University Center Funding

At the University of Missouri-St. Louis, as is the case with the majority of universities and colleges, students themselves made the financial commitment necessary to construct the University Center and administer its functions. Every semester a Facilities Fee is collected from each student. This money is used to retire the bonds which were originally sold to raise the \$2,000,000 spent in construction. In addition, some money is spent on administering the facility and some is set aside for major repairs and replacements. (All student money collected for the building is used to support it.)

Food Services

The University Center's dining area features a "food market" or "scramble-type" food service in the lower level Underground, offering customers a complete menu selection ranging from popular fast-food items to hot meal service, between the hours of 7:30 am and 7:00 pm, Monday through Thursday, and 7:30 am to 2 pm on Friday. The upper level Summit is designed as a comfortable lounge-dining area, with vending service available for those seeking snacks or beverages.

Complete catering services are also available and may be arranged through the reservations office in room 267 of the University Center.

Audiovisual Services

The University Center can provide rental audiovisual equipment for student organizations and campus departments scheduling events in the University Center and J.C. Penney Building only. Equipment includes 16mm, slide, and overhead projectors; record and tape players; a 1/2" and a 3/4" VHS player/recorder with a 25" color monitor; lecterns and portable sound systems. Experienced operators are also available for an additional charge.

Bookstore

In addition to the programs and services listed above, the Bookstore is located in the University Center and is headquarters for ordering and selling textbooks and supplementary reading materials, including paperback books. The Bookstore also sells class and study supplies, college jewelry, and insignia items. Commencement announcements, caps, and gowns are ordered through the Bookstore.

Organizations

There are approximately 100 student organizations at UM-St. Louis ranging in size from three to 50 members. The scope of their activities address the educational, cultural, social, recreational, and spiritual co-curricular needs of the campus community.

Social fraternities and sororities, performing and fine arts, curriculum-related support groups, ice hockey, bowling, and other special interest clubs exist to enhance the collegiate experience. The Associated Black Collegians, International Students Organization, and the Women's Center exist as resources for students on campus.

Information regarding student organizations is available in Room 267 of the University 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, appearances by comedians, and musical groups throughout the year. The Board also sponsors games, tournaments, and discounted tickets for local sporting events, concerts, and theatre. 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 516-5531 or by stopping by the Program Board office in Room 272, University Center

Housing Referral

The University Center/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.

Black Culture Room

The Black Culture Room, located in room 254, University Center, houses a tutorial service and is equipped with a study area and lounge. Sponsored by the Associated Black Collegians, the room is called "Umajaa," an African word meaning brothers and sisters working together. For more information call the Black Culture Room at 516-5731.

Student Affairs Office

Office of the Vice Chancellor for Student Affairs

The Office of the Vice Chancellor for Student Affairs, located in 301 Woods Hall, 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 Discrimination Grievance Procedure for Students.

In addition, the Administrator for Special Student Programs is located in this office. This staff member 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 the Office of the Vice Chancellor for Student Affairs at 516-5211 (voice) or 516-5212 (TDD).

Residential Life

The University of Missouri-St. Louis offers campus housing for students. Residence hall and apartment space is available at reasonable rates. Housing is available during the academic year and summer session.

The residence hall contract includes a board plan and communications system. On campus housing provides on site laundry facilities, mail delivery, and shuttle service. A variety of educational and social programming is offered, and students are encouraged to be active members of the residential and campus community.

Interested students are invited to schedule an appointment to tour the residential facilities. For more information, call 516-6877 or write to the Director of Residential Life. Information on apartment leases may be obtained by contacting the Apartment Manager.

Counseling

Counseling Services

Counseling Services offers professional guidance regarding personal, social, educational, or career concerns. Services include individual and couple's counseling, a range of psychoeducational workshops and groups as well as career testing and career development counseling.

Our "Career Resource Center" includes a well stocked library of career related materials and SIGI PLUS, a computer-based interactive career exploration and decision-making program. SIGI PLUS may be used by all members of the University community for a small fee.

Counseling Services houses the "Helping Hand" African American student mentoring program and the "Horizons" undergraduate peer educators. We also provide training and supervision for graduate student interns. For information about participating in any of these programs, call 516-5711.

The Counseling Services' receptionist will arrange an appointment with a counselor or to use SIGI-PLUS. There are some evening appointments available for

Evening College students. In an emergency, however, students can be seen almost immediately. For more information, call 516-5711 or visit Counseling Services office at 427 SSB.

Horizons: Peer Educators

Horizons is a group of undergraduate students who are dedicated to educating and informing the students about a variety of personal and academic issues. The peer educators distribute useful information throughout the year and present programs and workshops on topics such as alcohol awareness, health and wellness education, time management, career exploration, stress management, and sexual awareness.

Horizons' peer educators are trained and supervised by Counseling Services professional staff. The peer educators learn basic listening skills, and they offer caring support for students who need a friendly ear. The peer educators will gladly make referrals when necessary. Horizons is housed in Counseling Services' office which is located in 427 SSB. Their phone number is 516-5730.

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 and career choices, cultural events and exhibits, 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 211 Clark Hall, the Women's Center is a good place to get 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.

There are opportunities for students to get involved at all levels in the activities and work of the Women's Center, which is open full time, Monday through Friday; evening hours vary by semester. The coordinator of the Women's Center directs the campus-wide orientation program so students can become acquainted with University rules, procedures, and services. For more information call 516-5380.

The Student Emergency Contact Form has been developed by the Center for students who may need to be contacted in emergency situations. This service is especially useful for students who are parents. Call the Center or stop by and complete an Emergency Contact Form.

Career Services

Job placement services are available to all UM-St. Louis students and alumni. Students may call 516-5111 for an appointment or stop by the office in 308 Woods Hall for career information.

Career Services offers a variety of services to job-hunting students, including Resume Expert. This powerful registration and resume software may be accessed in

Student Affairs Office

the student IBM labs from menu items or from any IBM compatible.

Students can visit the Career Library where career-related brochures, company information, videos, and a variety of information are available. Workshops on resume writing, interviewing skills, and orientations to the services are scheduled regularly.

"Careers On-Line" can be accessed in all the student computer labs and through our web home page: <http://www.umsl.edu/depts/career/>. Students may view special event schedules, and the on-campus interview schedule, as well as obtain information on specific job openings.

On-campus recruiting by representatives of business, and government begins in September. Students must register early each semester to take advantage of this opportunity.

"Careers on Call" is a phone-in job hotline. Job information and special announcements are available 24 hours a day. This service is open to students who have registered to use our service.

The Career Experience Employment Program offers part-time, full-time and summer employment opportunities to current students. These positions allow students to gain career-related and general workforce experience while in school.

Students can also obtain on and off campus employment through the Community Service/Federal Work Study Program. Students eligible for Work-Study funds have the opportunity to participate in off-campus community service jobs for the betterment of the community.

Hours are Monday and Tuesday, 8 am to 7 pm, and Wednesday, Thursday, and Friday, 8 am to 5 pm. For more information, call 516-5111

University Health Services

University Health Services, located in 127 Woods Hall, offers wellness through care and education. Some of the basic health services offered are treatment of minor injury and illness, screening exams, strep throat testing, pregnancy testing, urinalysis, and allergy injection. Consultation is offered on a variety of issues and concerns, such as nutrition and diet management, sexually transmitted diseases, contraception, and health promotion. Additionally, consultation is available to clients with chronic health problems (such as asthma, diabetes, and others) in assisting with health problem management. Educational materials on a variety of health related topics are available in the Health Services office. Educational programs addressing current health issues and needs are also offered through Health Services. Assistance with referral to medical facilities is provided upon request and when deemed necessary.

The University requires of students born after 1956 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 Health Services office. Validation for handicapped parking is handled through Health Services upon presentation of medical documentation verifying a disability that impairs mobility. Automobile information and license number is also necessary to obtain verification for Handicapped Parking.

University Health Services is open Monday-Thursday 8:00 a.m. until 8:30 p.m. and Friday 8:00 a.m. until 5:00 p.m. Generally there is no charge for services; however, selected screenings, tests, and services may be offered on fee-for-service basis. To make an appointment, or for further information, call 516-5671. For a medical emergency on campus call 911.

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 the University's disciplinary sanctions are consistently enforced.

Standard of Conduct

University of Missouri regulations prohibit the unlawful possession, use, distribution, and sale of alcohol and illicit drugs by University students and employees on University-owned or controlled property and at University-sponsored or supervised activities.

Legal Sanctions

Local, state, and federal laws also prohibit the unlawful possession, use, distribution, and sale of alcohol and illicit drugs. Criminal penalties for violation of such laws range from fines up to \$20,000 to imprisonment for terms up to and including life.

University Discipline

Violation of these University of Missouri regulations can result in disciplinary action up to and including expulsion for students and discharge for employees.

Health Risks

Specific serious health risks are associated with the use of illicit drugs and alcohol. Some of the major risks are listed below.

Alcohol and Other Depressants

(barbiturates, sedatives, and tranquilizers) Addiction, accidents as a result of impaired ability and judgment, overdose when used with other depressants, damage to a developing fetus, heart and liver damage.

Marijuana: Addiction, panic reaction, impaired short-term memory, increased risk of lung cancer and emphysema (particularly in cigarette smokers), impairment of driving ability.

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Cocaine: Addiction, heart attack, seizures, lung damage, severe depression, paranoia, psychosis. Similar risks are associated with other stimulants, such as speed and uppers.

Hallucinogens (acid, LSD, PCP, MDMA, etc.): Unpredictable behavior, emotional instability, violent behavior, organic brain damage in heavy users, convulsions, coma.

Narcotics (heroin, Demerol, Morphine, Codeine, etc.): Addiction, accidental overdose, risk of hepatitis and AIDS from contaminated needles.

Inhalants (gas, aerosols, glue, nitrites, etc.): Loss of consciousness, suffocation, damage to brain and central nervous system, sudden death, nausea and vomiting, nosebleeds, impaired judgment.

Resources

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. The UM-St. Louis Drug and Alcohol Prevention Program is described in a brochure. To obtain the brochure and more information, contact:

Counseling Service,
427 Social Sciences and Business Building, 516-5711;

Student Health Center,
127 Woods Hall, 516-5671;

Office of Human Resources,
211 General Services Building, 516-5804; or

Vice Chancellor for Academic Affairs,
407 Woods Hall, 516-5371.

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

Sports

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, swimming ("Swim the Mississippi River Club"), racquetball, golf, tennis, bowling, softball, hoc soc, fun run, soccer, and weight lifting. For more information call 516-5125.

Intercollegiate Sports

A variety of intercollegiate sports are available for both men and women at UM-St. Louis.

Both the 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 at least one sport in 19 of the last 20 years.

The women's intercollegiate athletic program includes basketball, soccer, tennis, volleyball, 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.

The UM-St. Louis athletic department also sponsors a coed cheerleading squad.

Intramurals and intercollegiate athletics are supported in part by the University Center and Student Activities fees. UM-St. Louis students with validated IDs are admitted free to all home athletic contests.

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 516-5641.

Student Government

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.

An educated, qualified, well-rounded individual is the desired result of a college education. The University of Missouri-St. Louis Student Association, in its capacity as representative of and advocate for students, plays an important role in developing such individuals.

For more information call 516-5105 or drop by 262 University Center.

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 parking violations and disputes between individuals and organizations; organizations and organizations.

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, 324 Lucas Hall, or any council member for more information or call 516-5162.

Senate

The Senate is the governing body of the campus. Its membership includes 75 faculty members, up to 25 students, the campus's top-ranking administrators, and other ex officio members.

Students are elected to the Senate in the winter semester, and they are required to file their candidacy in advance of the election. The filing deadline and election dates are widely publicized on the campus. The number of student senator seats is dependent on the number of eligible candidates filing for election, but the maximum number of seats available to students is 25.

To qualify for service on the Senate, a student must be enrolled in good standing, must not be on disciplinary probation, must have a cumulative grade point average calculated by UM-St. Louis to be at least 2.0, and must have completed a minimum of nine hours of academic credit on this campus.

The Senate has a number of standing committees which include student members. They are Budget and Planning; Bylaws and Rules; Committee on Committees; Computing; Curriculum and Instruction; Executive Committee; Faculty Teaching and Service Awards; International Relations; Physical Facilities and General Services; Recruitment, Admissions, Retention, and Student Financial Aid; Student Affairs; Student Publications; University Libraries; University Relations; and Video and Instructional Technology. The Senate establishes ad hoc committees as needed, and these committees sometimes include student members.

To qualify for service on Senate committees, students must satisfy the eligibility requirements stated above.

For additional information about the Senate or Senate committees, students may contact Joan M. Arban, the Senate's Executive Assistant, at 516-6769.

Other Services

Alumni Office

UM-St. Louis alumni, now numbering more than 45,000, not only help shape the future of the University, but the entire St. Louis region. The Alumni Association and the Alumni Activities offices are located at 7952 Natural Bridge Road, across the street from the main campus entrance. The two work together to promote the St. Louis campus and build mutually beneficial relations between the University and its alumni. Membership in the Alumni Association is open to all graduates and former students with payment of modest dues.

The Alumni Association sponsors a scholarship fund for UM-St. Louis undergraduates, provides special funding of certain campus projects, and works as an organization to obtain increased public support for the University. For more information, call 516-5833.

A beautifully refurbished Alumni Center, located at 7956 Natural Bridge Road across the street from the main campus entrance, offers students, faculty, staff, and alumni a pleasant gathering place for community receptions and other social events. Contact the Alumni Center at 516-5722 for more information.

Gallery 210

Gallery 210 sponsors five major art exhibitions yearly. These include professional work of national and international importance in all media, with a primary emphasis on contemporary art. In conjunction with these exhibits, the Gallery frequently sponsors symposia, lectures, and other events which enhance the impact of the works of art that are displayed.

Under the auspices of the Department of Art and Art History, the exhibits offered by the Gallery meet the best of both educational and aesthetic standards, and serve the visual interests of both the metropolitan community and the University's students and staff.

Police Department

The UM-St. Louis Department of Police is located in the Blue Metal Building and serves the students, faculty, and staff by providing year-round campus security. The UM-St. Louis police are trained to give emergency aid in the event of accident or illness, and all incidents should be reported immediately to the police department, telephone 516-5155. This number is monitored 24 hours a day. Call for help or to report fire or any existing hazardous conditions. Emergency telephones on campus include the red "Hot-Line" phones, which are located in every building. In addition, there are a number of outdoor emergency phones that connect directly to the police dispatcher.

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 department has an ongoing bicycle registration program, offering registration tags to students, faculty, and staff. A registration file with bicycle serial numbers and description is maintained for each registrant. Also available during normal working hours the University provides limited emergency vehicle service, at no charge, to vehicles on campus except for fuel. 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 to your car is available 6 pm to 11 pm, Monday through Friday, by calling 516-5155.

The UM-St. Louis police report and investigate all crimes that occur on campus.

For information on any of these services, contact the University of Missouri-St. Louis Police by calling 516-5158, Monday through Friday, 8 am to 5 pm. For emergencies, remember to call 516-5155.

Specialized Centers and Facilities for Research, Teaching and Public Service

Research

Center for Business and Industrial Studies

The Center for Business and Industrial Studies is organized within the School 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 multi-disciplinary 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. A brochure outlining the Center's services can be obtained by writing the Center for Business and Industrial Studies
School of Business Administration
University of Missouri-St. Louis
8001 Natural Bridge Rd.
St. Louis, MO 63121-4499,
or by calling (314) 516-5857.

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 present economics curriculum. The Center develops and publishes curriculum units for use in elementary and middle schools. Entrepreneurship education, grades 3 through 6, 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.

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 the 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, non-academic advising, etc. (see p.). 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 Karakas Family Foundation Alliance for the Advancement of Hellenic Studies and the Endowed Professorships in

Greek Studies and Chinese Studies. It conducts seminars that address specific faculty and student needs and interests, sponsors conferences for academic and community audiences, organizes international business development programs, issues occasional papers, administers undergraduate certificate programs in East Asian studies, European studies, international business, international studies, and Latin American studies and the Graduate Certificate in International Studies. In addition, the Center's Community Education Office serves pre-collegiate educators statewide through the Missouri International Studies Resource Collection and operates a comprehensive global education program.

Center for Molecular Electronics

Molecular electronics lies at the cutting edge of recent developments in the study and application of thin-film materials, in the growth of semiconductor device material, in the fabrication of electronic sensors and devices, and in the development of high-performance polymers. In all of 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 the 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 following St. Louis-based institutions: University of Missouri-St. Louis, Washington University, MEMC Electronic Materials, and Monsanto Company. Through the shared expertise, equipment, and facilities, the Center will investigate the following technological areas: (a) Organometallic Vapor Phase Epitaxy; (b) Plasma Chemical Vapor Deposition of Diamondlike Carbon Films; (c) Electro-Optics of High Performance Polymers; (d) Nanometer-scale Lithography; (e) Electrochemistry of Sensors; (f) Gallium Aluminum Arsenide Lasers and Waveguides; and (g) Langmuir-Blodgett films. All these technological areas are of interest to St. Louis area companies, as well as being exciting and important fields of scientific inquiry.

Center for Science and Technology

The University of Missouri-St. Louis Center for Science and Technology was established in 1987 to serve as a resource broker between the University of Missouri-St. Louis and the St. Louis scientific community.

The Center fosters research collaboration and provides customized postbaccalaureate programs on technological advances for the almost 40,000 scientists and engineers in the St. Louis area, and for science educators, corporate managers, and for top-level executives. The Center also promotes citizen awareness on technological trends and issues, linking University projects with organizations such as the St. Louis Science Center and the National Center of Environmental Information and Technology.

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International Center for Tropical Ecology

The International Center for Tropical Ecology promotes education and research concerning the study of biodiversity, conservation, and sustainable use of tropical ecosystems. It 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 major priority of the International Center is to provide funding for international and United States graduate students interested in tropical ecology 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 ecology. The center also coordinates an undergraduate certificate in Conservation Biology focusing on Missouri conservation and a graduate certificate in Tropical Biology and Conservation. By supporting talented international and United States graduate students and by attracting visiting scholars in ecology, evolution, systematics, and conservation biology, a major goal of this Center is to create an intellectual atmosphere that can contribute to the solutions of our global crisis concerning the destruction of tropical ecosystems.

Inter-University Consortium for Political and Social Research

The consortium, an academic partnership between the University of Michigan Center for Political Studies and more than 350 colleges and universities in the United States and abroad, is an interdisciplinary, inter-university research and training facility for both students and faculty in the social sciences. Through various consortium archives, students and faculty have direct access to a variety of multipurpose data of a socio-political nature that may serve a variety of research and training needs. The Office of Computing provides data-processing services for consortium resources. Students and faculty are also eligible to participate in the consortium's summer training program, a series of intensive eight-week courses of interdisciplinary work for historians, political scientists, sociologists, and other social scientists.

Office of Computing

Computing facilities at the University of Missouri provide access to powerful computing resources, which are available to students, faculty, and staff for educational, research, and administrative needs. Access to local facilities is provided at no cost.

Hardware on the UM-St. Louis campus, used primarily for academic computing, includes two Sun Sparc 1000 systems, an HDS EX31, Apple Macintoshes, and a variety of DOS-compatible systems. These microcomputers are housed in public computing labs located throughout the campus. All microcomputer labs are equipped with printers. Dial-up access is provided to the HDS system and the Internet. UM-St. Louis is part of the University of Missouri Computer Network, the Missouri Research and Education Network (MOREnet), and the Internet.

Six Advanced Technology Classrooms (ATC's) are available in the Computer Center Building. Each room is

equipped with a state of the art projection system and a computer at each student desk. Two rooms contain Apple Macintoshes, three rooms are equipped with DOS systems and the remaining room has Sun workstations. One ATC, equipped with Apple Macintoshes, is available on the South Campus.

Media-enhanced lecture halls are available in Lucas and Stadler Halls. These rooms are equipped with projection systems, and DOS and Macintosh computers for the instructor.

Staff provides consultation, programming, error analysis, and operations services. Data entry services are available from an outside vendor. Noncredit short courses are taught during the fall and winter semesters on a wide variety of microcomputer and mainframe topics. Microcomputers, peripherals, and software are available for purchase at substantial discounts in the bookstore.

University Computing Services operates an IBM 3090 which supports the University's administrative applications.

The office telephone number is 516-6000. Questions concerning open student labs and general information should be directed to the Help Desk at 516-6034.

Office of Research Administration

The Office of Research Administration provides services to faculty, graduate students, and staff for obtaining external support for research, instruction or public service programs. Services include providing information, application materials and instruction for submitting proposals, assisting in developing project budgets, contract negotiations, and fiscal monitoring of awards. The ORA is responsible for administering grants and contracts from federal, state, and local government programs, and grants awarded by private foundations. The ORA works together with faculty committees to award and administer internal research grants. Administrative support is provided to committees charged with monitoring University compliance with various federal and state regulations concerning research. The ORA provides on-line information through its home page (<http://www.umsl.edu/services/ora/>).

Urban Information Center

The Urban Information Center (UIC) is a specialized area within the Office of Computing. The UIC has been providing demographic information and data processing for researchers, business, and government since 1970. It is a Coordinating Agency of the Missouri State Census Data Center, a program which provides the citizens of Missouri with easy access to information released by the U.S. Bureau of the Census. The UIC maintains an extensive database of primarily, but not exclusively, Census-based data which are available in a variety of machine-readable or printed formats. UIC-developed software allows for easy manipulation of commonly used census files using the SAS software package, as well as the generation of statistical summaries and individualized reports. While specializing in data for the St. Louis area and the state, the UIC's holdings cover the entire United States.

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To learn more about the UIC visit their web page at www.oseda.missouri.edu/uic or contact Linda McDaniel at 516-6035. You can also visit the UIC in their new offices (summer '96) in room 211 Lucas

Public Service

Center for Excellence in Urban Education

The Center for Excellence in Urban Education houses large, innovative school-based programs and projects which are designed to enhance K-12 learning and instruction, especially in mathematics, science, and communication skills. Such programs and projects usually involve several school districts, many schools within the districts and other outside agencies, as well as several academic and service units within the University which are involved in the delivery of the projects. Support for the projects is provided principally by the University, but with important supplementary funding by major corporations and federal grants. Projects presently housed in the Center include the Bridge Program; the Access to Success Program; the Engelmann Institute; The Junior Science, Engineering, and Humanities Symposium; the Youth Employment and Career Development Program; the Key Work Force 2000 Program; the Human Services Unit; the Reading Clinic; and the Citizenship Education Clearing House.

Child Development Center

The Child Development Center, located in the South Campus Classroom Building, Room 130, on the South Campus, 7800 Natural Bridge Rd., provides quality day programs for children of student, faculty, staff, and community families. 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. Plan ahead as the Center usually fills quickly!

The Child Development Center also provides University students with observation, participation, research and similar educational and clinical opportunities. Please contact the Center at 516-5658 for additional information.

Eldercare Center

The Eldercare Center, located at Mount Providence School, 8351 S. Florissant Road, is an adult day health care facility for adults who need supervision during the daytime. Professional services include nursing, social work; recreation, music and physical therapies. There is a Special Care Unit for persons with advanced dementia. Practicum and research opportunities are available to students. The Center is open Monday through Friday from 6:30 am to 6:00 pm. The Mid-East Area Agency on Aging is a major cooperating agency. Call 524-0155 for further information.

KWMU

KWMU, 90.7 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.

Mathematics and Science Education Center

The Mathematics and Science Education Center (MSEC) assists mathematics and science educators at the elementary and secondary levels. MSEC is a unit of the Improvement Network of the Cooperating School Districts. MSEC links public and private school educators with resource organizations and the corporate and university communities. This liaison fulfills primary goals established by MSEC at its inception in 1986:

- to promote public and professional understanding and concern for mathematics and science education.
- to encourage collaborative activities that spur staff development and in turn excite children to learn science and mathematics.

Public Policy Research Centers

The Public Policy Research Centers are the focal point of the university's activities in basic and applied policy research. The Centers provide a variety of research services to local governments and agencies, state policy makers, and nonprofit organizations. The Centers have recently been actively engaged in research on local and regional economic development, housing and homelessness, natural resources and environmental protection, children at risk, racism and cultural diversity, crime and drugs, education, international competitiveness, and state revenue policy.

The Public Policy Research Centers also promote basic policy research through its support of faculty fellows. Drawn from a variety of disciplines such as economics, criminology, political science, business, and education, fellows receive reduced teaching loads to support their research projects and efforts to disseminate knowledge in the community through conferences, seminars, etc. Although not offering regular courses or degrees, the Centers serve as a policy laboratory for a number of graduate students participating in research activities.

The Centers coordinate educational programs for the community, research opportunities for faculty, and unique learning experiences for students. Services include survey research, applied policy analysis, program evaluation research, economic assistance projects, community outreach and education programs, policy leadership development, and dissemination and publication of research that addresses critical public policy issues. The Centers produce reports, a newsletter, and publications.

The Centers combined four productive research units: the Center for Metropolitan Studies (CMS); the James T. Bush, Sr., Center for Law, Social Change and Conflict Resolution (the Bush Center); Public Policy Extension/Survey and Applied Research (PPE/SAR); and the Institute for Policy Leadership (IPL) at UM-St. Louis. The fellows, research staff, and graduate students of all four units work in concert on major research projects that address particular needs of the St. Louis region.

The Center for Metropolitan Studies—conducts research on urban problems, offers training experiences for students in urban research, and provides information

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to the St. Louis metropolitan area for aiding community groups and civic leaders in dealing with significant regional problems.

The James T. Bush, Sr., Center—works to enhance the ability of St. Louis and the state of Missouri to promote and constructively manage social change. The Bush Center initiates research and workshops in areas such as employment, education, housing, and law.

Public Policy Extension/Survey and Applied Research—conducts scientific polls and provides research and analysis for local governments and nonprofit organizations. Public Policy Extension measures attitudes and opinions on a variety of policy topics.

Institute for Policy Leadership—The Institute's mission is twofold: first, to help citizen legislators improve the way they do business, and second, to transform public policy challenges into constructive community action.

University Eye Center

The University Eye Center located on the South Campus is open to the public, as well as to the faculty, staff, and students of the University. The goal of the Center is to provide patients with high-quality vision care and optometry students with diverse educational opportunity. In addition to the University Eye Center, the School operates the Optometric Center of St. Louis, a full-scope optometric eye care facility in the Central West End of the city and the East St. Louis Eye Center, jointly owned and operated by the University of Missouri-St. Louis School of Optometry and Southern Illinois University at Edwardsville.

Teaching

Center for Academic Development

The Center for Academic Development is an academic support unit which focuses attention on the needs of UM-St. Louis students who seek success in pursuing higher education. The Center is comprehensive in nature and consists of the following programs:

The Writing Lab (409 SSB): 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. Some of the issues covered in the lab include organization, sentence clarity, development, grammar, and usage. The Writing Lab houses 22 Macintosh computers for student use, and tutors provide computer assistance. There is no charge for any Writing Lab service.

Supplemental Instruction: Student assistants (SI Leaders) conduct study groups for specific courses. Course content and study skills are reviewed several times a week at scheduled sessions. Students participate on a voluntary basis without charge for the 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

coursework and assessment for international students. Courses are listed under the Foreign Languages and Literatures Department.

Mathematics Lab (425 SSB): This lab offers free individual assistance on a walk-in basis to students needing help with any mathematics from basic math through calculus or any course involving mathematical skills. In addition, the lab offers on-site use of videotaped lessons that accompany some mathematics courses, computer packages covering certain topics, and mathematics textbooks and worksheets on several basic topics. 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.

Math Workshops and Reviews: Periodic review sessions and workshops are offered for students needing a review of pre-college mathematics. An intensive one day or two evening review is offered for those who need a quick brush-up of previously learned material. For a more extensive review, zero-credit workshops are offered as a semester-long lecture class or as an independent study course with flexible beginning and ending options. Schedules for the reviews and workshops can be found in the current Schedule of Courses.

Student Support Services Program: SSSP, located in 501 Tower (SSB) is a comprehensive program which provides a wide range of academic support services: in areas essential to college success. Its purpose is to assist students with their orientation to the University, facilitate student development, and assist with the successful completion of university degree requirements. Services include: academic advising, counseling, career exploration, leadership development, workshops/seminars, graduate school preparation and application, cultural/academic enrichment and financial aid for eligible students. All services are free. For more information, call 516-5186.

African-American Scholars Program: This program assists scholars in their adjustment to college life and requirements for success. The program provides a variety of services and activities, including a two-semester seminar which focuses on orientation to college life, the use of university resources, campus involvement, choosing a major, and career planning. Ongoing advising and assistance is provided for developing academic schedules and a year-to-year plan of study consistent with the student's major and career goals. Services are free. The office is located in 512 Tower (SSB). For more information, call 516-5187.

Campus Assessment: This unit administers the Campus Assessment Plan. Currently there are two types of assessment required of all students: 1) a test of general educational development, given to incoming freshmen and administered to graduating seniors, and 2) a test or project, specified by the major department, given to graduating seniors. In addition, the unit is involved in the survey of alumni, currently enrolled students, faculty and employers.

Specialized Centers and Facilities for Research, Teaching and Public Service

Tutorial Services: Student tutors, certified by the appropriate academic departments, are available to give assistance in many disciplines; times and costs are arranged by student and tutor.

For more information, contact the Center for Academic Development office at 516-5194.

UM-Rolla Engineering Education Center

The UM-Rolla Engineering Education Center is housed on the University of Missouri-St. Louis campus. This is an Engineering Graduate program administered by UM-Rolla for nontraditional students in the St. Louis area. The program is conducted in the evening and on weekends, making it suitable for students who are employed full-time. Graduate work leading to the Master of Science degree is available in computer science, engineering management, and engineering mechanics, as well as aerospace, civil, electrical, environmental, and mechanical engineering.

The Center also provides information to St. Louis area residents about UMR programs in Rolla. Advisers can assist area pre-engineering students with transfer to the Rolla campus and with entry into the Cooperative Training Program that exists between UMR and numerous U.S. industries. This co-op program allows engineering students to gain valuable industrial experience during their school years and to be partially or totally self-supporting.

The Center also assists St. Louis area companies by offering noncredit short courses, in-house training courses and engineering consultation services in the technical areas of competence of UMR faculty.

Video Instructional Program

The Video Instructional Program offers flexible, self-paced learning for students who are far from campus or whose schedules make it difficult to attend regular classes.

Course Listing. A catalogue listing all Video Instructional Program courses and offering complete information on the program is available by calling 516-5370. New courses are currently being developed. The following courses from the UM-St. Louis curriculum are offered:

Comm 70, Introduction to Cinema.
Education 308, Foundations of Adult Basic Education
Elementary Education 341, Teaching Science in the Elementary School
Philosophy 210, Significant Figures in Philosophy
Philosophy 290, Philosophical Issues in Other Disciplines: Humanities in the Arts
Psych 245, Abnormal Psychology
Social Work 312, Women's Social Issues.
Anthro 19, Archaeology
Anthro 25, World Cultures
Anthro 124, Cultures of Africa
History 31, Topics in European Civilization: Emergence of Western Europe to 1715
History 32, Topics in European Civilization: 1715-present
Psych 03, General Psychology (Begins Fall '96)
Sociology 10, Introduction to Sociology (Begins Fall '96)

Courses are available on the Higher Education Channel (HEC) on St. Louis area cable stations. For complete information, call 516-5370.

Textbooks and Study Materials. Textbooks and study materials accompany the video lessons for each course and are available through the bookstore.

Continuing Education & Outreach

An important mission of the University of Missouri is to extend its expertise to the community, thereby enhancing lives and making a contribution to community and state development. At UM-St. Louis, Continuing Education & Outreach serves to carry out that mission.

Through Continuing Education & 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 people 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 & 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, and history. Interdisciplinary teaching and research programs deal with such fields as social work, the humanities and economics.

Continuing Education & 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 awards the Chancellor's Certificate on the Computer, is also a unit of Arts and Sciences Continuing Education & Outreach.

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

The Nonprofit Management and Leadership Program offers credit and noncredit programs and courses oriented toward current managers and volunteer leaders of nonprofit organizations.

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

A wide variety of credit courses is offered at several locations throughout the St. Louis metropolitan area to enable 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 & Outreach in the College of Arts and Sciences.

Eldercare Center

The Eldercare Center is an adult day health care center serving people who are in need of health care supervision, socialization, and/or rehabilitation during the daytime. A unique feature of the Eldercare Center is the Special Care Unit, for persons with advanced dementia. The Center,

which is sponsored by the University of Missouri-St. Louis in cooperation with Mid-East Area Agency on Aging and the Sisters of Divine Providence, serves as a clinical and research site for faculty and students. For further information, call (314) 524-0155.

Center for Science and Technology

The UM-St. Louis Center for Science and Technology provides an important link between UM-St. Louis and the community it serves. Its purpose is to facilitate collaborative research in the St. Louis area and to provide targeted, concentrated information to area employers and to the general public regarding scientific and technological advancements.

Training and research opportunities are provided by the Center to area industries, while informational lectures and workshops on current issues are offered to the interested public.

Business Administration

Continuing Education programs in business 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 resources administrators. Special seminars and conferences are offered regularly on specific topics of current interest. In addition, the School co-sponsors programs in the area of microcomputing.

Education

The overall aim of the School 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 school extends instructional research and service to educational personnel in other parts of Missouri and the Midwest in addition to the St. Louis metropolitan area.

Nursing

Barnes College of Nursing 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.

Optometry

The University of Missouri-St. Louis offers Continuing Education & Outreach programs for optometrists through the UM-St. Louis School 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.

Continuing Education & Outreach

Video Instructional Program

Various credit courses are offered by UM-St. Louis on several cable stations in cooperation with the Higher Education Channel (HEC). For more information, call (314) 516-5370.

UM-St. Louis Outreach Sites and Educational Centers

Continuing Education & 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 & Outreach offered credit courses at several other metropolitan sites last year, including St. Charles West Senior High School.

In addition, the UM-St. Louis St. Charles County Educational Center has been established on the campus of St. Charles County Community College. Junior- and senior-level courses are offered at this site. In Jefferson County, courses are offered at Fox High School in Arnold and Jefferson College in Hillsboro.

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 of Missouri-St. Louis 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 & Outreach, call (314) 516-5958.



D E G R E E P R O G R A M S

University of Missouri-St. Louis 1996-97 Undergraduate & Graduate Catalog



College of Arts
and Sciences

School of
Business Administration

School of Education

Evening College

Barnes College
of Nursing

School of Optometry

Pierre Laclede
Honors College



Degree Programs

Undergraduate Studies

Undergraduate degree programs are offered by the College of Arts and Sciences, School of Business Administration, School of Education, Evening College, and Barnes College of Nursing. Information on these programs can be found on the pages indicated.

Bachelor of Arts (B.A.)

anthropology, p. 103
art history, p. 111
biology, p. 121
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physics, p. 240
political science, p. 249
psychology, p. 264
sociology, p. 280
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Bachelor of General Studies

(B.G.S.), p. 385

Bachelor of Music (B.M.)

music, p. 223
music education, p. 223

Bachelor of Science (B.S.)

applied mathematics, p. 211
biology, p. 122
chemistry, p. 144
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electrical engineering (joint program with Washington University), p. 443
mechanical engineering (joint program with Washington University), p. 443
civil engineering (joint program with Washington University), p. 443
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sociology, p. 280

Bachelor of Science in Business Administration
(B.S.B.A.), p. 312

Bachelor of Science in Education

B.S.Ed., p. 339
early childhood education, p. 370
elementary education, p. 370
physical education, p. 378
secondary education, p. 355
special education, p. 344

Bachelor of Science in Nursing

(B.S.N.), p. 410

Bachelor of Science in Public Administration

B.S.P.A., p. 250

Bachelor of Social Work

B.S.W., p. 274

Graduate Studies

The Graduate School administers all degrees and certificate beyond the bachelor's degree in all divisions except the School of Optometry, which administers the professional program leading to the Doctor of Optometry degree.

From its beginnings, graduate education at UM-St. Louis has been guided by four broad purposes: development of excellence in scholarship; encouragement of creative productivity in research; fostering of the highest standards in professional competence and commitment; and development of skill in the communication of knowledge. Responsive to the unique and comprehensive demands of the St. Louis area, the University has moved rapidly in the development of specialized facilities, a distinguished and creative faculty, and appropriate graduate programs to achieve these objectives.

In most cases, master's degree programs can be completed through part-time study.

Information on graduate degrees offered at UM-St. Louis can be found on the following pages.

Degree Programs

Master of Accounting

MAcc, p. 320

Master of Arts (M.A.)

criminology and criminal justice, p. 161

economics, p. 169

English, p. 179

history, p. 201

mathematics, p. 214

political science, p. 252

psychology, p. 265

sociology, p. 283

Master of Music Education (MME), p. 225

Master of Business Administration (MBA), p. 318

Master of Education (M.Ed.), p. 340

counseling, p. 345

educational administration, p. 359

elementary education, p. 371

secondary education, p. 357

special education, p. 347

Master of Public Policy Administration (MPPA), p. 357

Master of Science (M.S.)

biology, p. 125

chemistry, p. 145

gerontology, p. 396

management information systems, p. 319

physics, p. 242

physiological optics, p. 426

Master of Science in Nursing (M.S.N.), p. 411

Doctor of Education (Ed.D.), p. 340

Doctor of Optometry (O.D.), p. 425

Doctor of Philosophy (Ph.D.)

biology, p. 126

chemistry, p. 146

criminology and criminal justice, p. 161

nursing p. 412

physics (cooperative with UM-Rolla) p. 242

physiological optics, p. 426

political science, p. 252

psychology, p. 266

COLLEGE OF ARTS
AND SCIENCES

UM-St. Louis 1996-97 Bulletin



General Information

The College of Arts and Sciences consists of some 275 full-time faculty members in the following departments, each offering work in specific undergraduate degree programs: anthropology; art; biology; chemistry; communication; criminology and criminal justice; economics; English; foreign languages and literatures; history; mathematics and computer science; music; 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, political science, psychology, and sociology. An interdisciplinary master's degree in public policy administration is offered in cooperation with the School 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 of the College of Arts and Sciences 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:

I Cultural Diversity Requirement

To expand cultural awareness, all students are required to complete a course that emphasizes Asian, African, Middle Eastern, Latin American, Pacific aboriginal, Native American, or comparable cultures. 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. This requirement may be met by one of the following courses:

Anth 25, World Cultures
Anth 29, Cultural Diversity through Literature
Anth 33, World Prehistory
Anth 71, Native American Literature
Anth 110, Cultures of Asia
Anth 111, Cultures of East Asia
Anth 112, Cultures of Southeast Asia
Anth 113, Cultures of South Asia
Anth 114, Cultures of the Near and Middle East
Anth 120, Indians of North America
Anth 121, Native Peoples of Eastern North America
Anth 122, Native Peoples of Western North America
Anth 124, Cultures of Africa
Anth 131, Archaeology of Missouri
Anth 132, Archaeology of North America
Anth 134, The Inca, Aztec, and Maya
Anth 140, Cultures of Mexico and Central America
Anth 145, Indians of South America
Anth 201, Comparative Economic Behavior
Anth 202, Culture, Politics, and Social Organization

Anth 225, Topics in Tribal Arts
Anth 235, Women in Subsaharan Africa: A Contemporary Perspective
Anth 238, Culture and Business in East Asia
Art 8, Introduction to Asian Art
Art 15, Art of Africa, Oceania, and the Americas
Art 107, The Arts of China
Art 108, The Arts of Japan
Art 116, North American Indian Art
Art 117, African Art
Art 119, Pre-Columbian Art of Mexico and Central America
Art 208, Topics in Asian Art
Art 215, Topics in Tribal Arts
English 71, Native American Literature
History 61, East Asian Civilization
History 62, East Asian Civilization
History 71, Latin American Civilization
History 72, Mexican Civilization
History 81, African Civilization To 1800
History 82, African Civilization Since 1800
History 83, The African Diaspora to 1800
History 83, The African Diaspora since 1800
History 201, History of Women in Comparative Cultures
History 252, The World of Islam
History 262, Modern History of the Pacific Rim
History 361, Modern Japan: 1850 to the Present
History 362, Modern China: 1800 to the Present
History 371, History of Latin America: To 1808
History 372, History of Latin America since 1808
History 380, West Africa Since 1800
History 381, West Africa Since 1800
History 382, History of Southern Africa
History 385, African Diaspora to 1800
History 386, African Diaspora since 1800
Music 9, Non-Western Music I
Music 10, Non-Western Music II
Phil 120, Asian Philosophy
PolSci 155, Asian Comparative Politics
PolSci 253, Political Systems of South America
PolSci 254, Political Systems of Mexico, Central America, and the Caribbean
PolSci 258, African Politics
PolSci 289, Middle Eastern Politics

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

- 1) the 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.
- 2) the requirements of the department for their selected major or interdisciplinary program.

College of Arts and Sciences Academic Policies

Grade Requirements

To graduate, all majors in the College must satisfy either of the following grade point options:

- 1) Earn 120 graded hours with a C grade or better, which constitutes a complete degree program and does not

General Information

include a satisfactory/unsatisfactory basis. A C- does not meet this requirement.

- 2) Earn a cumulative grade point average of 2.0 or better for all hours attempted with a minimum of 120 hours.

This College of Arts and Sciences policy supersedes the statement under General Education Requirements.

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.

A transfer student must complete 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.

Specific Baccalaureate Degree Requirements

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.

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. Guidelines for students according to prior foreign language training 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 5).
- 2) Students with the degree of proficiency equivalent to 13 hours of college-level work may obtain exemption and/or credit 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) Students in French and Spanish may substitute Language 105 (Commercial) for Language 101.
- 5) Language 115 a, b, c (Intensive) will satisfy the foreign language requirement.
- 6) 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.

Applied Music and Studio Art All students in the College may count any number of hours of applied music (private lessons) or studio art courses toward any degree in the College. This also includes transferred credit. However, students not majoring in music may count no more than

eight hours in music-performing organizations (Music 40, 41, 50, 52, etc.) toward graduation, including credit transferred. Moreover, courses in studio art and applied music (private lessons or performing organizations) do not fulfill general education requirements in the humanities.

Bachelor of Science (B.S.) The College offers the B.S. degree in applied mathematics, biology, chemistry, computer science, criminology and criminal justice, economics, physics (with emphasis in either applied physics or astrophysics), 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 a foreign language proficiency. See departmental degree requirements for information.

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

The B.S.P.A. degree program is administered through the political science department and offers an interdisciplinary approach requiring 12 hours in a particular specialization along with a core curriculum in political science.

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. No foreign language proficiency is required.

Bachelor of Music (B.M.) The requirements are the same as for the B.A. degree with the addition of music education courses for those music majors seeking state teacher certification. Although a foreign language proficiency is not required, foreign language study is required for applied voice students.

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 either in the departmental or interdisciplinary sections of this Bulletin.

Special Programs in the College of Arts and Sciences

Certificate Programs

Certificate programs are offered in Africana Studies, Biochemistry, Biotechnology, Gerontology, Photographic Studies, Studies in Religions, Trauma Studies, Undergraduate Certificate in Conservation Biology, Undergraduate/Graduate Certificate Program in Non-Profit Organization Management and Leadership, Institute for Women's and Gender Studies, and Writing. For details, see Certificate Programs.

General Information

International Studies Certificate

In cooperation with College of Arts and Sciences, the Center for International Studies offers certificate programs in East Asian, European, Latin American, and International Studies. Also, the College cooperates with the School of Business Administration and the Center for International Studies in offering the International Business Certificate. For information on the certificates, see the Inter-School Studies section of this Bulletin.

Departmental Honors

Majors in the following departments may pursue Departmental Honors: biology, chemistry, economics, English, foreign languages and literatures, history, music, 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 the Career Placement Services Office, 308 Woods Hall.

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.

Anthropology

Faculty

Van A. Reidhead, Associate Professor*; Chairperson
Ph.D., Indiana University
Susan E. Brownell, Assistant Professor
Ph.D., University of California-Santa Barbara
Sheilah Clarke-Ekong, Assistant Professor
Ph.D., University of California-Los Angeles
Mridula Durbin, Adjunct Associate Professor
Ph.D., SUNY-Buffalo
Margo-Lea Hurwicz, Associate Professor*
Ph.D., University of California-Los Angeles
Jian Leng, Director of Archaeology Laboratories
Ph.D., Washington University
Castle McLaughlin, Assistant Museum Professor
Ph.D., Columbia University
Charles Shannon, Lecturer
Ph.D., Sussex, England
John Wolford, Assistant Museum Professor
Ph.D., Indiana University
Patti Wright, Adjunct Instructor
A.B.D., Washington University
Pamela Ashmore, Adjunct Assistant Professor
Ph.D., Washington University

*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 environment 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.

The Department of Anthropology strives to teach and encourage the following:

- 1) the concepts and skills required for responsible individual participation in the evolution of culture in the family, the work place, the local community, the nation, and the globe;
- 2) mastery of the academic skills of theoretical conceptualization, and critical evaluation, applied to multi-cultural contexts and understanding;

- 3) individual and community skills for material and emotional survival in the global high technology age;
- 4) development of ability to conduct independent investigations of social and cultural conditions, to draw conclusions, and to present findings and recommendations in a professional manner;
- 5) the use of academic and personal skills to make oneself valuable in diverse local, national and global employment settings;
- 6) growth, in the individual, of a rooted sense of place and meaning in relation to self, society, and humanity. The study of anthropology, in fact, provides a liberal education that is applicable to any work or life context.

Degrees and Areas of Concentration

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

Cultural Anthropology: faculty are involved in research in St. Louis, Ghana, South Africa, China, Japan, India, 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, human-animal relations, educational anthropology, the 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 School 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 K-12th grade school children and their teachers.

Archaeology: faculty are involved in research in St. Louis, through the Fort Belle Fontaine Research Partnership, headed by UM-St. Louis. The Department of Anthropology has a summer field school where students learn excavation and artifact analysis techniques. Faculty and students are active in two research projects in the Yellow River Valley of China, where they are studying the origin of Chinese civilization and dynasties and study of Paleolithic cultures throughout China and Southeast Asia. Opportunities exist for field study in archaeology in virtually any area of the world. The Department has an archaeology lab with the largest extant collection of prehistoric and historic artifacts from the St. Louis metro area and surrounding Missouri counties.

Folklore: faculty 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 peoples use space and time markers to create and express identity. Interested students can pursue a wide range of independent research and study options in urban folklore.

Biological Anthropology: faculty are active in the study of the behavior, ecology, and evolution of primates and of educational issues in the study of paleoanthropology (fossil record of human origins). Students have conducted

Anthropology

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: a hallmark of the Department is the opportunity for students to 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 interships, providing an opportunity to practice newly acquired skills. As a capstone experience, all students, under faculty supervision, complete a significant independent research project for 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 U.S. 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 origins teaching lab assistants, 2) faculty research assistants, 3) human origin and cultural diversity lab teachers/facilitators working with school groups grades K-12, 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. Six hours of credit will be accepted for courses taken on a satisfactory/unsatisfactory (S/U) basis from any departmental elective. Anthropology 5, 11, 202, 301, 308, 315, and the statistics requirement cannot be taken on a S/U basis.

Degree Requirements

Bachelor of Arts in Anthropology Candidates must complete the following requirements:

Anthro 5, Human Origins

Anthro 11, Introduction to Cultural Anthropology

Anthro 202, Culture, Politics, and Social Organization

Sociology 220, Sociological Statistics, or any other college level statistics course

Anthro 301, Ideas and Explanations in Anthropology

Anthro 308, Practicum in Cultural Research Methods

Anthro 315, Senior Seminar

- 1 archaeology area course in Anthropology numbered 100-199.
- 1 culture area course in Anthropology numbered 100-199.
- 2 courses in Anthropology numbered 200-299, in addition to 202.

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

After fulfilling the general education and specific major degree requirements, students are to take the remaining 57 hours required to complete the B.A. 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, interdisciplinary, and other areas or courses not listed, upon approval by the chair of anthropology.

Minor in Anthropology

All minor degree candidates must take:

Anthro 5, Human Origins

Anthro 11, Introduction to Cultural Anthropology

Candidates for the minor must also take:

Anthro 301, Ideas and Explanations in Anthropology or Anthro 308, Practicum in Cultural Research Methods

- 1 Anthropology course at the 100-199 level.
- 1 Anthropology course at the 200-299 level.
- 1 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 (S/U) 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 are important. Graduates of UM-St. Louis' program have found employment as university professors, lawyers, 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 an excellent preparation for graduate and professional training in administration, the helping professions, development work, law, environmental studies, international and human resource areas of

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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.

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Course Descriptions

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 05, 05a, 11, 15, 19, 25, 29, 33, 41, 71, 109, 110, 111, 112, 113, 114, 120, 121, 122, 124, 126, 131, 132, 134, 140, 145, 201, 202, 203, 204, 207, 208, 210, 212, 215, 220, 225, 232, 234, 235, 238, 240, 242, 244, 250, 286, 291, 301, 308, 309, 310, 315, 350, 391.

05 Human Origins (4)

A survey of evidence and interpretations of how humans originated as a species and of the origins of physical and cultural differences. Examines evidence of fossil humans, the evolution of gender roles and relationships, the origin of racial, ethnic, and cultural differences, basic facts about race and the concepts of race that are in use today, the roles of genes, technology, and thought in the evolution of humans, and the origin of technology, culture, language, religion, etc. 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.

05a Human Origins (3)

This course is the same as Anthro 05, minus laboratory activities. This course does not meet the requirements for the Anthropology major.

11 Introduction to Cultural Anthropology (3)

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.

15 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 Archaeology (3)

How do archaeologists determine how old things are and which ancient culture they belong to? How do they reconstruct the religious meanings, economies, and politics of ancient civilizations and cultures? What can the study of the past teach us about life today, how our own culture changes, and how cultures diversify to form new cultures and consolidate to form nations? Using cases from ancient cultures around the world, this course will answer these and many other questions about the study of archaeology. This course is a basic introduction to archaeology as an interpretive discipline.

25 World Cultures (3)

An ethnographic survey of the major culture areas of the world (Africa, Asia, North and South America, Europe, and Oceania). This course satisfies the Cultural Diversity requirement.

29 Cultural Diversity Through Literature (3)

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. Authors representing Africa, South America, and Asia will be represented, as well as a broad range of ethnic groups within the United States, such as Hispanics, African American, Asian Americans, and Native Americans. This course satisfies the Cultural Diversity requirement.

33 World Prehistory (3)

An introduction to the prehistoric cultures of Asia, Africa, Europe, and the Americas from the Paleolithic Age to the establishment of civilization. Examines the rise of complex societies leading to civilization in the different areas of the world, concentrating on social and ecological conditions contributing to their development and on comparisons between civilizations. This course satisfies the Cultural Diversity requirement.

41 Sex and Gender Across Cultures (3)

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. This course fulfills the Cultural Diversity Requirement.

71 Native American Literature (3)

(Same as English 71.) The course 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.

109 Field Study in Archaeology (3-6)

Prerequisite: Consent of instructor. This course is designed to introduce students to field methods in archaeology and to the methods 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.

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110 Cultures of Asia (3)

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. This course satisfies the Cultural Diversity requirement.

111 Cultures of East Asia (3)

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. This course satisfies the Cultural Diversity requirement.

112 Cultures of Southeast Asia (3)

An ethnographic and historical survey of the various people of Southeast Asia including Laos, Cambodia, Singapore, Indonesia, Myanmar, Malaysia, Brunei, Thailand, Vietnam, and the Philippines. Includes an examination of the varying cultural and social developments within and through the historical geographical, and cultural environments. This course satisfies the Cultural Diversity requirement.

113 Cultures of South Asia (3)

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. This course satisfies the Cultural Diversity requirement.

114 Cultures of the Near and Middle East (3)

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. This course satisfies the Cultural Diversity requirement.

120 Native Peoples of North America (3)

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. This course satisfies the Cultural Diversity requirement.

121 Native Peoples of Eastern North America (3)

An introduction to the native peoples of Eastern North America, including the Midwest, Great Lakes, Southeast, northeast, and Subarctic. The diversity and complexity of cultures in these regions will be demonstrated. Prehistory, history, ethnography, linguistics, art, and literature will be among the topics discussed. This course satisfies the Cultural Diversity requirement.

122 Native Peoples of Western North America (3)

An introduction to the native peoples of Western North America, including those of the Arctic, Subarctic, Pacific Coast, Southwest, and Plains. The diversity and complexity of cultures in these regions will be demonstrated. Prehistory, history, ethnography, linguistics, art, and literature will be among the topics discussed. This course satisfies the non-Euro-American requirement.

124 Cultures of Africa (3)

A basic ethnographic survey of African cultures, with attention to social groupings, tribalism, religion, language and social change, and the ecological relationship between humans and nature. This course satisfies the Cultural Diversity requirement.

126 Archaeology of Historic St. Louis (3)

Native Americans, Frenchmen, and other Europeans shaped the history of St. Louis from prehistoric times through the Industrial Revolution to the present. The record of this long series of events remains buried beneath city streets and buildings. This class will utilize historic documents, archaeological reports, cultural geography, history, and historic archaeology to explore the archaeology of St. Louis.

131 Archaeology of Missouri (3)

An introduction to the prehistoric Indian cultures of Missouri and adjacent areas from 20,000 B to the coming of Europeans. Examines the development of prehistoric cultures in Missouri from small bands of hunters to agricultural city builders. Discusses the decline of indigenous cultures as they came into contact with European civilization. This course satisfies the Cultural Diversity requirement.

132 Archaeology of North America (3)

In this course, the archaeological record of cultural development throughout prehistoric North America is examined. Topics of discussion include the origins of human culture in North America, the process of prehistoric cultural development in the different regions of the continent, and archaeological approaches to explaining the behavior of North America's prehistoric inhabitants. This course satisfies the Cultural Diversity requirement.

134 The Inca, Aztec, and Maya (3)

A survey of the cultural evolution of Meso-America and Andean South America, from the early hunters to the high civilizations. The course will conclude with the sixteenth-century Spanish conquest of these civilizations. Satisfies the Cultural Diversity requirement.

140 Cultures of Mexico and Central America (3)

A survey of Indian cultures in Mexico and Central America. The course focuses on modern communities after a brief introduction to the European conquest and colonialism as they affected the Indian communities. Topics include preservation of Indian culture in Hispanic world, impact of modernization and tropical deforestation, Indians as an oppressed minority, Indian ethnic identity, "liberation theology". This course satisfies the Cultural Diversity requirement.

145 Indians of South America (3)

Explores the cultures and environmental adaptations of South American Indians from European contact to the present. Focus is on culture change and diversity, and on the consequences for tribal peoples and their environments: of conflict between their world views, political motivations, and economic policies and those of multinational corporations and of nation states like Brazil, Peru, and the United States. This course satisfies the Cultural Diversity requirement.

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201 Comparative Economic Behavior (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. An introduction to the range of economic organizations found in the world. Anthropological models of production and exchange. The nation of "rationality" as applied to non-Western economic systems. The contribution of anthropology to the understanding of economic development. Emphasis is placed on native and non-Western cultures. This course satisfies the Cultural Diversity requirement.

202 Culture, Politics, and Social Organization (3)

Prerequisite: Anthro 11, 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, tribalism, and the relationship of ideology to politics. This course satisfies the Cultural Diversity requirement.

203 Culture and Cognition (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. An introduction to psychological anthropology focusing on cultural influences on cognition and perception. Theories of "primitive mind" will be reviewed in historical perspective, and cross-cultural research in perception, learning, and cognition considered. Recent studies of sociocultural systems and cognitive styles will be examined and their implications for education explored.

204 Culture and Personality (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. Analysis of behavior from the standpoint of interaction between psychological, sociological, and cultural systems.

207 Culture Change (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. An intensive investigation into the elements and processes of culture change with regard to specific theories of culture change. The course examines the relationship between microchange in primitive and modern complex societies.

208 Language and Culture (3)

Prerequisite: Anthro 11, or introductory course in the social sciences, or consent of instructor. This course examines the place of language in culture. It will consider the relationships between language, gender, class, ethnicity, and other social categories. It will also utilize the approaches of anthropological linguistics, sociolinguistics, and semiotics for an understanding of the encoding and communication of meaning.

210 Applied Anthropology (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of instructor. A description and analysis of the 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 Medical Anthropology (3)

Prerequisite: Anthro 11, 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 Growing Old in Other Cultures (3)

(Same as Gerontology 215.) 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.

220 Evolution of Culture and Communication (3)

Prerequisite: Anthro 5 or 11, or introductory course in another social science, or consent of instructor. Examines the uniformity of communication processes in the evolution of culture from prehuman primates through human prehistory to the present. A theoretical course rooted in cases from specific primate groups and human cultures.

225 Topics in Tribal Arts (3)

(Same as Art History 215) Prerequisite: One of the following: Art 15, 116, 117, 119 or consent of the instructor. Intensive study of the arts of several tribal groups. Inquiry into relationships between art and culture by means of an examination of myth, literature, festival and social life. Seminar format. May be repeated for credit with permission of adviser. This course fulfills the cultural diversity requirement.

232 Introduction to Historic Archaeology (3)

Explores the growing field of historic archaeology. Four basic topics will be discussed: (1) how historic archaeology developed as a subfield of Anthropology; (2) specialized historic sites; (3) analysis of historic materials and how this information is used to determine the date of occupation, social status, economic behavior, social ideas, etc.; and (4) current theories in historic archaeology and how these are used to understand past human behavior.

234 Cultural Continuity and Change in Sub-Saharan Africa (3)

Prerequisite: Anthro 11 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 Women in Subsaharan Africa: A Contemporary Perspective (3)

Prerequisite: Anthro 11, or introductory course in another social science, or consent of the instructor. Examines

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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. This course fulfills the Cultural Diversity requirement.

238 Culture and Business in East Asia (3)

Prerequisite: Anthro 11, 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. This course fulfills the Cultural Diversity Requirement.

240 Play: Psychological and Anthropological Perspectives (3)

(Same as Psych 240.) Prerequisite: Psych 3, or Anthro 11, or consent of instructor. This course will examine play from psychological and anthropological perspectives in an effort to provide an understanding of the importance of play for humans. The questions which will be the focus of the course include: why people play, the adaptive benefits derived from play, the cultural functions of play, and how play is expressed in different cultures.

242 The Culture of Cities (3)

Prerequisite: Anthro 11, 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 Religion, Magic, and Science (3)

Prerequisite: Anthro 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 American Folklore (3)

Prerequisite: Anthro 11, 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).

286 Society, Arts, and Popular Culture (3)

(Same as Sociology 286.) Prerequisite: Sociology 10 or Anthro 11. 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.

291 Current Issues in Anthropology (3)

Prerequisite: Anthro 11, 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 Ideas and Explanations in Anthropology (3)

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

308 Practicum in Cultural Research Methods (4)

Prerequisites: One course in statistics; Anthro 11 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 Field Study in Archaeology (3-6)

Prerequisite: Consent of instructor. This course is for advanced students. It is designed to introduce students to 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 Laboratory Methods in Archaeology (3)

Prerequisite: Anthro 109, or 309, or consent of instructor. This is a course in basic laboratory analysis and curation methods. 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, graphics, paleobotany, experimental analysis, and soils. Purchase of individual supplies not to exceed \$10.

315 Senior Seminar in Anthropology (3)

Prerequisite: Senior standing or the consent of the instructor. Required of anthropology majors. Discussion of critical issues; preparation of senior paper; presentation of selected papers by students.

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325 Internship in Cultural Anthropology (1-3)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. 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 Internship in Archaeology (1-6)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. 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 Internship in Folklore (1-3)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. 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 Internship in Museum Studies (1-3)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. 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 Internship in Physical Anthropology (1-3)

Prerequisite: Recommendation of major advisor. Students will be assigned an internship on recommendation of their advisor. 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 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.

391 Current Issues in Anthropology (1-4)

Prerequisite: Anthropology 11 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 191.)

425 Peoples and Cultures of Southeast Asia (3)

An analysis of the cultures of peninsular and insular Southeast Asia. Topics include, but are not limited to, prehistory, tribal groups, cultural systems, political organizations, religious traditions, refugee movements, the culture of conflict, and modernization.

430 Global Refugee Crisis (3)

A study of both the theory and methods in attempts to understand the issues confronting displaced peoples, their hosts, and the international community. Includes an analysis of the problems and reasons for refugee situations around the world in such regions as Southeast Asia, Africa, the Middle East, Europe, and Central America. Varying perspectives including those of academics, refugees, agency personnel, and government representatives are surveyed.

440 Cultural Aspects of Aging (3)

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

480 Culture, Crime, and Criminal Justice (3)

This seminar will examine: (1) the nature and conduct of ethnographic research; and (2) how ethnographic approaches have been and can be used to understand the criminal justice system and its institutions. Readings will be drawn from anthropological and other social science materials on ethnographic methods as well as selected (post-1960s) monographs and articles illustrating the use of such approaches in criminal justice settings.

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.

Art

Faculty

Ruth L. Bohan, Associate Professor*, Chairperson
Ph.D., University of Maryland

Janet C. Berlo, Professor*
Ph.D., Yale University

Tom Patton, Professor*
M.F.A., University of New Mexico, Albuquerque

Kenneth Anderson, Associate Professor*
M.F.A., Southern Illinois University, Edwardsville

Yael Even, Associate Professor*
Ph.D., Columbia University

Paul Corby Finney, Associate Professor*
Ph.D., Harvard University

W. Jackson Rushing III, Associate Professor
Ph.D., University of Texas

Jeanne Morgan Zarucchi, Associate Professor
Ph.D., Harvard University

Judith W. Mann, Museum Assistant Professor
Ph.D., Washington University

Juliana Y. Yuan, Lecturer/Slide Curator
M.A., University of Kansas

*members of Graduate Faculty

The department of art and art history represents a diverse faculty actively engaged in the production of art and in its historical and critical evaluation. The department prides itself on its commitments to high standards of teaching and sound research achievements. Individual faculty have been cited for their teaching excellence. Art history faculty have authored books, articles and critical reviews and regularly participate in national and international conferences. For their research art history faculty have received research grants from such major institutions as the J. Paul Getty Foundation, the National Endowment for the Humanities, the Andrew W. Mellon Foundation and the American Philosophical Society. Studio art faculty exhibit nationally and internationally in group- and solo-juried and invited exhibitions. Their work has been accorded various show awards and received financial support from the National Endowment for the Arts, the Ford Foundation and University Research grants.

General Information

Degrees and Areas of Concentration

The department offers course work leading toward the B.A. in art history and the B.F.A. in studio art.

Courses included in the B.A. in art history cover the arts of Asia, Africa, Europe and North America, including Native American arts, from ancient times to the present. Courses examine the entire range of human visual expression from painting, sculpture, architecture and photography to performance and festival arts in the tribal world. In each case the arts are examined within their historical, aesthetic and cultural contexts.

The B.F.A. in studio art is offered in partnership with the Saint Louis Community College. The degree consists of a Foundation Art Program and an Emphasis Area in one of the following: Drawing, Graphic Design, Painting, Photography, Printmaking

and General Fine Arts. Students will generally complete the Associate of Fine Arts degree in Studio Art (A.F.A.) at one of the Saint Louis Community Colleges before transferring to UM-St. Louis to complete the upper division courses leading to the Bachelor of Fine Arts degree in Studio Art (B.F.A.).

To support its teaching and research objectives, the department maintains a slide collection of over 80,000 slides. The collection, which includes examples of painting, sculpture, architecture, photography and decorative arts, is under the supervision of a professional slide curator, who is available for special assistance to staff and students.

Gallery 210

Gallery 210 offers visual arts programming of regional, national and international importance that would otherwise not be shown in St. Louis. The gallery's exhibitions and related arts programming have enjoyed a long and distinguished history of service to the University and to the St. Louis community. Gallery activities are supervised by a professional Gallery Director.

Scholarships/Internships

Two scholarships are available on a competitive basis within the department for art history majors: the Art Department/Barbara St. Cyr Scholarship and the William T. Isbell, Jr., Scholarship. The department also sponsors a variety of internships with local arts institutions, including the Saint Louis Art Museum, the Missouri Historical Society Laumeier Sculpture Park and various private art galleries.

Undergraduate Studies

General Education Requirements

Majors in art history must meet the College and University general education requirements. A foreign language is required. French or German is recommended. Art history courses required for the degree may not be taken on a satisfactory/unsatisfactory (S/U) basis. All art history courses fulfill the humanities general education requirement. The following art history courses meet the Cultural

Diversity Requirement:

008, Introduction to Asian Art

015, Art of Africa, Oceania, and the Americas

107, The Arts of China

108, The Arts of Japan

116, North American Indian Art

117, African Art

119, Pre-Columbian Art of Mexico and Central America

208, Topics in Asian Art

215, Topics in Tribal Arts

Art history courses can be applied toward minors in Anthropology, American Studies, Black Studies, Classical Studies, Philosophy and Urban Studies, or certificates in Studies in Religions, Institute for Women's and Gender Studies, and Photographic Studies.

Majors in studio art must meet the College and University general education requirements. A foreign language is not required. Studio art courses required for the degree may not be taken on a satisfactory/unsatisfactory (S/U) basis. A

Art

total of 123 hours is required for graduation. Studio art courses do not fulfill the humanities general education requirement.

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Bachelor of Arts in Art History

Art history majors must complete a minimum of 36, but no more than 45 hours in art history. The following courses are required:

- 5, Introduction to Art
- 195, Sophomore/Junior Seminar: The Methods of Art History
- 203, Media and Technique in Art History
- 395, Senior Art History Seminar

Students must take three lower division courses from three of the following four categories:

Ancient and Medieval

- 111, Art and Archaeology of the Ancient World
- 112, Greek Art and Archaeology
- 113, Roman Art and Archaeology
- 114, Early Christian Art
- 125, Medieval Art

Renaissance and Baroque

- 135, Renaissance Art
- 145, Baroque Art

Modern and American

- 155, Modern Art
- 158, American Art
- 159, American Architecture
- 191, Art Since 1945

Non-European

- 08, Survey of Asian Art
- 15, Art of Africa, Oceania, and the Americas
- 107, Chinese Art
- 108, Japanese Art
- 116, North American Indian Art
- 117, African Art
- 119, Pre-Columbian Art

Students must take four 200-level courses. Two of these courses must be chosen from two of the following four categories:

Ancient and Medieval

- 212, Topics in Ancient Art
- 225, Topics in Medieval Art

Renaissance and Baroque

- 235, Topics in Renaissance Art
- 245, Topics in Baroque Art

Modern and American

- 255, Topics in Modern European Art
- 258, Topics in American Art
- 263, Photography Since 1945
- 291, Topics in Contemporary Art

Non-European

- 208, Topics in Asian Art
- 215, Topics in Tribal Art

The remaining two 200-level courses should be chosen from the following list:

- 205, Advanced Issues and Ideas in Art History
- 274, Philosophy of Art
- 275, The Art of the Print
- 276, Women and the Visual Arts
- 294, Art Criticism
- 295, The Artist and the City
- 296, The Nude in Art
- 297, Landscape Perspectives in Art
- 298, The Portrait in Historical and Cross-Cultural Contexts

Students must also take one course in studio art. Up to nine hours in studio art may be applied toward the B.A. in art history. Art 134, Art Activities for Elementary Schools does not fulfill this requirement.

To complete the 36-45 hours for the degree, art history majors may take additional courses from those previously noted or any of the following:

- 65, Photography and Society
- 105, Issues and Ideas in Art History
- 165, History of Photography
- 179, Special Topics in Art History
- 265, Topics in Photographic Studies
- 288, UM-St. Louis-Saint Louis Art Museum Internship
- 289, Visual Resource Management
- 290/390, Special Study
- 292, Museum Studies
- 293, Art Gallery Management

Note: Art history majors who began in the program before 1991 have their choice of completing the major under the old requirements or the new. Consult with your adviser for details.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the Art History 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, and interdisciplinary.

Bachelor of Fine Arts in Studio Art

Candidates for the B.F.A. degree must complete a Foundation Art Program (which is largely satisfied by the A.F.A. degree) and an emphasis area in one of the following: Drawing, Graphic Design, Painting, Photography, Printmaking or General Fine Arts. Studio art majors are required to take 75 hours in Studio Art (this includes

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30 hours in the Foundation Art Program) and 15 hours in Art History. The final 24 hours must be completed in residence at UM-St. Louis. Graduating students must also pass a faculty portfolio review.

The following courses are required for the **Foundation Art Program**:

40, Drawing I
 42, Figure Drawing I
 50, Design I
 140, Drawing II
 150, Design II
 240, Drawing III or
 142, Figure Drawing II
 250, Composition
 9 hours of Studio Art Electives

Students must complete 45 hours in **one** of the following emphasis areas:

Drawing

240, Drawing III
 242, Figure Drawing III
 340, Drawing IV
 342, Figure Drawing IV
 350, Design III
 387, Advanced Problems in Drawing I
 388, Advanced Problems in Drawing II
 396, Senior Studio Seminar (6 hours)
 6 hours of Painting or Printmaking
 12 hours of Studio Art Electives

Graphic Design

210, Graphic Design I
 211, Graphic Design II
 220, Computer Art I
 221, Computer Art II
 310, Graphic Design III
 311, Graphic Design IV
 340, Drawing IV
 342, Figure Drawing IV
 350, Design III
 383, Advanced Problems in Graphic Design I
 384, Advanced Problems in Graphic Design II
 396, Senior Studio Seminar (6 hours)
 9 hours of Studio Art Electives

Painting

280, Painting I
 281, Painting II
 350, Design III
 380, Painting III
 381, Painting IV
 385, Advanced Problems in Painting I
 386, Advanced Problems in Painting II
 396, Senior Studio Seminar (6 hours)
 6 hours from the following list:
 240, Drawing I
 242, Figure Drawing III
 340, Drawing IV
 342, Figure Drawing IV
 12 hours of Studio Art Electives

Photography

260, Digital Photography II
 261, Color Photography I
 262, Non-Silver Photography
 264, Video Art I
 350, Design III
 360, Photography III
 361, Color Photography II
 391, Advanced Problems in Photography I
 392, Advanced Problems in Photography II
 396, Senior Studio Seminar (6 hours)
 12 hours of Studio Art Electives

Printmaking

270, Printmaking I
 271, Printmaking II
 340, Drawing IV
 342, Figure Drawing IV
 350, Design III
 370, Printmaking and Relief
 393, Advanced Problems in Printmaking I
 394, Advanced Problems in Printmaking II
 396, Senior Studio Seminar (6 hours)
 6 hours from the following list:
 272, Printmaking: Lithography I
 273, Printmaking: Screenprinting I
 277, Printmaking: Photolithography
 372, Advanced Lithography
 9 hours of Studio Art Electives, including one course in photography

General Fine Arts

24 hours must be taken at the 200 level or above. The following courses are required:
 350, Design III
 396, Senior Studio Seminar (6 hours)
 12 hours of Studio Art electives

Students must complete 15 hours of Art History, with at least 9 hours taken in residence at UM-St. Louis.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the Studio Art 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, and interdisciplinary.

Minors

Minor in Art History A minor in art history requires the completion of a program of courses, at least 15 hours and normally not more than 18, with a grade point average of 2.0 or better. This program can consist of an historical survey of the basic periods in world Art History. Alternatively, it can

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be a group of courses which are coherent in theme, methodology, or art-historical scope, which has been specified in advance with an adviser from the art department, and which has the approval of the department chairperson.

Minor in Studio Art Students who wish to minor in studio art must take a minimum of 18 hours with a grade point average of 2.0 or better. The requirements for the minor are as follows:

40, Basic Drawing I

140, Basic Drawing II

50, Basic Design I

and **two consecutive courses** (six hours) in any single area to be selected from the following (students should be aware that courses are not always available in all areas):

Painting

Printmaking (any one subfield)

Photography

Graphic Design

Advanced Drawing

plus a studio art elective: one three-hour course.

Pre-Professional Graduation: Architecture

The Department of Art sponsors the 3+4 Program for the School of Architecture at Washington University.

A student who transfers to the School of Architecture, Washington University, at the end of the junior year may graduate from UM-St. Louis after the satisfactory completion of the first year of professional school upon meeting one or more of the following conditions:

- 1) The student has completed all general education requirements and all requirements for a major and lacks only the total hours (electives) necessary for a degree.
- 2) A student who has not completed required courses for a degree must remedy the deficiency with courses taken at the University of Missouri-St. Louis within three years of entering the professional school. At the time of graduation the student must remain in good standing in the professional school or have successfully graduated from the professional school.
- 3) A student who has not completed all the courses required for a major may, if the major department at UM-St. Louis agrees, substitute up to six hours of appropriate course work from the professional school.

The requirement that 24 of the last 30 hours of course work for a degree be taken at UM-St. Louis shall be waived where necessary for students graduating under this procedure.

Career Outlook

Study in art history broadens and enriches a general education, offering insight into the visual, architectural, and cultural artifacts left by earlier, as well as modern, civilizations. Art history graduates have found career opportunities in teaching, museums, galleries, libraries, historical societies, sales and auction houses, historic preservation, as travel guides, art administrators, editors and in art restoration.

Students with degrees in studio art find careers in teaching, advertising, public relations, graphic design, illustration, film and video production, art administration, art restoration, product and industrial design, framing and commercial photography.

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Course Descriptions

Courses in this section are grouped as follows: Art History and Art Studio. Prerequisites may be waived by consent of instructor. For the nonmajor, any number of studio courses will be accepted as electives.

The following courses fulfill the Humanities [H] breadth of study requirements: ART HISTORY: 5, 8, 15, 65, 90, 105, 107, 108, 111, 112, 113, 114, 116, 117, 119, 125, 135, 145, 155, 158, 159, 165, 179, 191, 195, 205, 208, 212, 215, 225, 235, 245, 255, 258, 263, 265, 274, 275, 276, 290, 291, 292, 293, 294, 295, 296, 297, 298, 390, 395.

Art History

5 Introduction to Art (3)

An introduction to major historical movements in Western art.

8 Introduction to Asian Art (3)

A survey of the major achievements in architecture, sculpture, and painting of India, China, Japan and Southeast Asia. Emphasis on religious, historical, and social context of the arts. This course fulfills the Cultural Diversity requirement.

15 Art of Africa, Oceania, and the Americas (3)

A survey of the art of tribal people of Africa, Oceania, and the Americas from prehistoric times through the present. The relationship of art to religion, myth, festival, and social life will be considered, as well as the effects of acculturation on the arts. This course fulfills the Cultural Diversity requirement.

65 Photography and Society (3)

(Same as Interdisciplinary 65.) A study of photography as a means of information and expression, as an influence on culture, and as a reflection of concepts in politics, science, morality, and art. This course counts toward the major.

90 Freshman Seminar (3)

Prerequisite: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences.

105 Issues and Ideas in Art History (3)

Prerequisite: Art 5 or permission of instructor. Intensive studies of a few selected works from various eras and cultures, with special attention to the particular social and cultural factors surrounding their creation.

107 The Arts of China (3)

A survey of the major achievements in the history of Chinese art. Bronzes, sculpture, painting, calligraphy, ceramics, and jades will be considered within their historical, philosophical, and social context. This course fulfills the Cultural Diversity requirement.

108 The Arts of Japan (3)

A survey of the art and architecture of Japan from prehistory to the present. Topics will include sculpture,

architecture, pottery, gardens, Japanese prints and paintings in their various forms, i.e. Chinese style, purely Japanese style, narrative scrolls, Zen, and Rimpa. This course fulfills the Cultural Diversity requirement.

111 Art and Archaeology of the Ancient World (3)

A survey of art in Egypt, the Ancient Near East, Greece, and Rome, beginning in the Neolithic era (8000-4000 B) and ending with the Barbarian invasions of Italy in the fifth century A.D. The major highlights of architecture and city planning, sculpture, painting, pottery, and the minor arts will be covered.

112 Greek Art and Archaeology (3)

Prerequisite: Art 5. General survey of material culture in the Aegean basin, beginning with the Bronze Age (third millennium B) and terminating in the late Hellenistic period (second century B). For the Hellenistic period the course will trace Greek developments and influences outside of the Aegean, for example, in Italy and in Egypt.

113 Roman Art and Archaeology (3)

Prerequisite: Art 5. General survey of material culture in Italy and its dependencies beginning with prehistoric Italy (ninth and eighth centuries B.C.) and terminating in late antiquity (the fifth century A.D.). The course will focus on the regional variants of Roman art in such places as Gaul, Spain, Great Britain, North Africa, and the Greco-Roman East.

114 Early Christian Art and Archaeology (3)

Prerequisite: Art 5. The origins and development of Christian imagery prior to the fourth century, the Constantinian epoch and Late Antique developments to the death of Justinian. Attention will be paid to works of art and to the entire material culture of early Christianity.

116 North American Indian Art (3)

A detailed survey of the arts of North America from prehistoric times to the present. Cultures to be covered include: Moundbuilders, Northeast, Navajo, Pueblo peoples, Northwest Coast, and Eskimo. The relationship of art to religion, dance, philosophy, and social life will be explored. This course fulfills the Cultural Diversity requirement.

117 African Art (3)

A survey of the tribal and traditional arts of Black Africa. The function and context of art among specific peoples such as the Yoruba, Dan, Dogon, Kuba, and Kongo will be discussed. Emphasis will be placed on dance, festival, and religion as the primary contexts of African art. This course fulfills the Cultural Diversity requirement.

119 Pre-Columbian Art of Mexico and Central America (3)

A survey of the arts of native peoples of Middle America before the coming of the Spaniards in 1519. The cultural context and meaning of sculpture, painting, architecture, and ritual among the Olmec, Maya, Aztec, and other tribes. This course fulfills the Cultural Diversity requirement.

125 Medieval Art (3)

Prerequisite: Art 5. A survey of the art and architecture of

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the Mediterranean World and northern Europe from late antiquity to the Late Gothic period (300-1300 A.D.). Focus on new styles and subject matter in painting, sculpture, and architecture.

135 Renaissance Art (3)

Prerequisite: Art 5. A survey of artists and architects from 1300 to 1600 in Europe. Special attention given to the emergence of individualism, the impact of the Reformation and Counter-Reformation, and the new scientific discoveries which informed the art of the period.

145 Baroque Art (3)

Prerequisite: Art 5. A survey of art and architecture in both northern and southern Europe from 1600 to 1750. Emphasis on the contributions of individual artists as well as the political, social, and philosophical background of the visual arts.

155 Modern Art (3)

Prerequisite: Art 5. A survey of European art of the nineteenth and twentieth centuries.

158 American Art (3)

Prerequisite: Art 5. A survey of the art of the United States since 1600, both as an extension of the European tradition and for its original contributions.

159 American Architecture (3)

Prerequisite: Art 5. A brief history and analysis of American architecture, investigations of technological process, urban planning, and the dominating social attitudes which govern architectural development.

165 History of Photography (3)

Prerequisite: Art 5 or consent of instructor. A study of photography: its historical development, an examination of it as an art medium, and its influence on the development of modern art.

179 Special Topics in Art History (1-3)

Selected topics in art history. This course may be repeated for credit.

191 Art Since 1945 (3)

Prerequisite: Art 5. An overview of the major developments in European and American art since World War II. Topics include abstract expressionism, pop art, conceptual and minimal art, performance and video.

195 Sophomore/Junior Seminar: The Methods of Art History (3)

Prerequisites: Art 5 and at least one additional course in Art History. An introduction to the methods of art historical analysis. Emphasis on research techniques and writing. This course must be taken before a student's senior year.

203 Media and Technique in Art History (3)

Prerequisites: Art 5 and two other courses in art history. Technical demonstration of and research into various materials and media used by artists. In addition to ancient media such as egg tempera and fresco, it will include modern media such as photography and video.

205 Advanced Issues and Ideas in Art History (3)

Prerequisites: Art 5 and three additional courses in art, or permission of the instructor. Seminar format. Intensive study of a few objects or issues in the history of art, focusing on issues which crosscut periods or geographic regions.

208 Topics in Asian Art (3)

Prerequisite: Art 8 or permission of instructor. A study of selected topics in Asian art. The content will vary, focusing on topics such as Chinese and Japanese landscape in paintings and in gardens, images of women in Asian art, or the Spirit of the Brush in Chinese and Japanese painting. May be repeated for credit with permission of instructor and adviser. This course fulfills the Cultural Diversity requirement.

212 Topics in Ancient Art and Archaeology (3)

Prerequisites: Art 5 or Interdisciplinary 10 and one of the following: Art 111, 112, 113, 114, or permission of instructor. Intensive study of some aspect of Classical or Early Christian art. Content will vary. May be repeated for credit with permission of adviser.

215 Topics in Tribal Arts (3)

(Same as Anthropology 225) Prerequisite: One of the following: Art 15, 116, 117, 119, or consent of instructor. Intensive study of the arts of several tribal groups. Inquiry into relationships between art and culture by means of an examination of myth, literature, festival, and social life. Seminar format. May be repeated for credit with permission of adviser. This course fulfills the Cultural Diversity requirement.

217 Topics in African Art (3)

Prerequisite: Art 15 or 117 or permission of instructor. A study of selected topics in the history of African art. The content of the course will vary, focusing upon a single topic, which might include Islam and the arts of Africa, Christianity and the arts of Nubia and Ethiopia, art and festival in West Africa, or women and art in sub-Saharan Africa. May be repeated for credit with permission of instructor. This course fulfills the Cultural Diversity requirement.

225 Topics in Medieval Art (3)

Prerequisite: Art 125 or consent of instructor. A study of selected topics in Medieval art. The content of the course will vary, focusing on single topics such as manuscript painting, the Gothic cathedral and its sculptural decoration, or the art of pilgrimage churches. May be repeated for credit with permission of instructor.

235 Topics in Renaissance Art (3)

Prerequisite: Art 135 or consent of instructor. Studies of selected topics, which will vary. Subjects to be considered may include the art of Florence, the role of patronage in Renaissance Italy, and Papal art. May be repeated for credit.

245 Topics in Seventeenth and Eighteenth-Century European Art (3)

Prerequisite: Art 145 or consent of instructor. A study of selected topics in Baroque and Rococo art. The content of the course will vary, focusing on single areas, such as the Baroque in Rome; or on major artists, such as

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Bernini, Rubens, and Rembrandt. May be repeated for credit with permission of instructor and adviser.

255 Topics in Nineteenth and Twentieth-Century European Art (3)

Prerequisite: Art 155 or consent of instructor. Intensive study of selected topics in European art. May be repeated for credit with permission of instructor and adviser.

258 Topics in American Art (3)

Prerequisite: Art 158 or 159 or consent of instructor. Intensive study of selected topics in American art from colonial beginnings to the present. Topics may include the image of the family in art, patronage, the relationship between art and literature, and the role of the artist in modern society. May be repeated for credit with permission of instructor and adviser.

263 Photography Since 1945 (3)

Prerequisites: Art 5 and either Art 65 or 165 or permission of the instructor. Seminar on creative photography from the postwar period to the present. Topics will include the relation of this medium to other arts, including sculptural and performance art, as well as current modes of photographic depiction in landscape and studio work.

265 Topics in Photographic Studies (3)

(Same as Interdisciplinary 265.) Prerequisite: Permission of instructor. Advanced study of specific styles, periods, or issues within photographic history.

274 Philosophy of Art (3)

(Same as Philosophy 274.) A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

275 The Art of Print (3)

Prerequisite: Art 5. Dealing with the history of print forms: woodcuts, etchings, engravings, lithographs, silkscreens, monotypes, and mixed media. Special emphasis will be given to the importance of prints to the art and artists of our time.

276 Women and the Visual Arts (3)

No prerequisite. Art 5 or enrollment in the Women's Studies Certificate Program recommended. Selected topics concerning women as creators, users, and subject matter of art. Great women artists in the Western world will be studied, as well as women weavers, potters, and sculptors in tribal society.

288 UM-St. Louis/Saint Louis Art Museum Internship (3)

Prerequisites: Art History or Anthropology major and junior/senior standing. Student, who is selected competitively after submitting application to the UM-St. Louis/St. Louis Art Museum Internship Committee, is to complete 20 hours of work per week under the direction of a curator or curators at the Saint Louis Art Museum. The precise schedule and particular projects are to be determined by the curator and the student together. Projects can include research on the Museum collection, research on possible Museum acquisitions, checking label information, research or compilation of bibliography for exhibitions, or other tasks

at the discretion of the curator. Each internship runs for the duration of one semester.

289 Visual Resources Management (3)

Prerequisites: Art 5 and 3 credit hours in other art history courses, or permission of instructor. This hands-on course in the Art Department slide library will consist of the daily operation and management of, as well as technological and theoretical approaches to visual resource collections. The course content relies upon the Art Department's slide library of over 80,000 slides, videotapes, and other visual materials.

290 Special Study (1-10)

Prerequisites: Junior or senior standing and consent of department and instructor. Independent study through readings, reports, or field research.

291 Topics in Contemporary Art (3)

Prerequisites: Art 5 and Art 191 or permission of instructor. Seminar on particular topics in European or American art since 1945. Topics may include contemporary feminist art, postmodernism, or abstract expressionism. May be repeated for credit with permission of instructor and adviser.

292 Museum Studies (3)

Prerequisites: Art 5 and six credit hours in other art history courses. This course is intended as an introduction to the function and operation of the art museum. Sessions will include the history of art museums and collecting policies; organization of art museums; the tasks of the curator; the registrial practice; art conservation; the museum as an educational institution; the organization and planning of permanent galleries; and the planning and installation of temporary exhibitions.

293 Art Gallery Management (3)

Prerequisites: Art 5 and six credit hours in other art history courses. This course will consider the practical application of professional training in art history as it applies to gallery management. Topics covered will include: grant writing in the arts, the development of art exhibits, the role of the art curator, and the operation of a gallery. All students will get hands-on experience in Gallery 210.

294 Art Criticism (3)

Prerequisite: Art 155 or Art 191 or permission of instructor. An overview of the history and function of art criticism, focusing principally on the theory and criticism of twentieth-century art. Students will attempt their own critical writings on contemporary art.

295 The Artist and the City (3)

Prerequisite: Art 5. Examines the role of urban centers as a focus for significant artistic activity, as a recurring theme in art, and as a spatial and physical architectural reality. Aspects of urban planning, urban imagery in art, and the social, political, and personal networks artists develop as a result of living in particular urban centers at particular moments in history will be among the topics discussed.

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296 The Nude in Art (3)

Prerequisites: Art 5 and one other course in art history. An exploration of the various meanings of nudity in art. The cultural, social, and psychological contexts of nudity in art will be examined in different historical periods and geographic regions, both Western and non-Western. Representations of both males and females will be analyzed in terms of gender construction, political authority, and personal identity.

297 Landscape Perspectives in Art (3)

Prerequisite: Art 5. This seminar considers the various conventions for representing landscape and nature, and human relationships to landscape, throughout history and across cultures. Issues to be considered may include landscape as metaphor in European painting, contemporary earthworks, landscape photography, and the relationship of artist to landscape in the non-Western world.

298 The Portrait in Historical and Cross-Cultural Contexts (3)

Prerequisite: Art 5 or permission of instructor. This class will examine the development of portraiture in the western tradition as well as its use and development in non-western cultures. Topics to be investigated will include a wide variety of stylistic approaches and media.

390 Special Study (1-10)

Prerequisites: Junior/senior standing and consent of department chairperson and instructor. Independent study through readings, reports, or field research.

395 Senior Art History Seminar (3)

Prerequisite: Art 195 and Senior standing in art history or consent of instructor. Intensive reading, discussion, and writing on topics to be announced.

Art Studio

2 Introduction to Studio Art (3)

An introduction to drawing, painting, and design in a beginning studio environment. This course is designed to provide basic skills and understanding of studio experience for the non-art major.

30 Ceramics I (3)

An introduction to basic methods and theory of ceramics including work with hand-built construction, wheel techniques, and glazing. Lab fee required.

40 Drawing I (3)

An introduction to drawing through the study of figure, object, and environment.

42 Figure Drawing I (3)

Basic studies of the human form and anatomy from the model in a variety of drawing media.

50 Design I (3)

Studio problems in the creative use and integration of the elements of two-dimensional design: line, form, space, texture.

60 Photography I (3)

An introduction to the techniques and aesthetics of black and white photography: the camera and the darkroom. Students must provide a camera with adjustable speeds and aperture and pay for their darkroom materials.

74 Special Topics in Studio (1-3)

Selected topics in studio studies. This course may be repeated for credit.

130 Ceramics II (3)

Prerequisite: Art 30. A continuation of Art 30.

132 Sculpture I (3)

An introduction to traditional and contemporary materials, aesthetics, and theories of three-dimensional art.

134 Art Activities for Elementary Schools (3)

(Same as ELE ED 179.) A study of art principles and laboratory experiences with various media and materials. Stresses curriculum planning and development of the elementary school program in art.

140 Drawing II (3)

Prerequisite: Art 40. The development of drawing skills through continued observation and problems of invention. A further exploration of varied drawing materials and techniques including graphite, charcoal, conte crayon, and inks.

142 Figure Drawing II (3)

Prerequisite: Art 42. Continuation of Figure Drawing I. Lab fee required.

150 Design II (3)

Prerequisite: Art 50. A continuation of Art 50, two-dimensional design, with introduction to color theory. Some application of mixed media problems.

160 Photography II (3)

Prerequisite: Art 60. Continuation of Photography I at the intermediate level.

161 Introduction to Digital Photography (3)

Prerequisite: Art 60 or consent of instructor. An introduction to computer usage in photography. The basic computer techniques and software applications for digitizing, retouching, enhancing and altering photographic images will comprise the core of this course. This class will involve both learning exercises and the creation of original computer-aided photographic art.

210 Graphic Design I (3)

Prerequisite: Art 50, Art 140 or consent of instructor. Introductory studio problems in layout, lettering, and design with typographic elements.

211 Graphic Design II (3)

Prerequisite: Art 210 or consent of instructor. Continuation of Graphic Design I.

220 Computer Art I (3)

Prerequisite: Art 50. An introduction to the use of computer graphics software for the creation of artwork

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applicable to the advertising and graphic design industry. No previous computer experience is necessary.

221 Computer Art II (3)

Prerequisite: Art 220. Designed to familiarize students with the methods and processes and computer functions used in graphic art and illustrations.

232 Sculpture II (3)

Prerequisite: Art 132. Continuation of Art 132.

240 Drawing III (3)

Prerequisites: Art 40 and 140. This course offers studio problems designed to further the development of drawing skills in various media. Limited color will also be introduced.

242 Figure Drawing III (3)

Prerequisites: Art 42 and 142. Advanced study of the human form and anatomy from the model in a variety of drawing media.

250 Composition (3)

Prerequisites: Art 50 and Art 150. An investigation of the use of formal design elements as used in historic and contemporary art. Weekly studio problems and discussions will concentrate on skills, application, and unifying effects of compositional elements on a variety of visual art forms.

260 Digital Photography II (3)

Prerequisite: Art 161. Intermediate exploration of the aesthetics and techniques of digital photography.

261 Color Photography I (3)

Prerequisite: Art 60 or equivalent. An introduction to the techniques and aesthetics of color photography. Mastering the printing and finishing processes and producing a color print portfolio will be the requirements of this class. Students can expect the cost of photographic materials to be comparable to that of black and white photography.

262 Non-Silver Photography (3)

Prerequisites: Art 60 and 160. An introduction to the aesthetics and techniques of non-traditional photographic processes.

264 Video Art I (3)

Prerequisite: Art 160 or permission of instructor. An introduction to video as an art form. Knowledge of contemporary uses and video techniques will be stressed.

270 Printmaking I (3)

Prerequisite: Art 50 and Art 140 or consent of instructor. An introduction to printmaking techniques, materials, and theories. The course will include work in a variety of print materials.

271 Printmaking II (3)

Prerequisite: Art 270 or consent of instructor. A continuation of Art 270.

272 Printmaking: Lithography I (3)

Prerequisite: Art 50 and Art 140 or consent of instructor. An introduction to printmaking skills and theory in stone

and plate lithography. Studio problems in the use of materials and equipment. Attention will be given to individual development.

273 Printmaking: Screenprinting I (3)

Prerequisite: Art 270. An introduction into the techniques, methods, and aesthetics of screenprinting. Studio problems involving uses and approaches will be emphasized.

277 Printmaking: Photolithography I (3)

Prerequisite: Art 60 or departmental consent. An introduction to printmaking skills and theory in stone and plate lithography with particular emphasis on the photographic applications of the process. Some attention will also be given to commercial printmaking applications while studio problems in the use of materials and equipment will be stressed.

280 Painting I (3)

Prerequisite: Art 50, 140 or consent of instructor. An introduction to the use of oil and/or acrylic painting media. Studio problems to develop technical and expressive skills on various surfaces.

281 Painting II (3)

Prerequisite: Art 280 or consent of instructor. Continuation of basic studio problems in painting media.

283 Watercolor Painting (3)

Prerequisites: Art 50 and 140. Beginning problems in watercolor painting. Includes the study of traditional and contemporary approaches to color, color techniques and treatment of papers. May be repeated for credit.

310 Graphic Design III (3)

Prerequisites: Art 210 and 211. Advanced studio problems to further the understanding of design and its relationship to typographic elements, illustration, and communication. The course will encourage both conceptual and technical development of the designer.

311 Graphic Design IV (3)

Prerequisite: Art 310. Further studio problems in the graphic arts.

334 Contemporary Art Education: Craft and Theory (1-2)

Prerequisite: Upper-division standing or consent of instructor. Intensive study for advanced students and art teachers, emphasizing specialized techniques and innovative concepts. Topics to be announced. May be repeated for credit.

340 Drawing IV (3)

Prerequisite: Art 240. Studio problems with emphasis on color and multi-material approach to drawing.

342 Figure Drawing IV (3)

Prerequisite: Art 242. Continuation of Art 242.

350 Design III (3)

Prerequisites: Art 50 and 150. Advanced studio problems in design materials. Use of two-dimensional and three-dimensional mixed media. Experimental use of materials and media will be introduced.

Art

360 Photography III (3)

Prerequisite: Art 160. An exploration into contemporary theories and trends in photography. Advanced projects, portfolios and techniques will be expected from those enrolled.

361 Color Photography II (3)

Prerequisite: Art 261. An advanced exploration into the aesthetics and techniques of color photography. Students will be expected to refine their vision utilizing color to master the color processes.

364 Video Art II (3)

Prerequisite: Art 264. An advanced exploration of video as a visual art.

370 Printmaking and Relief (3)

Prerequisites: Art 270 and Art 271. Advanced problems in relief printmaking. Problems in relief printmaking. Work in wood and mixed materials. Development of skills and aesthetic judgments in the media. May be repeated for credit with consent of instructor.

372 Advanced Lithography (3)

Prerequisites: Art 272 and Art 273. Continuing problems in lithography with problems in black and white, photolithography, and/or color. May be repeated for credit. Lab fee required.

380 Painting III (3)

Prerequisite: Art 281 or consent of instructor. Advanced studio problems in painting media. Attention paid to individual development of theory, expression, and technique.

381 Painting IV (3)

Prerequisite: Art 380. A continuation of Art 380.

383 Advanced Problems in Graphic Design I (3)

Prerequisite: Art 310. This course is focused on professional-level art and portfolio production.

384 Advanced Problems in Graphic Design II (3)

Prerequisite: Art 383. A continuation of Art 383.

385 Advanced Problems in Painting (3)

Prerequisite: Art 381. This course is focused on professional-level art and portfolio production. Non-traditional materials might be explored. Attention is focused on individual development of painting theory, self-expression, and advanced techniques. The student is expected to assume a substantial responsibility with regard to direction, motivation, and content.

386 Advanced Problems in Painting II (3)

Prerequisite: Art 385. A continuation of portfolio production in Art 385.

387 Advanced Problems in Drawing I (3)

Prerequisite: Art 340. This course is focused on professional-level art and portfolio production. It offers studio problems designed to further the development of drawing skills. Emphasis will be given to the study of drawing as an independent art form.

388 Advanced Problems in Drawing II (3)

Prerequisite: Art 387. A continuation of Art 387.

390 Special Study (1-10)

Prerequisites: Junior/senior standing and consent of department chairperson and instructor. Independent study through readings, reports, or field research.

391 Advanced Problems in Photography I (3)

Prerequisite: Art 360. This course is focused on professional-level art and portfolio production. Students may employ black and white, color, non-silver or other traditional or non-traditional press for projects in this course.

392 Advanced Problems in Photography II (3)

Prerequisite: Art 391. A continuation of Art 391.

393 Advanced Problems in Printmaking I (3)

Prerequisite: Art 370. This course is focused upon professional-level art and portfolio production. After completion of this and the preceding course, students should be ready to meet the artistic and intellectual demands of today's visual art world.

394 Advanced Problems in Printmaking II (3)

Prerequisite: Art 393. A continuation of Art 393.

396 Senior Studio Seminar (3)

Prerequisite: Senior standing and Art 340, 342, 350, 360, 370, or 381. Weekly critiques and discussions of technical and professional issues. Will instruct students in methods of portfolio display, documentation, gallery representation, grant writing, and professional preparation. May be repeated for credit.

399 Special Study in Studio Art (1-10)

Prerequisites: Junior/Senior standing and consent of both department chairperson and instructor. Independent study through intensive independent studio projects, readings, reports and/or field research and apprenticeships.

Biology

Faculty

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

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

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

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

Frank Moss, Professor*
Ph.D., University of Virginia (primary appointment with
Physics and Astronomy)

Susanna S. Renner, Professor*
Dr. Habil; Dr. rer. nat, University of Hamburg

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

Martin Sage, Professor*; Associate Dean, Arts and Sciences
Ph.D., Nottingham University

Victoria Sork, Professor*
Ph.D., University of Michigan

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

Teresa Thiel, Professor*; Director, Biotechnology Program
Ph.D., Case Western Reserve University

Douglas Wartzok, Professor; Dean, Graduate School
Ph.D., Johns Hopkins University

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

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

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

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

Bette A. Loiselle, Associate Professor*
Ph.D., University of Wisconsin

Robert J. Marquis, Associate Professor*;
Director, International Center for Tropical Ecology
Ph.D., University of Iowa

Stephen S. Mulkey, Associate Professor*
Ph.D., University of Pennsylvania

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

Shirley T. Bissen, Assistant Professor*
Ph.D., University of Michigan

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

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

Jerry L. Bryant, Jr., Assistant Professor*
Ph.D., Massachusetts Institute of Technology

Carol A. Kelly, Assistant Professor*
Ph.D., University of Illinois-Urbana-Champaign

Amy F. MacRae, Assistant Professor*
Ph.D., University of Georgia

William D. Rapp, Assistant Professor*
Ph.D., Purdue University

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

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

Paul E. Berry, Adjunct Associate Professor*
Ph.D., Washington University

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

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

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

Marshall R. Crosby, Adjunct Associate Professor*
Ph.D., Duke University

William G. D'Arcy, Adjunct Associate Professor*
Ph.D., Washington University

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

Michael H. Grayum, Adjunct Associate Professor*
Ph.D., University of Massachusetts, Amherst

Peter C. Hoch, Adjunct Associate Professor*
Ph.D., Washington University

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

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

James L. Zarucchi, Adjunct Associate Professor*
Ph.D., Harvard University

Sandra S. Alters, Adjunct Associate Professor*
Ph.D., University of Connecticut

Ihsan A. Al-Shehbaz, Adjunct Assistant Professor*
Ph.D., Harvard University

Cheryl S. Asa, Adjunct Assistant Professor
Ph.D., University of Wisconsin-Madison

Lois Brako, Adjunct Assistant Professor*
Ph.D., New York Botanical Garden-City University of New York

Larry E. DeBuhr, Adjunct Assistant Professor*
Ph.D., Claremont Graduate School

Douglas W. Franquemont, Adjunct Assistant Professor
M.D., University of Colorado

William A. Geary II, Adjunct Assistant Professor
M.D., University of Virginia; Ph.D., Washington University

Barry E. Hammel, Adjunct Assistant Professor*
Ph.D., Duke University

Kaoru Kitajima, Adjunct Assistant Professor*
Ph.D., University of Illinois

James S. Miller, Adjunct Assistant Professor*
Ph.D., St. Louis University

Nancy R. Morin, Adjunct Assistant Professor*
Ph.D., University of California-Berkeley

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

David F. Russell, Adjunct Assistant Professor
Ph.D., University of California-San Diego

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

Charlotte Taylor, Adjunct Assistant Professor*
Ph.D., Duke University

Hendrik H. vanderWerff, Adjunct Assistant Professor*
Ph.D., State University of Utrecht, The Netherlands

*members of Graduate Faculty

Biology

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 School of Education, the biology 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; in cooperation with the Evening College, the department offers courses in medical technology and cytotechnology. The Department of Biology 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 a 3.2 overall GPA and a minimum 3.2 average in biology courses used to complete the major;
- 2) complete a minimum of two credit hours of Biology 390, Research; and
- 3) complete an honors thesis based on Biology 390 research work. The academic record and thesis will be evaluated by the Honors Committee 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. Students should consult their adviser and the chairperson of the biology department.

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. degree in three broad areas of biology: (a) Cellular, Molecular, and Developmental Biology, (b) Physiology and Organismal Biology, and (c) Ecology, Evolution, and Systematics. Graduate students in the Ph.D. program will receive training in several areas of Evolutionary Biology. 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 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 is intended to prepare students for research careers and for leadership and scientific positions involving the conservation and management of tropical ecosystems.

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 February 1.

Facilities

Department facilities include research and teaching laboratories, environmental chambers, greenhouses, and a large array of supporting modern research instrumentation. Also available are wildlife facilities at Weldon Springs Experimental Farm and Tyson Tract, both within 30 to 45 minutes of the campus.

Cooperative Programs

The department also participates in a cooperative consortium program in biology with Washington University, St. 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 basis. Excluded from this option are required courses in chemistry, physics, mathematics, or psychology, and biology courses other than Biology 389, Seminar, and Biology 390, Research.

Degree Requirements

Bachelor of Arts in Biology

The B.A. degree provides maximum flexibility for biology

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. All biology majors must take at least 39 credit hours but not more than 50 hours in biology including the following biology foundation courses:
(24 to 28 hours)

Foundation Courses

11, Introductory Biology I
12, Introductory Biology II
210, Cell Structure and Function
224, Genetics
246, Introduction to Evolution
276, Biological Chemistry
389, Seminar, or **285** and **286** for those seeking teacher certification.

Lecture Course Requirements

An additional three lecture courses are required and can consist of any of the other lecture courses offered at the 200-level or above. At least one of the courses must be at the 300-level. Biology 389 and 390 cannot be used to fulfill this requirement.

Laboratory Course Requirements

In addition to the lecture course requirements, three laboratory courses, independent or integrated into a lecture course, will be required. They may be taken from any of the lecture-laboratory or laboratory courses offered. Introductory, General Biology, and Biology 390 laboratories cannot be used 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.

Related Area Requirements

The following courses in chemistry are required:
11, Introductory Chemistry I (or **1**, General Chemistry I, plus **9**, General Chemistry II)
12, Introductory Chemistry II
261, Structural Organic Chemistry

and one of the following chemistry courses:

122, Quantitative Analysis
262, Organic Reactions
263, Techniques of Organic Chemistry

Also required:

Math 30, College Algebra, and
Math 35, Trigonometry
Math 31, Elementary Statistical Methods or **Math 132**, Applied Statistics I, or **Education 330**, Educational Statistics, or **Psych 201**, Psychological Statistics, or **Biology 388**, Biometry
Math 101, Survey Calculus, or **Math 80**, Analytical Geometry and Calculus
Physics 11, Basic Physics
Physics 12, 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.

In order 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 23 hours in biology 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 lecture courses are required and can consist of any of the other lecture courses offered at the 200-level or above. 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). Biology 389 and Biology 390 cannot be used to fulfill this 300-level course requirement.

Laboratory Experience

A minimum of five laboratory courses must be taken to satisfy the Bachelor of Science requirements. They may be taken from any of the laboratory courses, independent or integrated with lecture, that are offered. Introductory, General Biology, and Biology 390 laboratories cannot be used to fulfill this requirement.

Basic Skills Requirement

There are certain skills outside the biology subject matter that 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

Math 31, Elementary Statistical Methods, or **Math 132**,

Biology

Applied Statistics I, or **Education 330**, Educational Statistics, or **Psych 201**, Psychological Statistics, or **Biology 388**, Biometry

Set B. Computer Science

Math 22, Introduction to Computing, or **Math 122**, Computers and Programming, or **BA 103**, Computers and Information Systems

- 2) **Communication Skills** Courses in formal speaking and technical writing are required to develop the minimal communication skills needed to transmit scientific information. The following two courses satisfy this requirement:

Communication

Comm 40, Introduction to Public Speaking

Writing

English 213, Technical Writing

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

Physics 11, Basic Physics

Physics 12, Basic Physics

Chem 11, Introductory Chemistry I, or **Chem 1**, General Chemistry I, plus **Chem 9**, General Chemistry II

Chem 12, Introductory Chemistry II

Chem 261, Structural Organic Chemistry

Chem 262, Organic Reactions

Chem 263, Techniques of Organic Chemistry, or

Chem 122, Quantitative Analysis

Philosophy 280, Philosophy of Science

Math 30, College Algebra, and **Math 35**, Trigonometry

Math 101, Survey Calculus, or **Math 80**, Analytical Geometry and Calculus I

Research Requirement

All students acquiring a Bachelor of Science degree are strongly encouraged to complete a minimum of two credit hours of undergraduate research, **Biology 390**. 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.

Biology majors may take any of the following 100-level biology courses:

110, Human Biology

115, Human Heredity and Evolution

116, General Microbiology

120, Environmental Biology

150, Plants and Civilization

These courses **do not count** toward the credit hours required for a major, but they will be included in the credit-hour maximum that a student can take in the major.

Bachelor of Science in Education with Emphasis in Biology

The B.S. Ed. is a professional degree designed for those individuals who wish to pursue a teaching career in biology in secondary schools. The biology requirements parallel those for the B.A. degree with the exception that **Biology 285**, Curriculum and Methods of Teaching Life Science, and **Biology 286**, Laboratory in Teaching Life Sciences, are substituted for **Biology 389**, Seminar. Students must also fulfill the requirements for the B.S. Ed. degree as prescribed by the School 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 School of Education by fulfilling the B.A. or B.S. requirements in biology, with the exception of **Biology 389**, Seminar, and in addition, completing the following courses:

Psych 3, General Psychology

Psych 271, Adolescent Psychology

ED FND 111, The School in Contemporary Society

English 216, Writing in the Sciences

History 3, 4, or 6, American Civilization

PolSci 11, Introduction to American Politics

Philosophy 280, Philosophy of Science

Comm 40, Introduction to Public Speaking

Theatre 21, Fundamentals of Acting

Geology 1, General Geology

Atmospheric Science 1, Elementary Meteorology

ED PSY 312, The Psychology of Teaching and Learning

ED TEC 248, Utilization of Computer-Based Materials in Instruction

SEC ED 213, Techniques of Secondary School Teaching

SPC ED 313, The Psychology and Education of Exceptional Individuals

SEC ED 386, Teaching Reading in Secondary School Content

Biology 285, Curriculum and Methods of Teaching Biology in Secondary Schools

Biology 286, Laboratory in Teaching the Life Sciences

SEC ED 290, Secondary School Student Teaching

Biology 399, Science Teaching Intern Seminar

Contact the Department of Biology and the School of Education for special advising regarding teacher certification.

Minor in Biology

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

Biology

Requirements are:

- 1) Biology 11 and Biology 12, Introductory Biology I and II.
- 2) Must take three additional courses which should be 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 as his or her program a group of courses that exhibits a coherent area of specialization to coordinate with a unique career objective. Such a candidate must receive prior approval by the biology department in order 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 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 by completing the core requirements and either a **chemistry track** or a **biology track**. All students complete the following **core requirements**:

Biology 11, Introductory Biology I
Biology 12, Introductory Biology II
Biology 210, Cell Structure and Function
Biology 224, Genetics
Chem 11, Introductory Chemistry I
Chem 12, Introductory Chemistry II
Chem 122, Quantitative Analysis
Chem 261, Structural Organic Chemistry
Chem 262, Organic Reactions
Chem 263, Techniques of Organic Chemistry

and one of the following biology courses:

216, Microbiology
235, Development
310, Cell Physiology
326, Gene Expression in Eukaryotes

Students choosing to complete the certificate through the **biology track** must take these **additional courses**:

Biology 376, Topics in Biological Chemistry
Biology 378, Topics in Biological Chemistry Laboratory
Biology 389, Senior Seminar
Chem 230, Physical Chemistry for the Life Sciences

Students choosing to complete the certificate through the **chemistry track** must take these **additional chemistry courses**:

231, Physical Chemistry I
232, Physical Chemistry II
233, Laboratory in Physical Chemistry
289, Seminar
371, Biochemistry
372, Advanced Biochemistry
373, Biochemical Techniques

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, Microbiology
Biology 218, Microbiology Laboratory
Biology 226, Genetics Laboratory
Biology 278, Biological Chemistry Laboratory
Biology 328, Techniques in Molecular Biology

One of the following two courses:

Biology 326, Gene Expression in Eukaryotes
Biology 338, Gene Expression in Prokaryotes

One of the following four courses:

Biology 317, Immunobiology
Biology 335, Molecular Cell Biology
Biology 334, Virology
Biology 376, Topics in Biological Chemistry, or
Chem 372, 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 sponsored by the International Center for Tropical Ecology (ICTE) in cooperation with the Department of Biology and 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. In order to participate, students must officially apply to the Certificate Program. Application forms are available from the Director of the ICTE. Guidelines for admission to the Certificate Program are available with the application forms. Individuals with a baccalaureate degree who are interested in this certificate must apply simultaneously to the University as an unclassified undergraduate and to the ICTE. The Certificate requires completion of 21 credit hours as outlined below. Students should consult the Bulletin and the Certificate Program Director with regard to prerequisites for any of the courses listed here.

Core Courses

Biology 220, General Ecology

Biology

Biology 240, Conservation Biology

Biology 347, Practicum in Conservation

Electives: the remaining 12 credits must be selected from courses listed below. Six credits must be taken from within Biology and six credits outside of Biology, from at least two departments.

Anthro 120, Indians of North America

Anthro 121, Native Peoples of Eastern North America

Anthro 122, Native Peoples of Western North America

Anthro 131, Archaeology of Missouri

Anthro 132, Archaeology of North America

Biology 342, Population Biology

Biology 350, Plant Environmental Physiology

Biology 354, Entomology

Biology 359, Evolutionary Ecology of Animals

Biology 362, Plant Taxonomy

Biology 364, Ornithology

Biology 385, Wildlife Ecology and Conservation

Biology 395, Field Biology

Biology 396, Marine Biology

Econ 360, Natural Resource Economics

History 300, Selected Topics when relevant and endorsed by ICTE

PolSci 248, Environmental Politics

PolSci 285, International Organizations and Global Problem Solving

PolSci 351, Comparative Public Policy and Administration

PolSci 359, Studies in Comparative Politics when relevant and endorsed by ICTE

Social Work 390, Seminar in Social Work, when relevant and endorsed by ICTE

Sociology 342, World Population and Ecology

Sociology 346, Demographic Techniques

Preprofessional Graduation

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

In this program students 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 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.

- 1) All general education requirements and all requirements for the 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 six hours from the School of Optometry may be substituted for undergraduate degree requirements, with approval of the Department of Biology.

Bachelor of General Studies with Personal Emphasis in Medical Technology or Cytotechnology

Courses in Medical Technology and Cytotechnology are offered through the biology department for students who are pursuing a career in one of these fields. Students develop a program of studies through the Bachelor of General Studies degree. Refer to the Evening College section of this Bulletin concerning the degree.

The following courses are offered in this area through the biology department:

Medical Technology:

312a, Hematology and Coagulation

312b, Transfusion Services-Immunohematology

312c, Clinical Microbiology and Serology

312d, Clinical Biochemistry

312e, Special Topics

Cytotechnology:

309a, Introduction to Cytology

309b, Neoplasia in the Female Genital Tract I

309c, Neoplasia in the Female Genital Tract II

309d, The Processing Laboratory

309e, Respiratory and Oral Cytology

309f, Effusion, CSF, and Miscellaneous Cytology

309g, GI, Breast, GU, FAN Cytology

309h, Scientific Methods and Literature in Cytology

309i, Advance Practices in Cytology

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 GRE 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 (Test of English as a Foreign Language). 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

Biology

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 advisor, 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 Topics in Biology can be given to graduate students for B224, B246, and B276 if they receive a B or better grade for all undergraduate coursework plus completing a graduate level paper assigned by the instructor. Instructor consent is required.

M.S. Degree Requirements

General Requirements

All students are required to take Biology 401, Current Topics in Biology, and at least four but not more than eight hours of Biology 489, Graduate Seminar. Biology 401 should be taken during the first year of graduate study.

Advisors

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

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

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 two credit hours of Biology 490, Graduate Research. A maximum of 5 credit hours of Biology 490 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, Graduate Research, may be counted toward the degree.

The student and advisor work together to develop a research plan. The thesis proposal must be approved by the student's advisor, advisory committee, and Director of Graduate Studies before the student enrolls in more than 4 credit hours of Biology 490, 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.

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 in 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, Graduate Record Examination (GRE) scores (Verbal, Quantitative, and Analytical), and transcripts of all post-secondary 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 (Test of English as a Foreign Language). 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 Topics in Biology can be given to graduate students for B224, B246, and B276 if they receive a B or better grade for all undergraduate coursework plus completing 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 sixty (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 three credit hours of 200-level courses in allied departments. Courses in Biology at the 200 level and below in biology are not available for graduate credit. At least 31 of the 60 hours must be taken while in residence at the University of

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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:

- a) **Biology 401** (1 hour), Current Topics in Biology. A required course to be taken within the first two semesters in the graduate program.
- b) **Biology 403** (1 hour), Biology Colloquium. A required course to be taken during each of the first two semesters. (2 credits total)
- c) **Biology 388** (3 hours), Biometry, or equivalent course in statistics.
- d) **Biology 489** (2 hours), Graduate Seminar. Three semesters required (6 credits total).
- e) 15 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:

- a) A combination of 8 total credit hours of the following:
 - Biology 403**, Biology Colloquium
 - Biology 405**, Topics in Ecology, Evolution and Systematics
 - Biology 406**, Topics in Molecular, Cellular & Developmental Biology
 - Biology 407**: Topics in Floristic Taxonomy
- b) **Biology 489**, Graduate Seminar: 10 hours
- c) **Biology 490**, Graduate Research: 30 hours

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.

Foreign Language

To satisfy the language requirement of a Ph.D. in Biology, a student must either: (a) have completed the third semester of a foreign language pertinent to the student's field of research within four years of candidacy with a grade of B or better, or (b) pass a written examination in that foreign language.

Qualifying Examination and Dissertation

Students must earn a passing score on a written qualifying examination 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, prior to 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 a M.S. degree previously are encouraged to take the examination in their first year.

Admission to Candidacy

In order to be admitted to candidacy students must

satisfy the requirements of the graduate school, which includes passing all language and qualifying examinations and completing all required course work (which is a minimum of 27 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 Students in Biology. Doctoral students may not enroll in more than four credits of graduate research (Biology 490) 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 and earn the certificate. The certificate is awarded after completion of the courses listed below. Students enrolled in the Master's program

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may simultaneously earn a graduate degree and count the appropriate courses from the list below toward the Biotechnology Certificate.

Biology 317, Immunobiology

Biology 376, Topics in Biological Chemistry or **Chem 372**, Advanced Biochemistry

Biology 426, Advanced Gene Expression in Eukaryotes

Biology 428, Advanced Techniques in Molecular Biology

Biology 434, Advanced Virology

Biology 435, Advanced Molecular Cell Biology

Biology 438, Advanced Gene Expression in Prokaryotes

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 three credits may be taken at the 200 level upon permission of the ICTE Director. Electives must include a minimum of 3 credits outside of biology with a maximum of 7 outside of 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, Public Policy of Conservation and Sustainable Development

Biology 447 (1-4), Internship in Conservation Biology (may be replaced with a biology elective for individuals with applied conservation or environmental agency experience upon consent of Director, ICTE)

Choice of:

Biology 446, Theory and Application of Conservation Biology
Biology 487, Advanced Tropical Ecology and Conservation

Electives:

Biology 342, Population Biology

Biology 354, Entomology

Biology 362, Plant Taxonomy

Biology 364, Ornithology

Biology 368, Quantitative Methods in Plant Ecology

Biology 385, Wildlife Ecology and Conservation

Biology 396, Marine Biology

Biology 442, Population and Community Ecology

Biology 450, Advanced Plant Environmental Physiology

Biology 458, Advanced Evolutionary Ecology of Plants

Biology 459, Advanced Evolutionary Ecology of Animals

Biology 465, Methods in Plant Systematics

Biology 480, Advanced Behavioral Ecology

Biology 481, Advanced Theoretical Systematics and Evolution

Biology 487, Advanced Tropical Ecology and Conservation

Biology 489, Graduate Seminar, when relevant and endorsed by ICTE

Chem 417, Environmental Chemistry

Economics 360, Natural Resource Economics

History 300, Selected Topics in History, when appropriate

History 371, History of Latin America: To 1808

History 372, History of Latin America: Since 1808

History 381, West Africa Since 1800

History 460, Readings in Latin American History, when relevant and endorsed by ICTE

History 470, Readings in African History, when relevant and endorsed by ICTE

PolSci 248, Environmental Politics

PolSci 253, Political Systems of South America

PolSci 254, Political Systems of Mexico, Central America, and the Caribbean

PolSci 258, African Politics

PolSci 285, International Organizations and Global Problem Solving

PolSci 359, Studies in Comparative Politics, when relevant and endorsed by ICTE

PolSci 388, Studies in International Relations

PolSci 414, Topics in Public Policy Analysis, when appropriate

PolSci 448, Political Economy and Public Policy

PolSci 459, Seminar in Latin American Politics, when relevant and endorsed by ICTE

PolSci 462, Political Theory and Public Policy

PolSci 481, Seminar in International Relations

Social Work 390, Seminar in Social Work, when relevant and endorsed by ICTE

Sociology 342, World Population and Ecology

Sociology 346, Demographic Techniques

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, teaching, 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:

- 1) provide research-oriented training and education;
- 2) provide qualified graduates for doctoral programs; and
- 3) 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.

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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.

The following courses fulfill the Natural Sciences and Mathematics [SM] breadth of study requirements: 1, 3, 11, 12, 110, 111, 113, 114, 115, 116, 118, 120, 130, 140, 150, 210, 212, 213, 215, 216, 218, 220, 222, 224, 226, 235, 237, 240, 246, 250, 254, 256, 260, 262, 264, 266, 276, 278, 280, 282, 310, 311, 313, 314, 315, 316, 317, 319, 320, 322, 326, 328, 329, 330, 332, 334, 335, 336, 338, 342, 344, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 376, 378, 380, 381, 382, 385, 386, 387, 389, 390, 392, 395, 396, 398, 399.

1 General Biology (3)

Emphasis on fundamental principles of biology. Biology 1 can be applied toward fulfillment of the general education requirement in science. Biology 1 does not satisfy the prerequisite requirements of 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 rather than Biology 1. Three hours of lecture per week.

3 General Biology Laboratory (2)

Prerequisite: Biology 1 (may be taken concurrently). Laboratory course to accompany Biology 1. Biology 3 can be used to fulfill the general education requirements in a laboratory science. Biology 3 does not meet the prerequisite requirements for other courses in biology. Three and one-half hours of laboratory per week.

11 Introductory Biology I (5)

Prerequisites: Satisfactory score on math placement test and English 09 or equivalent. Required for students intending to major in biology or take specified biology courses at the 200 level or above. This course presents an introduction to some of the principles of biology and scientific methodology applied to the molecular/cellular through organ system levels of organization. Topics include: cell structure, metabolism, reproduction, heredity and major physiological processes regulated by organ systems. Three hours of lecture, three and one-half hours of laboratory, and one hour of discussion per week.

12 Introductory Biology II (5)

Prerequisites: Biology 11. Required for students intending to major in biology or take specified biology courses at the 200 level or above. This course presents an introduction to some of the principles of biology and scientific methodology applied to the organismal and supraorganismal levels of biology. Topics to be covered include: ecology, evolution, diversity, and population biology. Three hours of lecture, three and one-half hours of laboratory, and one hour of discussion per week.

110 Human Biology (3)

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.

111 Issues in Geriatric Health Care (2)

(Same as Biology 111 and Nursing 111.) A course designed to acquaint the student with aspects of chronic disease frequent in later life, as well as a synopsis of biological aging processes. Disease symptomology, aspects of health maintenance, and medical intervention with an older adult population will be discussed. In addition, issues in health-care delivery will also be explored.

113 Human Physiology and Anatomy I (4)

Prerequisite: Biology 1 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 Human Physiology and Anatomy II (4)

Prerequisite: Biology 113. A continuation of Biology 113. A study of the basic aspects of human physiology and anatomy. Three hours of lecture and two hours of laboratory per week.

115 Human Heredity and Evolution (3)

The study of heredity and evolution with special reference to human populations. Three hours of lecture per week.

116 General Microbiology (3)

Prerequisite: Biology 1 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.

118 General Microbiology Laboratory (2)

Prerequisite: Biology 116 (may be taken concurrently). Standard techniques for identification, growth, and control of microorganisms. Three and one-half hours of laboratory per week.

120 Environmental Biology (3)

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 Global Ecology (3)

Prerequisite: Biology 1. Must be taken concurrently with Political Science 85 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

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addition to lecture and discussion. Three hours of lecture, one hour and fifteen minutes discussion and three and one-half hours laboratory per week.

140 Female Sexuality (3)

(Same as Psych 140.) Prerequisites: Psych 3, or Biology 1, 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.

150 Plants and Civilization (3)

Prerequisite: Biology 1 or its equivalent. A study of use and dependency on plants. Primary topics of discussion will center on the origin of agriculture and its influence on the development of nations, the origin and evolution of food crops, drug and medicinal plants, and problems in feeding the world's population. Three hours of lecture per week.

210 Cell Structure and Function (3)

Prerequisites: Biology 11 and 12, Chem 11 and 12 or equivalent. Chem 261 recommended. General cell biology, stressing cell structure and ultrastructure, as related to cell function. Three hours of lecture per week.

212 Histology and Microtechniques (5)

Prerequisites: Biology 11, 12, and 210 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 3 1/2 hours of laboratory per week. (Additional lab hours arranged.) Fulfills both a lecture and a laboratory requirement.

213 Vertebrate Physiology (3)

Prerequisites: Biology 11 and 12 and Chem 11 (or Chem 1 plus Chem 9). Basic functional aspects of organ systems in relation to the physiochemical properties of protoplasm. Three hours of lecture per week.

215 Vertebrate Physiology Lab (2)

Prerequisite: Biology 213 (may be taken concurrently). Instrumental and experimental studies in physiology. Three and one-half hours of laboratory per week.

216 Microbiology (3)

Prerequisites: Biology 11 and 12 and Chem 11 (or Chem 1 plus Chem 9). Study of microorganisms, their metabolism, genetics, and their interaction with other forms of life. Three hours of lecture per week.

218 Microbiology Laboratory (2)

Prerequisite: Biology 216 (may be taken concurrently). Experimental studies and procedures of microbiological techniques. Three and one-half hours of laboratory per week.

220 General Ecology (3)

Prerequisites: Biology 11 and 12. An examination of the relationships between living organisms and their environment. Three hours of lecture per week.

222 General Ecology Laboratory (2)

Prerequisites: Biology 220 required (may be taken concurrently); a general statistics course strongly recommended. An analysis of factors influencing the abundance and distribution of living organisms. Three and one-half hours of laboratory per week.

224 Genetics (3)

Prerequisites: Biology 11 and 12 and Chem 11 (or Chem 1 plus Chem 9). 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 Genetics Laboratory (2)

Prerequisite: Concurrent registration in Biology 224 or by permission of instructor. Laboratory to accompany Biology 224. Three and one-half hours of laboratory per week.

228 Introduction to Biotechnology (4)

Prerequisite: Biology 11, 12 and Chem 11 or equivalent, or consent of instructor. An introduction to the fundamental concepts that underlie the rapidly growing field of biotechnology. The structure and function of DNA, RNA and protein will be presented through lectures, discussions and a series of laboratory exercises. Both the basic biological concepts and essential laboratory skills necessary for students interested in the field of biotechnology will be covered in this course. Two hours of lecture and four hours of laboratory per week. Fulfills a laboratory requirement only.

231 Undergraduate Internship in Biotechnology

Prerequisites: Biology 11 and 12, Chem 11 and 12 and consent of instructor. Concurrent enrollment in Chem 261 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. Internship assignments will commensurate with the education and experience of the student. Two credits may be used to fulfill the lab requirement.

235 Development (3)

Prerequisites: Biology 11 and 12. Basic principles of development from the point of view of growth, morphogenesis, and differentiation. Three hours of lecture per week.

237 Development Laboratory (2)

Prerequisite: Biology 235 (may be taken concurrently). Laboratory to accompany Biology 235. Three and one-half hours of laboratory per week.

240 Conservation Biology (4)

Prerequisites: Biology 11 and 12. Introduction to the principles and theories of conservation biology. Subjects to be covered include biodiversity, extinctions, habitat fragmentation, captive breeding programs, restoration

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ecology, among others. Particular emphasis will be placed on subjects pertinent to Missouri and temperate regions, although some examples will come from tropical areas. Three hours of lecture and one hour of discussion per week. Two-three Friday or Saturday field trips to local natural areas with active conservation activities, e.g., Wolf Sanctuary, private Nature Conservancy reserves.

246 Introduction to Evolution (3)

Prerequisites: Biology 11 and 12. Introduction to the theory, events, and processes of organic evolution.

250 Biology of Plants (5)

Prerequisites: Biology 11 and 12. 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 (3 and 1/2 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.

254 General Plant Physiology and Development (3)

Prerequisites: Biology 11 and 12 and Chem 11 (or Chem 1 plus Chem 9). An examination of photosynthesis, water relations, development, and response to environmental stress in plants. Three hours of lecture per week.

256 Plant Physiology and Development Laboratory (2)

Prerequisite: Biology 254 (may be taken concurrently). Laboratory to accompany Biology 254. Exercises will demonstrate basic plant biochemical and biophysical mechanisms and responses to environmental stress. Three and one-half hours of lab per week.

260 Vertebrate Biology (3)

Prerequisites: Biology 11 and 12. Development, structure, function, interrelationships, and zoogeography of vertebrate animals with particular attention to phylogenetic aspects. Three hours of lecture per week.

262 Vertebrate Biology Laboratory (2)

Prerequisite: Biology 260 (may be taken concurrently). Laboratory to accompany Biology 260. 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 Invertebrate Biology (3)

Prerequisites: Biology 11 and 12. 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 Invertebrate Biology Laboratory (2)

Prerequisite: Biology 264 (may be taken concurrently). Laboratory to accompany Biology 264. 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.

276 Biological Chemistry (3)

Prerequisites: Biology 11 and 12 and Chem 261. The chemistry and function of the living cell and its constituents, and the interactions and conversions of intracellular substances. Three hours of lecture and one hour of discussion per week.

278 Biological Chemistry Laboratory (2)

Prerequisite: Biology 276 (may be taken concurrently). Experiments designed to illustrate biochemical principles and modern biochemical procedures. Three and one-half hours of laboratory per week.

280 Animal Behavior (3)

Prerequisites: Biology 11 and 12. The study of invertebrate and vertebrate behavior, including developmental, genetic, and ecological aspects of behavior; behavior interactions within and between populations. Three hours of lecture per week.

282 Animal Behavior Laboratory (2)

Prerequisite: Biology 280 (may be taken concurrently). Observational and experimental studies of animal behavior in the field and laboratory. Three and one-half hours of laboratory per week.

285 Curriculum and Methods of Teaching Life Sciences (4)

(Same as SEC ED 285.) Prerequisites: SEC ED 213 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 Laboratory in Teaching Life Sciences (2)

(Same as SEC ED 286.) Prerequisite: SEC ED 213. Discussion, development, utilization, and evaluation of equipment, materials, and techniques applicable to instruction in the life sciences. Must be taken concurrently with Biology 285/SEC ED 285.

300 Radiation Safety in Biological Research (2)

Prerequisite: Consent of instructor. A description of the basic principles of radiation safety and the more important numerical data upon which the practice of radiation safety is based. Topics include interaction of radiation with matter, biological effects of radiation, operation of field and laboratory instruments, and control of exposure. Both ionizing and nonionizing radiation will be discussed. Two hours of lecture/demonstration per week.

303 Biotechnology Colloquium (1)

Prerequisite: Must be enrolled in biotechnology certificate program. Weekly seminars by outside speakers who will focus on biotechnology. Speakers will discuss current research in biotechnology, new applications of biotechnology in medicine and agriculture, safety issues, federal compliance standards, and patenting of biotechnology products. May be repeated for a maximum of two credit hours.

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309a Introduction to Cytology (5)

Prerequisites: Biology 210, 212, and 224, Math 35, and acceptance to the Cytotechnology program at Barnes Hospital. Orientation to the profession of cytotechnology including basic cell biology, ethics, the microscope, history of the profession. Also basic concepts of pathology are introduced including normal, benign proliferative inflammatory, and reparative processes. The cellular alterations caused by these processes are introduced using the female genital system. The histology, anatomy, and endocrine system of the female genital tract are also covered. Microscopy of this section includes proper use and care of the microscope, hormonal cytology, and the range of normal reparative reactions. The recognition of specific infectious agents and/or their cellular manifestations is also included using the female genital tract as the body system under investigation. Units include Orientation; Hormonal Cytology; Cytotechnology and the Microscope; Basic Cell Structure; Anatomy, Histology, Normal Cytology, and Benign Proliferative Cytology; and Inflammation and Repair. Thirty hours of lectures per week and 20 hours of laboratory per week for six weeks. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

309b Neoplasia in the Female Genital Tract I (5)

Prerequisites: 309a and acceptance to the Cytotechnology Program at Barnes Hospital. The pathologic concepts of neoplasia, the morphogenesis of carcinoma, and the cellular changes associated with both premalignant and malignant changes of squamous cell lesions in the cervix are studied. Microscopy in this section includes pre-screening of clinical case load identifying normal and abnormal cellular criteria. Units include Dysplasia; CIS; and Carcinoma of the Uterine Cervix. 20 hours of lecture per week and 20 hours of laboratory per week for six weeks. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

309c Neoplasia in the Female Genital Tract II (6)

Prerequisites: 309b and acceptance to the Cytotechnology Program at Barnes Hospital. Emphasis on lesions of the uterine corpus, metastatic lesions, and lesions of the vulva and vagina. Also treatment effect and pregnancy changes are included in this section. Practical microscopy is also continued with the pre-screening of clinical cases. Units include Diseases of the Uterine Corpus; Cytogenetics and Endocrinopathies; Radiation Effect, Metastatic Disease, Pregnancy Changes, and Diseases of the Vulva and Vagina; Review; and Comprehensive GYN Examination. Fifteen hours of lecture per week and 25 hours of laboratory per week for seven weeks. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

309d The Processing Laboratory (3)

Prerequisites: 309c and acceptance to the Cytotechnology program at Barnes Hospital. Lectures include routine procedures for receipt, staining, coverslipping, and filing of GYN and non-GYN specimens; centrifugation, filtration, special stains, laboratory safety, quality control, and the organization of a laboratory are also covered. Clinical

laboratory includes time working under the direct supervision of a cytotechnologist practicing laboratory techniques and procedures for the processing of all GYN and non-GYN specimens. Laboratory safety, quality control, and management procedures are also practiced. Microscopy during this time includes further practice in the pre-screening of GYN specimens while increasing speed and accuracy of the diagnosis. Five hours of lecture per week and 35 hours of laboratory per week for four weeks. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

309e Respiratory and Oral Cytology (3)

Prerequisites: 309d and acceptance to the Cytotechnology program at Barnes Hospital. This course is designed to acquaint the student with the normal, benign, and malignant changes of the upper and lower respiratory tract and the oral cavity. The anatomy, histology, and cytology of each of the body sites is studied, as well as infectious agents common to these sites. Microscopy includes pre-screening GYN material while further increasing speed and accuracy. Respiratory and oral specimens are so included in the practical microscopy. Students rotate through the processing laboratory. Ten hours of lecture per week and 30 hours of laboratory per week for three weeks. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

309f Effusion, CSF, and Miscellaneous Cytology (3)

Prerequisites: 309e and acceptance to the Cytotechnology program at Barnes Hospital. This course includes the cytology of the reticulo-endothelial system, effusions, CSF, and other miscellaneous fluids. Normal, benign, and malignant cellular are covered, as well as the anatomy and histology of each body site. Microscopy includes further practice in GYN material and all non-GYN specimens studied to this point. Students continue to rotate through the processing laboratory. Five hours of lecture per week and 35 hours of laboratory per week for four weeks. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

309g GI, Breast, GU, and FAN Cytology (6)

Prerequisites: 309f and acceptance to the Cytotechnology program at Barnes Hospital. This course includes the cytology of the GI system, the breast, the urinary tract, and other miscellaneous body sites. The anatomy and histology of each of the body sites is studied; cellular criteria for benign, normal, and malignant changes are introduced. Advanced topics such as aspiration cytology will also be covered. Microscopy includes further practice in the pre-screening of GYN material, as well as all non-GYN material studied to this point. Students continue to rotate through the processing laboratory. Units include Breast; Urine; and FNA Cytology; as well as the Non-GYN Review and Comprehensive Examination. Five hours of lecture per week and 35 hours of laboratory per week for six weeks. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

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309h Scientific Methods and Literature in Cytology (1)

Prerequisites: 309g and acceptance to the Cytotechnology program at Barnes Hospital. This course will focus on the scientific method and research tools as used in recent journal articles. Discussion will specifically focus on critical evaluation of the conclusions presented and the evidence used to support those conclusions. Also, data retrieval will be practiced as the students research and write a paper on a cytology-related topic. Unit includes the Scientific Method and Research and Data Retrieval in Cytology. Eight seminar hours and 50 hours for writing an independent research paper. Taken concurrently with 309i, Advance Practices in Cytology. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

309i Advance Practices in Cytology (3)

Prerequisites: 309g and acceptance to the Cytotechnology program at Barnes Hospital. Microscopy includes further practice in the screening of all GYN and non-GYN material at professional entry levels of speed and accuracy. Students continue to rotate through the processing laboratory and participate in case conference. Thirty-five hours of laboratory per week for eight weeks taken concurrently with 309h, Scientific Methods and Literature in Cytology. Offered exclusively for students meeting Cytotechnology requirements in the NAACLS accreditation program at Barnes Hospital.

310 Cell Physiology (3)

Prerequisite: Biology 276 (Biology 210 recommended). A study of cellular functions and their relationship to the structural and chemical properties of cellular components. Areas discussed: the cell and its environment, energy flow, exchange of materials across membranes, information transfer within and between cells, and cellular aspects of movement. Three hours of lecture per week. Students may not receive credit for both Biology 310 and 410.

311 Physiology of Aging (3)

Prerequisites: Biology 11, 12, and 213 or equivalent, or consent of instructor. (Same as Gerontology 311). An overview of the aging process in animal populations with special emphasis on physiological changes that occur with human aging. Current theories as to the mechanism of aging are considered and critically evaluated in view of recent research findings. Premature aging diseases and age-related diseases are discussed. Three hours of lecture per week.

312a Hematology and Coagulation (7)

Prerequisites: Biology 213 and acceptance to medical technology program at area hospitals. A study of the formed elements of the blood. Erythrocytes, leukocytes, and platelets are studied to aid in the diagnosis and treatment of disorders which cause changes in numbers, maturation, and morphological characteristics of these cells. Anemias, leukemias, as well as other blood dyscrasias, and some coagulation defects are identified through these studies. Coagulation studies done in this division identify factors in the plasma which deal with the clotting mechanism of the blood. Studies are done to identify and treat coagulation disorders in patients, as well as to

monitor anticoagulant therapy. Seven and one-half hours of lecture per week (for eight weeks) and thirty-four and two-thirds hours of laboratory per week (for nine weeks). Offered exclusively for students meeting medical technology requirements in an NAACLS accredited program at area hospitals.

312b Transfusion Services Immunohematology (7)

Prerequisites: Biology 317 and acceptance to medical technology program at area hospitals. A course that teaches the student all the necessary testing needed for a patient to receive a safe blood transfusion. Tests included are serological methods for compatibility testing, ABO, Rh, and other antibody studies on blood to be transfused, and prenatal studies to identify antibodies which cause hemolytic diseases in the newborn. Eleven and one-half hours of lecture per week (for eight weeks) and 31 hours of laboratory per week (for six weeks). Offered exclusively for students meeting medical technology requirements in an NAACLS accredited program at area hospitals.

312c Clinical Microbiology and Serology (11)

Prerequisites: Biology 216 and 218 and acceptance to medical technology program at area hospitals. The study of bacteriology, parasitology, and mycology. The primary function is to identify and distinguish between disease-causing and normal microorganisms. Once potentially pathogenic organisms have been isolated and identified, the sensitivity of an organism to antimicrobial drugs is determined. To identify these organisms, techniques are used which show growth requirements, morphology, and staining characteristics. Serological tests are also conducted to study antigen-antibody reactions in vitro. These reactions are used to identify a number of specific bacterial, rickettsial, viral, and autoimmune diseases. Some of the types of testing in the area include precipitation, agglutination, complement fixation, immunofluorescence, and radio immunoassay. Fourteen hours of lecture per week (for eight weeks) and 29 hours of laboratory per week (for 16 weeks). Offered exclusively for students meeting medical technology requirements in an NAACLS accredited program at area hospitals.

312d Clinical Biochemistry (11)

Prerequisites: Biology 276 and acceptance to medical technology program at area hospitals. A study of the chemical basis of biological systems. It encompasses components found in body fluids, the most common being urine and plasma or serum. Some of the chemical constituents of blood studied are glucose, enzymes, proteins, nonprotein nitrogens, lipids, hormones, and some toxic substances. Instrumentation used in this area includes spectrophotometers, flame photometers, atomic chromatographs, electrophoresis, and gamma and beta counters. Nine hours of lecture per week (for 14 weeks) and forty-two and one-half hours of laboratory per week (for 14 weeks). Offered exclusively for students meeting medical technology requirements in an NAACLS accredited program at area hospitals.

312e Special Topics (0)

Prerequisites: Junior or senior standing and acceptance to medical technology program at area hospitals. A series of lectures in medical technology, education, and laboratory

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administration, as well as some review sessions. Offered exclusively for students meeting medical technology requirements in an NAACLS accredited program at area hospitals.

313 Comparative Animal Physiology (3)

Prerequisite: Biology 213. The unity and diversity of physiological mechanisms found throughout the animal kingdom. Three hours of lecture per week. Students may not receive credit for both Biology 313 and 413.

314 Environmental Physiology (3)

Prerequisite: Biology 213. 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 and 414.

315 Comparative and Environmental Physiology Laboratory (2)

Prerequisite: Biology 313 or 314. An open-ended laboratory course to accompany either Biology 313 or Biology 314.

316 Parasitology (3)

Prerequisites: Biology 11 and 12, 10 additional hours of biology and upper-division standing. Biology 210 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 Immunobiology (3)

Prerequisites: Biology 276 and Chem 261. 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 Immunobiology Laboratory (2)

Prerequisite: Biology 317 (may be taken concurrently). Basic experimental procedures in immunology. Introduction to experimental evidence underlying concepts of immunology. Three and one-half hours of laboratory per week.

320 Neurophysiology (3)

Prerequisite: Biology 213 or consent of instructor. A study of cellular neurophysiology including initiation, propagation, and transmission of nervous signals. Three hours of lecture per week.

322 Neurophysiology Laboratory (2)

Prerequisites: Biology 320 (may be taken concurrently) and consent of instructor. Experiments designed to accompany Biology 320. Techniques and special research problems emphasized.

326 Gene Expression in Eukaryotes (3)

Prerequisites: Biology 224 and 276. A discussion of the current concepts of molecular biology as they apply to understanding genetic regulation of DNA, RNA, and protein synthesis and function in the cell. Three hours

of lecture per week. Students may not receive credit for both Biology 326 and 426.

328 Techniques in Molecular Biology (5)

Prerequisites: Biology 224 and 326 or consent of instructor. An in-depth look at theory and practice of current technologies in molecular biology. Topics covered will include nucleic acid isolation, construction of gene clones and libraries, maintenance of cloned genes, vector analysis, restriction endonuclease mapping, Northern and Southern blotting, nucleic acid hybridization and electrophoresis. Laboratory will present hands-on experience with these techniques. Three hours of lecture and three and one-half hours of laboratory per week. Students may not receive credit for both Biology 328 and 428.

329 Molecular Evolution (3)

Prerequisite: Biology 246 or 342, and Biology 326 or 338, or consent of instructor. This course provides lectures and class discussions concerning the evolutionary processes that have changed the genetic material over time. This course will include the dynamics of genes in populations and several aspects of evolutionary change at the molecular level. Students may not receive credit for both Biology 329 and 429.

330 Topics in Development (3)

Prerequisite: Biology 235. Discussion of selected model systems that are not generally covered in an introductory level course in Development, as well as current views of concepts that are basic to the analysis of the mechanisms of development. Three hours of lecture per week. Students may not receive credit for both Biology 330 and 430.

332 Advanced Development Laboratory (2)

Prerequisite: Biology 330 (may be taken concurrent y). Instruction and practice in the application of experimental techniques to the study of development. Three and one-half hours of laboratory per week to be arranged.

334 Virology (3)

Prerequisites: Biology 216 and 224. 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 and 434.

335 Molecular Cell Biology (3)

Prerequisites: Biology 326 or 338 and 276. This course is designed to explore the structural organization and processes in living cells. Topics of discussion will include gene product processing and transport, organelle biogenesis and assembly, cell-cell communication, control of gene expression, cytoskeletal structure and function, and normal and abnormal cell differentiation. Particular attention will be given to discussion of the current literature. This course is also designed to help unify genetics, biochemistry, and physiology. Three hours of lecture per week. Students may not receive credit for both Biology 335 and 435.

336 Virology Laboratory (2)

Prerequisite: Biology 334 (may be taken concurrently). Laboratory to accompany Biology 334. Three and one-half hours of laboratory per week.

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338 Gene Expression in Prokaryotes (3)

Prerequisites: Biology 216 and 224. The principles and mechanisms of inheritance and transfer of genetic material in microorganisms. Includes the study of mutation, gene transfer, and genetic manipulation of microorganisms. Three hours of lecture per week. Students may not receive credit for both Biology 338 and 438.

342 Population Biology (3)

Prerequisite: Biology 224 (Biology 220 recommended). The structure, operation, and evolution of populations. Three hours of lecture per week.

344 Gene Activity During Development (3)

Prerequisites: Biology 235 and 326 or consent of instructor. Discussion of selected experimental systems in which molecular genetic and cell biological approaches have provided insights about the genes and/or gene products that regulate animal development. Three hours of lecture per week. Students may not receive credit for both Biology 344 and 444.

347 Practicum in Conservation (3)

Prerequisites: Biology 240 and 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 Evolution of Animal Sociality (3)

Prerequisite: Biology 280, 220 or 342 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 and 448.

350 Plant Environmental Physiology (3)

Prerequisites: Biology 254 and 276 or consent of instructor. An examination of plant physiological acclimation and Darwinian adaptation in variable environments. Three hours of lecture per week. Students may not receive credit for both Biology 350 and 450.

352 Plant Environmental Physiology Laboratory (2)

Prerequisite: Biology 350 (may be taken concurrently). Laboratory to accompany Biology 350. Exercises will include measurement and analysis of energy budgets, gas exchange, and acclimation to drought. Two field trips will be taken late in the spring to study physiological parameters in the field. Three and one-half hours of laboratory per week. Students may not receive credit for both Biology 352 and 452.

354 Entomology (3)

Prerequisites: Biology 11 and 12, 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.

356 Entomology Laboratory (2)

Prerequisite: Biology 354 (may be taken concurrently). Laboratory to accompany Biology 354. 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.

358 Evolutionary Ecology of Plants (3)

Prerequisites: Biology 224 and 220, or 342, or 246. This course will explore topics concerning evolution in natural plant populations emphasizing current empirical research on the genetics and ecology of plant populations. Specific topics will include natural selections and local adaptations, gene flow through pollination and seed dispersal, role of genetic drift, coevolution between plants and animals, molecular evolution, speciation, conservation of natural populations, and artificial selection. Students may not receive credit for both Biology 358 and 458. Three hours of lecture per week.

359 Evolutionary Ecology of Animals (3)

Prerequisites: Biology 220, 280, and one of 224, 246; or their equivalents; or permission of instructor. This course examines the interactions of the evolutionary forces that determine the distribution and abundance of animals. It explores the patterns and processes in populations and communities that should elucidate the degree to which organic evolution can be ascribed to natural selection and/or random events. Analysis of the theoretical constructs of evolutionary ecology and an examination of the empirical evidence from primary sources that claim to support or refute these theories will also be covered. Students may not receive credit for both Biology 359 and 459. Three hours of lecture per week.

360 Techniques in Electron Microscopy (5)

Prerequisites: Biology 210 and consent of instructor. 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. Two hours of lecture per week and seven hours of laboratory per week to be arranged.

361 Plant Molecular Biology (3)

Prerequisites: Biology 326 or 338, or consent of instructor. Topics will include plant genome organization, gene structure and regulation, signal transduction mechanisms, the molecular basis of development, plant-microbe interactions, and organellar (chloroplast and mitochondria) gene expression. Three hours of lecture per week. Students may not receive credit for both Biology 361 and 461.

362 Plant Taxonomy (4)

Prerequisites: Biology 250 or consent of instructor. The history, literature and methodology of plant taxonomy,

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emphasizing the flowering plants or angiosperms. Modern methods, e.g., phenetics, cladistics, and vicariance biogeography will also be covered. The labs will feature most angiosperm groups, using living and herbarium material. Two hours of lecture and three and one-half hours of laboratory per week.

364 Ornithology (3)

Prerequisites: Biology 220 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.

366 Ornithology Laboratory (2)

Prerequisite: Biology 364 (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.

368 Quantitative Methods in Plant Ecology (4)

Prerequisite: Biology 220 or consent of instructor. Lectures and assigned readings will cover sampling and analytic techniques for soils and plant material. Laboratories will include practice in the technique of plant demography, selection analysis, habitat description, and analysis of communities. Attention will be given to experimental design and statistical treatment and interpretation of ecological data. Students will design and execute an independent laboratory or field study. One-hour lecture and four and one-half hours of laboratory per week. This course fulfills a laboratory requirement. Students may not receive credit for both Biology 368 and 468.

370 General and Comparative Endocrinology (3)

Prerequisite: Biology 213 (Biology 276 recommended). A survey of chemical coordinating mechanisms with special emphasis on the evolution of hormonal control systems. Three hours of lecture per week. Students may not receive credit for both Biology 370 and 470.

372 General and Comparative Endocrinology Laboratory (2)

Prerequisite: Biology 370 (may be taken concurrently). An introduction to techniques and procedures used in endocrine research. Three and one-half hours of laboratory per week.

376 Topics in Biological Chemistry (3)

Prerequisite: Biology 276. 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 Topics in Biological Chemistry Laboratory (2)

Prerequisite: Biology 278 or consent of instructor. Independent projects related to analytical and metabolic control, using advanced analytical and synthetic procedures. Three and one-half hours of laboratory per week.

380 Behavioral Ecology (3)

Prerequisite: Biology 280 (Biology 220 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 and 480.

381 Theoretical Systematics and Evolution (3)

Prerequisite: Biology 342 or equivalent. Mechanisms of speciation, the role of such phenomena as isolation, hybridization, polyploidy, gene flow, and breeding systems in the evolution and maintenance of species and modern theoretical systematics in phylogenetic reconstructions. Three hours of lecture per week. Students may not receive credit for both Biology 381 and 481.

382 Ecological and Evolutionary Behavior Laboratory (2)

Prerequisite: Biology 380 (may be taken concurrently). Observational and experimental studies of animal behavior in the field and laboratory. Three and one-half hours of laboratory per week.

383 Introduction to Geographic Information Systems (3)

Prerequisite: Biology 220, Biology 388 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. 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. Three hours of combined lecture and computer operations per week. Students may not receive credit for both Biology 383 and Biology 483.

385 Wildlife Ecology and Conservation (3)

Prerequisites: Biology 220 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

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included. Three hours of lecture per week.

386 Wildlife Ecology and Conservation Laboratory (2)
Prerequisite: Biology 385 (may be taken concurrently) or consent of instructor. This course will provide field and laboratory experiences to accompany Biology 385. 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 Tropical Ecology and Conservation (3)
Prerequisite: Biology 220, 342, 442, or 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 development of strategies leading to sustained use of nonrenewable resources. Students may not receive credit for both Biology 387 and 487. Three hours of lecture per week.

388 Biometry (3)
Prerequisites: Math 30 and a minimum of 15 hours in biology. This course 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-hour lecture. This course fulfills the statistics requirement for the B.A. or B.S. degree in biology. Students may not receive credit for both Biology 388 and 488.

389 Senior Seminar (2)
Prerequisite: Senior standing. Required of biology majors. Presentation of selected papers by students. May not be taken for graduate credit.

390 Research (1-3)
Prerequisite: Consent of the Biology 390 course coordinator. Generally restricted to junior or 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 five credit hours. No more than two credit hours may be applied toward the minimum number of biology course credits for the major in biology.

392 Selected Topics (1-10)
Prerequisites: Junior standing and consent of instructor. Selected topics in biology. The topics will vary each semester. Topics available in the departmental office. Credit arranged. May be taken more than once for credit.

395 Field Biology (3)
Prerequisites: 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 and 440.

396 Marine Biology (3)
Prerequisite: Biology 264 (Biology 266 recommended). A survey of the major groups of marine plants and animals and their interactions in the various North American marine communities. Three hours of lecture per week.

398 Marine Biology Laboratory (2)
Prerequisites: Biology 396 (may be taken concurrently) and consent of instructor. Intensive laboratory and field study of selected North American marine communities. Consult the instructor for area to be visited. Students must pay their own travel and living expenses.

399 Science Teaching Intern Seminar (3)
Prerequisites: Biology 285 and 286. Addresses the application of educational philosophy, science curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, SEC ED 290.

401 Current Topics in Biology (1)
Prerequisite: Graduate standing. An introduction to advanced topics in biology as seen through the eyes of the faculty. Faculty members will discuss current research in their area of interest and will review research being conducted in the department. One and one-half hours of lecture and discussion per week. Required of all graduate students.

403 Biology Colloquium (1)
Prerequisite: Biology 401. Presentation of papers by students, faculty, and invited speakers. One hour per week. May be repeated for a maximum of three credit hours.

405 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 three credit hours. One hour per week.

406 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 three credit hours. One hour per week.

407 Topics in Floristic Taxonomy (1)
Prerequisite: Biology 250 or equivalent, and graduate standing. Seminar course in systematics of higher plants,

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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.

408 Museum Methods in Biological Research (1)

Prerequisites: Graduate standing and consent of instructor. Hands-on training will teach methods in the preparation and preservation of research specimens and the recording and cataloging of associated data. Students will learn basic techniques for higher and lower vertebrates, invertebrates, insects, and plants. Each student will prepare representative specimens of all groups studied. The relationship between museum preservation and research programs in systematics, ecology, and behavior will be emphasized. Two hours of lecture-demonstration a week.

410 Advanced Cell Physiology (3)

Prerequisite: Biology 276 (Biology 210 recommended). An advanced study of cellular functions and their relationships to the structural and chemical properties of cellular components. Areas discussed: the cell and its environment, energy flow, exchange of materials across membranes, information transfer within and between cells, and cellular aspects of movement. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 310 and Biology 410.

413 Advanced Comparative Animal Physiology (3)

Prerequisite: Biology 213. Advanced aspects of the unity and diversity of physiological mechanisms found through the animal kingdom. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 313 and 413.

414 Advanced Environmental Physiology (3)

Prerequisite: Biology 213. 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 and 414.

417 Advanced Immunology (3)

Prerequisite: Biology 317. 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.

426 Advanced Gene Expression in Eukaryotes (3)

Prerequisites: Biology 224 and 276. An advanced discussion of the current concepts of molecular biology as they apply to understanding genetic regulation of DNA, RNA, and protein synthesis and function in the cell. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 326 and 426.

428 Advanced Techniques in Molecular Biology (5)

Prerequisites: Biology 224 and 326 or consent of instructor. An in-depth look at theory and practice of current technologies in molecular biology. Topics covered will include nucleic acid isolation, construction of gene clones

and libraries, maintenance of cloned genes, vector analysis, restriction endonuclease mapping, Northern and Southern blotting, nucleic acid hybridization and electrophoresis. Laboratory will present hands-on experience with these techniques. Three hours of lecture, three and one-half hours of laboratory, and one hour of seminar per week. Students will participate in a weekly seminar where techniques used to address research projects will be discussed. Students may not receive credit for both Biology 328 and 428.

429 Advanced Molecular Evolution (3)

Prerequisite: Biology 246 or 342, and Biology 326 or 338, or consent of instructor. Advanced lectures and class discussions concerning the evolutionary processes that have changed the genetic material over time. This course will include the dynamics of genes in populations and several aspects of evolutionary change at the molecular level. Students may not receive credit for both Biology 329 and 429.

430 Advanced Topics in Development (3)

Prerequisite: Biology 235. Discussion of selected model systems that are not generally covered in an introductory level course in Development, as well as current views of concepts that are basic to the analysis of the mechanisms of development. Three hours of lecture and one hour of discussion or seminar per week. Students may not receive credit for both Biology 330 and 430.

431 Graduate Internship in Biotechnology (1-4)

Prerequisite: Graduate standing and enrollment in graduate Biotechnology Certificate Program. 6 Credit hours maximum (maximum of 8 combined credit hours of 490 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 or 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.

434 Advanced Virology (3)

Prerequisites: Biology 216 and 224. 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 and 434.

435 Advanced Molecular Cell Biology (3)

Prerequisite: Biology 326 or 338 and Biology 276, or equivalent. This course is designed to explore the structural organization and processes in living cells. Topics of discussion will include gene product processing and transport, organelle biogenesis and assembly, cell-cell communication, control of gene expression, cytoskeletal structure and function, and normal and abnormal cell differentiation. Particular attention will be given to discussion of the current literature. This course is also designed to help unify genetics, biochemistry, and physiology. Three hours of lecture, one hour of discussion per week. Students may not receive credit for both Biology 335 and 435.

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438 Advanced Gene Expression in Prokaryotes (3)

Prerequisites: Biology 216 and 224. Advanced aspects of the principles and mechanisms of inheritance and transfer of genetic material in microorganisms. Includes the study of mutation, gene transfer, and genetic manipulation of microorganisms. Three hours of lecture, one hour discussion or seminar per week. Students may not receive credit for both Biology 338 and 438.

440 Ecological Research in Temperate Zones (3)

Prerequisites: Graduate standing and consent of instructor. This course will visit several temperate ecosystems with the objectives of learning about the natural history of these areas together with learning how to design projects and conduct field research addressing current ecological theories in a temperate setting. Several faculty members will participate in this course. Temperate sites to be visited will likely include Missouri Ozarks, Great Smoky Mountains, Indiana dunes, and southern Illinois bottomland and cypress swamp forest. Students will be required to pay costs of travel and of field trips. Students may not receive credit for both Biology 395 and 440. Two hours of discussion (during weekday), four-six weekend field trips (leave Friday, return Sunday), and several (2-4) Saturday field trips during first eight weeks of semester.

442 Population and Community Ecology (3)

Prerequisite: Biology 220 or 342 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 lecture per week.

444 Advanced Gene Activity During Development (3)

Prerequisites: Biology 235 and 326/426 or consent of instructor. Advanced discussion of selected experimental systems in which molecular genetic and cell biological approaches have provided insights about the genes and/or gene products that regulate animal development. Three hours of lecture and one hour of discussion per week. Students may not receive credit for both Biology 344 and Biology 444.

445 Public Policy of Conservation and Sustainable Development (3)

(Same as PolSci 452.) Prerequisites: 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 environmental policy-making in developing and developed economies.

446 Theory and Application of Conservation Biology (3)

Prerequisite: Biology 342, 442, 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 Internship in Conservation Biology (1-4)

Prerequisites: Biology 445 or 446 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 Advanced Evolution of Animal Sociality (3)

Prerequisite: Biology 280, 220, or 342 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 and 448.

450 Advanced Plant Environmental Physiology (3)

Prerequisites: Biology 254 or 276 or consent of instructor. An examination of advanced aspects of plant physiological acclimation and Darwinian adaptation in variable environments. A formal research paper on a topic concerning the environmental physiology of plants will be required. Students may not receive credit for both Biology 350 and 450.

452 Advanced Plant Environmental Physiology Lab (2)

Prerequisite: Biology 450 (may be taken concurrently). Laboratory to accompany Biology 450. Exercises will include detailed measurement and analysis of energy budgets, gas exchange, and acclimation to drought. Two field trips will be taken late in the spring to study physiological parameters in the field. A research project involving the greenhouse, laboratory or computer facilities will be required. Meets three and one-half hours per week. Students may not receive credit for both Biology 352 and 452.

458 Advanced Evolutionary Ecology of Plants (3)

Prerequisites: Biology 224, 220 or 342, or 246 or their equivalent. This course will explore topics concerning evolution in natural plant populations, emphasizing current empirical research on the genetics and ecology of plant populations. Specific topics will include natural selection and pollination and seed dispersal, role of genetic drift, coevolution between plants and animals, molecular evolution, speciation, conservation of natural populations, and artificial selection. A formal research paper on a topic concerning the evolutionary ecology of plants will be required. Students may not receive credit for both Biology 358 and 458. Three hours of lecture per week.

459 Advanced Evolutionary Ecology of Animals (3)

Prerequisites: Biology 220, 280 and one of 224, 246; or their equivalents; or permission of instructor. This course examines the interactions of the evolutionary forces that determine the distribution and abundance of animals. It explores the patterns and processes in populations and

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communities that should elucidate the degree to which organic evolution can be ascribed to natural selection and/or random events. Analysis of the theoretical constructs of evolutionary ecology and an examination of the empirical evidence from primary sources that claim to support or refute these theories will also be covered. A formal paper in the form of an NSF research proposal on a topic concerning the evolutionary ecology of animals will be required. Students may not receive credit for both Biology 359 and 459. Three hours of lecture per week.

461 Advanced Plant Molecular Biology

Prerequisites: Biology 326 or 338, or consent of instructor. Topics will include plant genome organization, gene structure and regulation, signal transduction mechanisms, the molecular basis of development, plant-microbe interactions, and organellar (chloroplast and mitochondria) gene expression. Three hours of lecture per week. Independent research topics will also be assigned, to be presented in the form of written reports or seminars. Students may not receive credit for both Biology 361 and Biology 461.

465 Methods in Plant Systematics (4)

Prerequisites: Biology 362 or consent of instructor. A techniques course covering the use of anatomical, cytological, chemical, palynological and numerical methods in taxonomic research. Herbarium management, databases, scientific publication and library techniques will also be covered. Two hours of lecture and discussion and three and one-half hours of laboratory per week.

468 Advanced Quantitative Methods in Plant Ecology (4)

Prerequisites: Biology 220 or consent of instructor. Lectures and assigned readings will cover sampling and analytic techniques for soils and plant material. Laboratories will include practice in the technique of plant demography, selection analysis, habitat description and analysis of communities. Attention will be given to experimental design and statistical treatment and interpretation of ecological data. Students will design and execute an independent laboratory or field study. One-hour lecture, four and one-half hours of laboratory, and one-hour discussion per week. This course fulfills a laboratory requirement. Students may not receive credit for both Biology 368 and 468.

470 Advanced General and Comparative Endocrinology (3)

Prerequisite: Biology 213 (Biology 276 recommended). An advanced survey of chemical coordinating mechanisms with special emphasis on the evolution of hormonal control systems. Three hours of lecture, one hour discussion or seminar per week. Students may not receive credit for both Biology 370 and 470.

474 Hormones, Pheromones, and Behavior (3)

Prerequisites: Biology 213 and 280 required, Biology 370 recommended. This course will survey the hormonal and phenomenal control of behavior in both invertebrates (annelids, arthropods, and molluscs) and vertebrates (from fish to primates). Particular attention will be given to organizational and activational effects of hormones on sexual, parental, and aggressive behaviors. Interactions

between hormonal, pheromonal, and neural control of behavior will be discussed. Three hours of lecture per week.

480 Advanced Behavioral Ecology (3)

Prerequisite: Biology 280 (Biology 220 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 and 480.

481 Advanced Theoretical Systematics and Evolution (3)

Prerequisite: Biology 342 or equivalent. Advanced aspects of mechanisms of speciation, the role of such phenomena as isolation, hybridization, polyploidy, gene flow and breeding systems in the evolution and maintenance of species, and modern theoretical systematics in phylogenetic reconstruction. Three hours of lecture, one hour of discussion or seminar per week. Students may not receive credit for both Biology 381 and 481.

483 Applications of Geographic Information Systems (3)

Prerequisite: Biology 220, Biology 388 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. 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 and Biology 483.

485 Problems in Teaching College Biology (3)

(Same as ADU ED 435.) Prerequisites: 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 Techniques in Teaching Biology for Graduate Students (2)

(Same as SEC ED 486.) Prerequisites: Graduate standing and teaching assignment. Discussion and practice of techniques specific to instruction in the life sciences. Consideration will be given to teaching strategies, curriculum design, evaluation, instrumentation, and student-teacher interaction. Recommended for all graduate students with teaching assistantships.

Biology

487 Advanced Tropical Ecology and Conservation (3)

Prerequisite: Biology 220, or 342, or 442, 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 development of strategies leading to sustained use of nonrenewable resources. A research proposal designed to investigate a current topic in tropical ecology will be required. Students may not receive credit for both Biology 387 and 487. Three hours of lecture per week.

488 Advanced Biometry (3)

Prerequisites: Math 30 and a minimum of 15 hours in biology. This course reviews descriptive, analytic, 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. In addition to the take-home assignments and exams, students will be required to analyze a problem of their choice. This can be an analysis of published material or unpublished, original research. Three-hour lecture, one-hour discussion per week. Students may not receive credit for both Biology 388 and 488.

489 Graduate Seminar (2)

Presentation and discussion of various research problems in biology. Graduate student exposure to the seminar process.

490 Graduate Research in Biology (1-10)

Research in area selected by student in consultation with faculty members. May be taken for a maximum of ten hours.

491 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 member.

492 Topics in Biology (2-5)

In-depth studies of selected topics in contemporary biology. May be repeated. Three hours of lecture per week.

Chemistry

Faculty

Lawrence Barton, Professor*; Chairperson
Ph.D., University of Liverpool

Gordon K. Anderson, Professor*
Ph.D., University of Glasgow

James S. Chickos, Professor*
Ph.D., Cornell University

Joyce Y. Corey, Professor*
Ph.D., University of Wisconsin

David W. Larsen, Professor*
Ph.D., Northwestern University

Robert W. Murray, Curators' Professor*
Ph.D., Yale University

Robert I. Stearns, Adjunct Professor
Ph.D., Tulane University

Charles W. Armbruster, Adjunct Associate Professor
Ph.D., Washington University

Valerian T. D'Souza, Associate Professor*
Ph.D., University of Detroit

Joseph B. Dence, Adjunct Associate Professor
Ph.D., California Institute of Technology

David L. Garin, Associate Professor*; Interim Director,
Center for Science and Technology
Ph.D., Iowa State University

Harold H. Harris, Associate Professor*
Ph.D., Michigan State University

Wesley R. Harris, Professor*
Ph.D., Texas A. and M. University

Jane A. Miller, Associate Professor Emeritus*
Ph.D., Tulane 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

William P. Ridley, Adjunct Associate Professor
Ph.D., University of Minnesota

William J. Welsh, Associate Professor*
Ph.D., University of Pennsylvania

Rudolph E.K. Winter, Associate Professor*; Director of
Graduate Studies
Ph.D., The Johns Hopkins University

Lee Brammer, Associate Professor*
Ph.D., University of Bristol

Lawrence Brannigan, Adjunct Associate Professor
Ph.D., Vanderbilt University

Daniel T. Connolly, Adjunct Associate Professor
Ph.D., The Johns Hopkins University

Dennis Moore, Adjunct Assistant Professor
Ph.D., Washington University

James J. O'Brien, Associate Professor*
Ph.D., Australian National University

F. Christopher Pigge, Assistant Professor
Ph.D., University of North Carolina

Raghavan Rajagopalan, Adjunct Assistant Professor*
Ph.D., Columbia University

Nigam P. Rath, Research Assistant Professor
Ph.D., Oklahoma State University

Christopher D. Spilling, Associate Professor*
Ph.D., The University of Technology, Loughborough

Keith J. Stine, Associate Professor*
Ph.D., Massachusetts Institute of Technology

Janet B. Wilking, Research Assistant Professor
Ph.D., Washington University

Zhi Xu, Assistant Professor*
Ph.D., University of Pittsburgh

John Gutweiler, Lecturer
Ph.D., St. Louis University

Mark Schuermann, Lecturer
M.S., University of Notre Dame

William H. Stegmann, Lecturer
M.S., Southern Illinois University

Adewole OKunade, Research Associate
Ph.D., University of Ibadan

Ian M. Brown, Research Professor of Chemistry & Physics
Ph.D., University of St. Andrews

Elizabeth Collantes, Research Associate
Ph.D., University of Illinois-Chicago

Sudha Cowsik, Research Associate
Ph.D., All India Institute of Medical Sciences

Hong Fang, Research Associate
Ph.D., University of Missouri-St. Louis

Guoxin He, Research Associate
Ph.D., University of Illinois-Chicago

Kaliappan Iyanar, Research Associate
Ph.D., Annamalai University

Svava Osk Jonsdottir, Research Associate
Ph.D., Technical University of Denmark

Abdul R. Khan, Research Associate
Ph.D., University of Missouri-Saint Louis

Yuejin Li, Research Associate
Ph.D., Nankai University

Dean Peterman, Research Associate
Ph.D., University of Cincinnati

Megh Singh, Research Associate
Ph.D., University of Jodhpur

Tong Weida, Research Associate
Ph.D., Fudan University

Jack Uang, Research Associate
Ph.D., University of Missouri-Rolla

Kenneth Owens, Glassblower

Joseph Kramer, Electronics Technician II

Gordon Kerschmann, Electronics Technician

Donna Kramer, Supervisor of Chemistry Stores

Norman Windsor, Senior Electronics Technician

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration

The chemistry department offers courses leading to the B.A. in chemistry; the B.S. in chemistry; in cooperation with the School of Education, the B.S. in education with emphasis in chemistry and the B.A. in chemistry with teacher certification; and, in cooperation with the School of Business Administration, the B.A. in chemistry with a business option.

The chemistry 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.

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The chemistry 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, and physical chemistry. 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 inorganic, organic, and physical chemistry areas by postdoctoral associates, faculty members, 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. The department currently includes 20 full-time and nine part-time faculty members.

Fellowships and Scholarships

The Brunngraber Undergraduate Research Fellowship and the **Lamberg Fellowship** are given annually to a chemistry major and are based on GPA, statement of research interests, and performance in completed course work.

The William and Erma Cooke Chemistry Fellowship is given annually to an outstanding full-time chemistry major who is at least a sophomore and has financial need.

Aid to Education Scholarships are given to approximately 10 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 graduate student who has completed the teaching and course work component of the program. It consists of a full stipend for the academic year.

Alumni Graduate Research Fellowships are available for summer study for selected chemistry graduate students. The selections are based on merit and the stipend is 20 percent of the academic year GTA stipend.

A series of undergraduate awards are given each year to the outstanding students. **The Chemical Rubber Company Freshman Chemistry Award** is given to the outstanding student in freshman 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 Award** and the **American Institute of Chemists Award**.

Departmental Honors The chemistry department 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, Chemical Research, and have presented an acceptable thesis.

Minor in Chemistry A minor in chemistry 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 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 100 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 six elective hours in science on this option.

Degree Requirements

Bachelor of Arts in Chemistry This degree is intended primarily for preprofessional students in the health science and related areas, as well as prelaw students interested in patent law. Candidates must complete the following chemistry courses:

11, Introductory Chemistry I
12, Introductory Chemistry II
122, Quantitative Analysis
202, Introduction to Chemical Literature
231, Physical Chemistry I
232, Physical Chemistry II
233, Laboratory in Physical Chemistry I
261, Structural Organic Chemistry
262, Organic Reactions
263, Techniques of Organic Chemistry
289, Seminar (2 credit hours)

In addition, candidates must complete one laboratory course chosen from Chemistry 234, 264, and 323.

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.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. 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,

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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 chemistry department 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 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. Candidates must complete the requirements for the B.A. degree in chemistry. In addition, the following chemistry courses are required:

234, Laboratory in Physical Chemistry II
321, Instrumental Analysis
323, Laboratory in Instrumental Analysis
341, Inorganic Chemistry I
343, Inorganic Reactions
364, Synthetic and Analytical Methods of Organic Chemistry

Students must also take six elective hours of advanced work in science at the 200 level or above. It is preferred that these hours be in chemistry; however, three of these hours may be taken in biology, computer science, mathematics, or physics.

Students are encouraged to take Chemistry 290, Chemical Research, to fulfill at least a portion of the advanced elective requirement.

At least 48, but no more than 51, 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, Analytic Geometry and Calculus I
Math 175, Analytic Geometry and Calculus II
Math 180, Analytic Geometry and Calculus III
***Physics 111**, Physics: Mechanics and Heat
***Physics 112**, Physics: Electricity, Magnetism, and Optics

*If neither of these courses included a laboratory, a separate laboratory course is required.

B.S. degree in Secondary Education with an Emphasis in Chemistry In addition to the general requirements for the B.S. degree in secondary education, students must complete the 34 required hours for the B.A. degree in chemistry with the following exceptions: Chemistry 280, Methods of Teaching Chemistry in Secondary Schools, is required instead of Chemistry 202, Introduction to Chemical Literature, and Chemistry 289, Seminar. In addition, a computer science course (Computer Science 125 recommended) is required.

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 School of Education section of this *Bulletin*.)

Bachelor of Arts in Chemistry for Students with an Interest in Business The following courses are suggested for students seeking careers in chemical sales, market research, and so forth. In addition to the B.A. in chemistry requirements, the following core courses are suggested:
Econ 51, Principles of Microeconomics
BA 131, Elementary Statistics
BA 140, Fundamentals of Financial Accounting

Students may then choose to complete one of the following three sets of courses:

1) Marketing Management
BA 206, Basic Marketing
BA 275, Marketing Intelligence
BA 303, Industrial Marketing

2) Financial Management
BA 204, Financial Management
BA 334, Investments
BA 350, Financial Policies

3) Accounting
BA 145, Managerial Accounting
BA 340, Intermediate Accounting
BA 345, Cost Accounting

Requirements for the Minor

Students may complete a minor in chemistry as described below:

The **three required courses** are:
Chem 11, Introductory Chemistry I
Chem 12, Introductory Chemistry II
Chem 261, Structural Organic Chemistry

Electives

At least one course is required from each of the following two groupings:

Lecture Courses

Chem 231, Physical Chemistry I
Chem 262, Organic Reactions
Chem 371, Biochemistry

Laboratory Courses

Chem 122, Quantitative Analysis
Chem 263, Techniques of Organic Chemistry

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.

Biochemistry Certificate

The University offers a certificate program for science majors who are interested in careers in biochemistry.

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The Biochemistry Certificate is an interdisciplinary specialization which may be earned by completing the core requirements and either a chemistry track or a biology track. All students complete the following core requirements:

Biology 11, Introductory Biology I
Biology 12, Introductory Biology II
Biology 210, Cell Structure and Function
Biology 224, Genetics
Chem 11, Introductory Chemistry I
Chem 12, Introductory Chemistry II
Chem 122, Quantitative Analysis
Chem 261, Structural Organic Chemistry
Chem 262, Organic Reactions
Chem 263, Techniques of Organic Chemistry

and one of the following **biology** courses:

216, Microbiology
235, Development
310, Cell Physiology
326, Molecular Biology

Students choosing to complete the certificate through the biology track must take these additional courses:

Biology 376, Advanced Biological Chemistry
Biology 378, Advanced Biological Chemistry Laboratory
Biology 389, Senior Seminar
Chem 230, Physical Chemistry for the Life Sciences

Students choosing to complete the certificate through the chemistry track must take these additional chemistry courses:

231, Physical Chemistry I
232, Physical Chemistry II
233, Laboratory in Physical Chemistry
289, Seminar
371, Biochemistry
372, Advanced Biochemistry
373, Biochemical Techniques

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 applicants 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 (general, analytical, organic, physical, and inorganic), 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 chemistry studies, but they must make up background deficiencies, usually by taking undergraduate course work.

Financial Support

Teaching assistantships are available to qualified applicants for the academic year, and a limited number are also available during the summer. Research assistantships and fellowships are available for advanced students. For further information, contact the Graduate Admission Committee, Department of Chemistry.

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:

- 1) Outstanding performance in recent undergraduate course work.
- 2) 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.
- 3) 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 and 400 level, including one each in inorganic, organic, and physical chemistry. Intermediate level courses (Chem 302, 303, 304, and 306) and Inorganic Chemistry I (Chem 341) 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 all four areas of chemistry within two years of initial enrollment.

A minimum of 30 hours is required, including three hours in Chem 489, Chemistry Colloquium. No more than three hours in Chem 489, and no more than 6 hours of Chem 30x (intermediate level courses) may be applied toward the required minimum of 30 credit hours. Students are not required to take the cumulative examinations or satisfy the foreign language requirement.

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Master of Science in Chemistry with Thesis Students selecting this option must be enrolled full-time in the day division for at least two consecutive semesters. During this time, students are expected to enroll in Chem 490, Graduate Research in Chemistry, and work on their theses. A maximum of 12 hours of Chemistry 490 may be applied toward the required 30 hours. At least nine hours must be at the 400 level, excluding Chemistry 490. A maximum of nine 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 six credits of Chemistry 490, 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 graduate studies director.

Doctoral Degree Requirements

Incoming doctoral students must demonstrate proficiency in all four areas of 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 nine times a year. Students must pass three of the examinations by the end of the third year and a total of eight examinations before completing the program. At least six of these examinations should be in the student's specialization area. Students are encouraged to begin the examination sequence during the first year of graduate study, but must start no later than the second year in the Ph.D. program. The examinations are usually given the second Saturday of each month, September through May. 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. One of the seminars is for the purpose of describing dissertation research. Students must enroll in Chemistry 489, 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 302, Intermediate Analytical Chemistry

Chem 303, Intermediate Physical Chemistry
Chem 304, Intermediate Inorganic Chemistry
Chem 306, Intermediate Organic Chemistry
Chem 321, Instrumental Analysis
Chem 323, Laboratory in Instrumental Analysis
Chem 341, Inorganic Chemistry I
Chem 343, Inorganic Reactions
Chem 419, Advanced Reading in Chemistry
Chem 448, Inorganic Problem Seminar
Chem 468, Organic Problem Seminar
Chem 481, Introduction to Graduate Study in Chemistry
Chem 482, Introduction to Graduate Study in Chemistry
Chem 489, Chemistry Colloquium
but should include one from each area of organic, inorganic, and physical chemistry. Courses in areas other than chemistry may be included with prior departmental approval.

- 2) Pass eight cumulative examinations.
- 3) Demonstrate satisfactory proficiency in the library use of French and German scientific literature.
- 4) Present at least one seminar to the department concerning the dissertation research.
- 5) Participate in the undergraduate academic program as a teaching assistant for at least one semester.
- 6) Be in good standing.

Dissertation

Six 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 at least three cumulative examinations before the end of the third year as applicants 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 excellent preprofessional training in the health sciences. A double major in chemistry and biology is often chosen by premedical and pre dental 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.

Chemistry

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.

The following courses fulfill the Natural Sciences and Mathematics [SM] breadth of study requirements: 1, 2, 3, 4, 9, 10, 11, 12, 13, 122, 202, 230, 231, 232, 233, 234, 261, 262, 263, 289, 290, 302, 303, 304, 306, 310, 321, 323, 331, 333, 336, 341, 342, 343, 352, 361, 362, 364, 366, 371, 372, 373, 374, 381.

1 General Chemistry I (3)

Prerequisite: Satisfactory score on math placement test. A broad introductory survey of chemical principles. Chem 1 plus Chem 9 are equivalent to Chem 11. This alternative may be attractive to students who are not mathematically prepared for Chem 11. Chem 1 and 2 will ordinarily satisfy chemistry requirements in nursing, forestry, physical therapy, and related professions. No student may take both Chem 1 and 10 for credit. Chemistry majors may not include both Chem 1 and 11 in the 120 hours required for graduation. Three hours of lecture per week.

2 General Organic Chemistry (3)

Prerequisite: Chem 1. A short course in organic chemistry with biochemical applications. Recommended for students in nursing, forestry, physical therapy, and related professions. This course should not be taken by majors in the physical or biological sciences. Chemistry majors may not include Chem 2 in the 120 hours required for graduation. Three hours of lecture per week.

3 General Chemistry Laboratory (2)

Prerequisite: Chem 1 (may be taken concurrently). Experiments to acquaint students with chemistry in the laboratory. No student may take both Chem 3 and 9 for credit. Three and one-half hours of laboratory per week.

4 Laboratory in General Organic Chemistry (2)

Prerequisite: Chem 2 (may be taken concurrently). Experiments to introduce the student to organic and biochemistry. These will include studies of the properties of organic compounds and introduce students to methods of synthesis and analysis. Three and one-half hours of laboratory per week.

9 General Chemistry II (3)

Prerequisites: Chem 1 (or equivalent and consent of instructor) and Math 30 and 35 (may be taken concurrently). Additional work on the topics of Chem 1, with emphasis on quantitative material. Introduction to the chemical laboratory. Chem 1 plus Chem 9 is equivalent to Chem 11 for science majors. Chemistry majors who receive credit for Chem 1 and Chem 9 may not also include Chem 10 or Chem 11 in the 120 hours required for graduation. No student may take both Chem 3 and Chem 9 for credit. Two hours of lecture per week, three and one-half hours of lab or one hour of discussion on alternate weeks.

10 Chemistry in Society (3)

A survey of chemistry and its relevance to contemporary problems, including an introduction to important chemical principles. Laboratory experiments are designed to complement the lectures. Chem 10 does not satisfy the prerequisite of any course. No student may take both Chem 1 and 10 for credit. Chemistry majors may not include Chem 10 in the 120 hours required for graduation. Two hours of lecture per week; two hours of lab and one hour of discussion on alternate weeks.

11 Introductory Chemistry I (5)

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 and 11, nor both Chem 10 and 11 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 Introductory Chemistry II (5)

Prerequisite: Chem 11 or advanced placement. Lecture and laboratory are a continuation of Chem 11. Three hours of lecture and one hour of discussion per week; one hour laboratory-lecture and three hours of laboratory weekly.

13 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 and 12.

122 Quantitative Analysis (3)

Prerequisite: Chem 12. 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 Introduction to Chemical Literature (1)

Prerequisite: Chem 262 (may be taken concurrently). The course will familiarize the student with the literature of chemistry and its use. One hour of lecture per week.

230 Physical Chemistry for the Life Sciences (4)

Prerequisites: Chem 122, Math 80, Math 101, or equivalent, and Physics 11 and 12. Principles and applications of physical chemistry appropriate to students pursuing degree programs in the life sciences. Topics discussed include thermodynamics, equilibria, kinetics, and spectroscopy.

231 Physical Chemistry I (3)

Prerequisites: Chem 122 and Math 180 (may be taken

Chemistry

concurrently), and Physics 111 (or equivalent). 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 Physical Chemistry II (3)

Prerequisite: Chem 231. Continuation of Chem 231. Three hours of lecture per week.

233 Laboratory in Physical Chemistry I (2)

Prerequisite: Chem 231 (may be taken concurrently). Experiments designed to illustrate principles introduced in Chem 231. One hour of lecture and four and one-half hours of laboratory per week.

234 Laboratory in Physical Chemistry II (2)

Prerequisites: Chem 232 (may be taken concurrently) and Chem 233. Experiments designed to illustrate principles introduced in Chem 232. One hour of lecture and four and one-half hours of laboratory per week.

261 Structural Organic Chemistry (3)

Prerequisite: Chem 12. An introduction to the structure, properties, synthesis, and reactions of aliphatic and aromatic carbon compounds. Three hours of lecture per week.

262 Organic Reactions (3)

Prerequisite: Chem 261. A systematic study of organic reactions and their mechanisms; organic synthetic methods. Three hours of lecture per week.

263 Techniques of Organic Chemistry (2)

Prerequisite: Chem 261 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 Methods of Teaching Physical Sciences (3)

(Same as SEC ED 240.) Prerequisites: SEC ED 213 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.

283 Chemistry/Physics Teaching Intern Seminar (1)

(Same as Physics 283.) Prerequisite: Chem 280 or Physics 280. 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. One hour discussion per week.

289 Seminar (1)

Prerequisites: Chem 202 and senior standing. Presentation of papers by students, faculty, and invited speakers. All majors must enroll for credit during two semesters of the senior year. Completion of a comprehensive examination during one of the semesters is a course requirement. One

hour of lecture and one hour of discussion per week.

290 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.

302 Intermediate Analytical Chemistry (3)

Prerequisites: Chem 122 and consent of the graduate adviser. A review of the basic concepts of analytical chemistry. Topics to include principles of quantitative analysis, with emphasis on modern instrumental techniques. Course designed for post baccalaureate students; may not be used to fulfill requirements for undergraduate degree programs in chemistry. One to three hours of lecture per week.

303 Intermediate Physical Chemistry (3)

Prerequisites: Chem 231, 232, 233, and permission of graduate adviser. A review of basic principles of physical chemistry. Topics to include thermodynamics, kinetics, and quantum chemistry. Course designed for post baccalaureate students; may not be used to fulfill requirements for undergraduate programs in chemistry. Three hours of lecture per week.

304 Intermediate Inorganic Chemistry (3)

Prerequisite: Permission of the graduate adviser. A review of basic inorganic chemistry. Topics will include atomic and molecular structure, acids and bases, the chemistry of the solid state, and main group and transition metal chemistry. Course designed for post-baccalaureate students; may not be used to fulfill requirements for undergraduate degree programs in chemistry. Three hours of lecture per week.

306 Intermediate Organic Chemistry (3)

Prerequisites: Chem 261, 262, 263, and permission of the graduate adviser. A review of the basic principles of organic chemistry. Topics to include structure, physical and spectroscopic properties and reactions of major classes of organic compounds, reaction mechanisms, and a survey of synthetic methods. Course designed for post-baccalaureate students; may not be used to fulfill requirements for undergraduate degree programs in chemistry. Three hours of lecture per week.

310 History of Chemistry (3)

Prerequisite: Chem 12 or consent of instructor. The development of chemistry, including early theories of matter, alchemy, iatrochemistry, the period of Lavoisier, and selected topics from the nineteenth and twentieth centuries. Three hours of lecture per week.

321 Instrumental Analysis (2)

Prerequisite: Chem 233. 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.

Chemistry

323 Laboratory in Instrumental Analysis (2)

Prerequisite: Chem 321. 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.

331 Advanced Physical Chemistry (3)

Prerequisite: Chem 232. Study of advanced theoretical and experimental problems in modern physical chemistry. Selected topics such as statistical mechanics, properties of solids, reaction dynamics, molecular orbital theory, and spectroscopic methods may be included. Three hours of lecture per week.

333 Thermodynamics (3)

Prerequisite: Chem 232. Selected advanced topics including solid-state, nonequilibrium, and statistical thermodynamics. Three hours of lecture per week.

336 Introduction to Quantum Chemistry (3)

Prerequisite: Chem 232 or consent of instructor. A brief but quantitative introduction to the application of quantum mechanics to problems in chemistry, covering the uncertainty principle, operators, solution of Schrodinger's equation for simple systems, perturbation theory, variation methods, interaction of radiation with matter, atomic and molecular structure, and theory of collisions. Three hours of lecture per week.

341 Inorganic Chemistry I (3)

Prerequisites: Chem 232 and 262 (may be taken concurrently). 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.

342 Inorganic Chemistry II (3)

Prerequisite: Chem 341. Continuation of Chem 341 with emphasis on such topics as metals, nonaqueous solvents, chemical dynamics, organometallic chemistry, chemistry of the less common elements, and certain frontier areas. Three hours of lecture per week.

343 Inorganic Reactions (2)

Prerequisite: Chem 341 (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.

352 Nuclear Chemistry (3)

Prerequisite: Chem 232. Properties of radioactive nuclei, nature of radioactivity, nuclear reactions, and applications of nucleonics to chemistry. Three hours of lecture per week.

361 Advanced Organic Chemistry (3)

Prerequisite: Chem 262. Contemporary developments in the study of the structure of carbon compounds and the mechanism of their reactions. Selected topics such as natural products, heterocyclic compounds, stereochemistry, aromaticity, reaction intermediates, and photochemistry will be included. Three hours of lecture per week.

362 Spectroscopic Identification of Organic Compounds (3)

Prerequisite: Chem 364. 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 (C and H, cw and pulsed) and mass spectroscopy for the purpose of elucidating the structure of organic compounds. Three hours of lecture per week.

364 Synthetic and Analytical Methods of Organic Chemistry (2)

Prerequisites: Chem 122, 202 (may be taken concurrently), 262, and 263. 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.

366 Physical Organic Chemistry (3)

Prerequisites: Chem 262 and 232 (may be taken concurrently). Advanced topics in the theory of organic chemistry, including conformational analysis, reaction kinetics and mechanisms, and transition state theory. Three hours of lecture per week.

371 Biochemistry (3)

Prerequisite: Chem 263. The isolation, chemical characterization, and function of the structural and catalytic components of living cells and subcellular particles. Three hours of lecture per week.

372 Advanced Biochemistry (3)

Prerequisite: Chem 371. Selected advanced topics in the chemistry of life processes. Three hours of lecture per week.

373 Biochemical Techniques (2)

Prerequisite: Chem 371 (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.

374 Advanced Biochemistry Laboratory (2)

Prerequisites: Chem 372 and 373 (latter may be taken concurrently). Continuation of Chem 373. Laboratory to accompany Chem 372. One hour of lecture and three and one-half hours of laboratory per week.

381 Special Topics (1-10)

Prerequisite: Consent of instructor. A reading and seminar course in selected advanced topics.

414 Molecular Spectroscopy (3)

Prerequisite: Chem 232. A broad treatment of the interaction of electromagnetic radiation with matter, emphasizing the unity of such interactions. Interpretation of molecular structure in terms of molecular, electronic, and geometric structure and dynamics. Description and interpretation of physical techniques applied to chemistry. Three hours of lecture per week.

Chemistry

415 Organometallic Chemistry (3)

Prerequisite: Consent of instructor. A systematic study of the compounds containing a carbon-metal or a carbon-metalloid bond. Emphasis will be placed upon the structural types and chemical reactivity of this class of compounds. Topics will also include the role of organometallic compounds in synthesis and their catalytic behavior. Three hours of lecture per week.

416 Chemical Applications of Group Theory (3)

Prerequisite: Chem 232. A brief introduction to the fundamental relationships of group theory. Application of group theory to molecular orbital theory, molecular vibrations, and molecular spectra. Three hours of lecture per week.

417 Environmental Chemistry (3)

Prerequisite: Consent of instructor. Selected topics in the chemistry of the environment including air and water pollution. Subjects to be discussed include photochemical smog, gaseous and particulate contamination, biodegradability of chemicals, and chemical effects of contaminants on living species. Three hours of lecture per week.

419 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.

431 Advanced Chemical Calculations (3)

Prerequisites: Math 180 and Chem 232. Advanced application of analytical techniques to chemical problems; complex variables, linear algebra, and series techniques. Three hours of lecture per week.

433 Statistical Mechanics (3)

Prerequisites: Chem 333 and 431. Consideration of topics of chemical-physical interest including thermophysical properties of fluids and solids, Fermi-Dirac and Bose-Einstein fluids, theory of fluctuations, and irreversible processes. Three hours of lecture per week.

434 Interaction of Electromagnetic Radiation and Matter (3)

Prerequisite: Chem 436. Treatment of the theoretical description of interaction between atoms and molecules and electromagnetic fields. Includes such topics as electromagnetic field theory, spin systems in electromagnetic fields, time-dependent perturbation theory, emission and absorption of radiation, and selected applications to chemical and physical systems. Three hours of lecture per week.

436 Quantum Chemistry II (3)

Prerequisites: Chem 336 and 431. Advanced theoretical concepts; angular momentum, atomic and molecular structure. Three hours of lecture per week.

439 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 Typical Element Chemistry (3)

Prerequisite: Chem 342. 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 Coordination Chemistry (3)

Prerequisite: Chem 342. The chemistry of the coordination compounds of the transition metals including such topics as kinetics and mechanisms of reaction, stereochemistry, ligand field theory, stability and organotransition element chemistry. Three hours of lecture per week.

443 Physical Inorganic Chemistry (3)

Prerequisites: Chem 342, 414, and 416. Study of physical concepts with emphasis on physical methods applied to inorganic systems, spectral and magnetic properties of coordination compounds, and application of bonding theories to inorganic chemistry. Three hours of lecture per week.

448 Problem Seminar in Inorganic Chemistry (1)

Prerequisite: Consent of the inorganic chemistry staff. Problems from the current literature, presentations, and discussions by faculty and students.

449 Special Topics in Inorganic Chemistry (1-3)

Prerequisite: Consent of instructor. Selected topics in inorganic chemistry. May be taken more than once for credit.

463 Stereochemistry (3)

Prerequisite: Chem 361 or 366. A study of molecular geometry and relationships in space between atoms and groups in a molecule. Topics to be covered include optical isomerism, conformational analysis, asymmetric synthesis, and topology. Three hours of lecture per week.

464 Organic Photochemistry (3)

Prerequisites: Chem 361 and 366. A study of the synthetic and theoretical aspects and applications of light-induced reactions. Topics to be covered include primary photophysical processes, reaction types, and photosensitization. Three hours of lecture per week.

465 Chemistry of Natural Products (3)

Prerequisite: Chem 361. The chemistry and physiological action of natural products; methods of isolation, determination of structures, synthesis, and biosynthesis. Three hours of lecture per week.

468 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 Special Topics in Organic Chemistry (3)

Prerequisite: Consent of instructor. Advanced topics of special current interest. May be taken more than once for credit.

Chemistry

481 Introduction to Graduate Study in Chemistry (1)

Prerequisite: Consent of Graduate Advisor. 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 advisor.

482 Introduction to Graduate Research in Chemistry (1)

Prerequisite: Consent of Graduate Advisor. 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 Chemistry Colloquium (1)

Presentation of papers by students, faculty, and invited speakers. One hour per week.

490 Graduate Research in Chemistry (1-10)

Communication

Faculty

Michael Murray, Associate Professor*; Chairperson
Ph.D., University of Missouri-Columbia
James Fay, Associate Professor*
M.F.A., Tulane University
Elizabeth Kizer, Associate Professor*
Ph.D., Purdue University
Thomas McPhail, Professor*; Interim Associate Vice
Chancellor for Academic Affairs
Ph.D., Purdue University
C. Thomas Preston, Associate Professor*;
Ph.D., University of Nebraska-Lincoln
Donald Shields, Associate Professor*
Ph.D., University of Minnesota
Rita Csapo-Sweet, Assistant Professor
Ed.D., Harvard University
Patricia Holmes, Assistant Professor*
Ph.D., Northwestern University
Donald Jung, Assistant Professor
Ph.D., Purdue University
Ronald Turner, Assistant Professor*; Vice President for
University Outreach and Director of Cooperative Extension
Ph.D., University of Missouri-Columbia
Lawrence Potter, Adjunct Assistant Professor
Ph.D., Southern Illinois University-Carbondale
Larry Grisvard, Lecturer
Ph.D., The Ohio State University
Clark McMillion, Lecturer
M.A., State University College of New York at Brockport
Sidney Savan, Lecturer
B.S., Washington University
Alejandro Madrid, Lecturer
M.A., Kansas State University
Larry Irons, Adjunct Assistant Professor
Ph.D., Washington University
Mary Ann L. Wymore, Adjunct Assistant Professor
J.D., Southern Methodist University

*members of Graduate Faculty

Each member of the faculty of the Department of Communication represents a requisite balance between practitioner and scholar and teacher. The department's curricula and activities demand a faculty with practical expertise in such disciplines as communication, radio/television/film, and public policy. Each faculty member has demonstrated repeatedly an excellence as a practitioner through varied endeavors in workshops and lectures, as well as communication, radio/television/film, and video programs and productions. Concomitantly, the faculty acknowledges the need for scholarly research as a contribution to the continued growth of academic study, publishing the results of their scholarly pursuits in a wide spectrum of scholarly journals and presenting papers at regional, national, and international professional conferences. Additionally, faculty members contribute to the University's mission through active public service and a commitment to high standards of academic achievement. Annual student evaluations rate the department's teaching as excellent.

General Information

The Bachelor of Arts in Communication

The B.A. in communication is a flexible degree program that allows the student to emphasize a particular field of study (communication or mass communication) or tailor a specific concentration to meet the student's individual needs and interests. An emphasis in communication theory or mass communication is recommended for students with clear career goals in one of these areas. The communication major is recommended for students interested in teacher certification, the Bachelor of General Studies degree in the Evening College, or in specific interdisciplinary fields such as public relations/advertising/organizational communication, information science, electronic journalism, television, media administration, and marketing communication. The faculty encourages all students to meet early and often with their adviser to select a meaningful group of courses for a coherent, career-oriented academic program.

Minors and Certificates for Communication

The department actively supports the following minor and certificate programs open to students majoring in communication: Minor in Public Affairs Journalism, Minor in Photographic Studies, Minor in Legal Studies, the Certificate in Writing, and the Certificate in Secondary Education. For more information, see Certificate Programs and Interdisciplinary Studies in this Bulletin.

Undergraduate Studies

General Education Requirements

Majors must satisfy the University and College general education requirements. The College's foreign language requirement may be taken in any language. Communication courses may not be taken on a satisfactory/unsatisfactory basis.

After fulfilling the general education and specific major degree requirements, students are to take the remaining 62 hours required to complete the B.A. degree in communication from courses, which the respective 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), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

Course Emphasis Categories

Courses offered by the communication department are categorized below. Students will need to refer to this list in choosing courses to meet the requirements of their particular emphasis area.

Communication Theory and Rhetoric Area Courses

30, Interpersonal Communication I

40, Introduction to Public Speaking

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41, Basic Public Debate
 65, Introduction to Information Technology
 108, Advertising Copywriting
 130, Interpersonal Communication II
 135, Communication Theory
 140, Advanced Public Speaking
 141, Business and Professional Speaking
 143, Parliamentary Procedure
 150, Introduction to Public Relations
 228, Public Relations Writing
 230, Small Group Communication
 231, Communication in the Organization
 240, Persuasive Communication
 241, Argumentation and Debate
 243, Communication in American Politics
 330, Empirical Research in Communication
 331, Research Methods in Communication
 332, Intercultural Communication
 334, Advertising Media Planning
 335, Seminar in Applied Communication Research
 336, Communication in Advertising
 337, Male/Female Communication
 340, Rhetorical Criticism
 341, Classical Rhetoric and Public Address
 342, Modern Rhetoric and Public Address
 343, The Rhetoric of Protest
 344, Advanced Argumentation Theory
 345, Theory and Practice of Interviewing
 346, Advanced Interviewing Techniques
 358, Communication in Public Relations

Mass Communication Area Courses

50, Introduction to Mass Media
 65, Introduction to Information Technology
 70, Introduction to Cinema
 108, Advertising Copywriting
 110, Introduction to Radio and Television Broadcasting
 114, Radio Production I
 118, Radio and Television Announcing
 150, Introduction to Public Relations
 210, Television Production I
 212, Broadcast Writing and Reporting
 214, News Writing
 215, Radio Production II
 216, Radio News
 217, Script Writing for Business and Industry
 218, Public Policy in Telecommunication
 219, Promotion, Publicity, and Advertising in Broadcasting
 228, Public Relations Writing
 271, History of Film to World War II
 272, History of Film Since World War II
 273, Basic Film Production
 310, Television Production II
 311, Broadcast Management
 316, Television News
 317, Radio and the Recording Industry
 334, Advertising Media Planning
 350, Mass Communication History and Criticism
 352, Mass Media Criticism
 354, Comparative Telecommunication Systems
 355, Media Law and Regulation
 358, Communication in Public Relations
 370, Documentary Film

Degree Requirements

Bachelor of Arts in Communication

Majors must complete a minimum of 36, but not more than 45, hours in communication courses. At least 18 of these hours must be taken at UM-St. Louis. Each major must take at least six hours of communication courses numbered 200-299 and at least six hours of communication courses numbered 300-399. Every major must complete the requirements for an emphasis area as described below.

Emphasis Areas

Two emphasis areas are available: Communication Theory and Rhetoric and Mass Communication.

Required Courses for All Majors

40, Introduction to Public Speaking
 135, Communication Theory
 194, 196, 197, 198, (at least three hours of practicum courses) or 393, 394, 396, 397, (at least three hours of Internship courses).

Emphasis Area Requirements

In addition to the above required course work, majors must complete the requirements specified below for one of the following emphasis areas:

I Communication Theory and Rhetoric

In addition to the required courses for all majors, students must take the following:

- a. 230, Small Group Communication
- b. Twelve additional hours in Communication theory and Rhetoric
- c. One of the following Mass Communication courses:
 - 50, Introduction to Mass Media
 - 70, Introduction to Cinema
 - 110, Introduction to Radio and Television Broadcasting
- d. Plus 9-18 hours from any area or areas in the communication department.

II Mass Communication

In addition to the required courses for all majors, students must take the following:

- a. 50, Introduction to Mass Media
 70, Introduction to Cinema
 110, Introduction to Radio and Television Broadcasting
- b. Nine additional hours in Mass Communication
- c. Plus 9-18 hours from any area or areas in the communication department.

Bachelor of Arts in Communication with Certification in Secondary Education

In addition to the requirements for the B.A. in Communication and general requirements set by the School of Education, students must meet the state requirements for certification.

The B.A. and certification for grades 7-12 can be completed by taking a minimum of 39 hours in communication, selected according to departmental recommendations. The B.A. and certification for grades 7-9 can be obtained by taking 36 hours in communication, selected according to departmental recommendations.

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Requirements of the School of Education include courses in professional education and English 262, The Curriculum and Methods of Teaching English (same as SEC ED 232).

Departmental Activities, Laboratories, and Internships
Cocurricular projects and activities relevant to student interests and vocational plans are sponsored and advised by the department (debate and forensic, radio club, television/film club).

In addition to the traditional classroom experience, students receive practical training in the department's laboratory facility: the Lucas Hall Radio/Television/Video Laboratories.

Internships at radio and television stations, community agencies, newspapers, public relations, marketing, and advertising firms, and in a variety of business organizations provide unique opportunities for majors to apply their communication studies.

Minors in Communication

Students with majors other than communication may select from two minors to complement their academic and career goals.

The following conditions apply to all minors:
Credit hours in Communication 195, and/or Communication 395, may be substituted for credit hours listed below with written permission of the communication department chairperson.

At least nine of the 18 hours required for the minor must be taken at UM-St. Louis.

A minimum GPA of 2.5 is required in the minor.

I Requirements for the minor in Theory and Rhetoric are as follows:

- a. **Communication 40**, Introduction to Public Speaking
135 Communication Theory
- b. One of the following Communication Theory and Rhetoric courses:
30, Interpersonal Communication I
140, Advanced Public Speaking
141, Business and Professional Speaking
- c. Plus nine hours from courses in Communication Theory and Rhetoric at the 200 level or above.

II Requirements for a minor in Mass Communication are as follows:

- a. **50**, Introduction to Mass Media
110, Introduction to Radio and Television Broadcasting
- b. One of the following Mass Communication courses:
70, Introduction to Cinema
350, Mass Communication History and Criticism
- c. Plus nine hours in Mass Communication courses at the 200 level or above.

Career Outlook

The B.A. in communication prepares students for careers in numerous fields. Past graduates are working in the following positions: radio and television news, promotion, administration, directing, announcing, production, and sports journalism; management and production; public relations, advertising, marketing, market research, corporate media, sales, training, speech writing, print editing, journalism, teaching, and research. Other students have pursued graduate education in communication programs offering the M.A. and Ph.D. degrees.

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Course Descriptions

Prerequisites may be waived by consent of the department.

The following courses fulfill the Humanities [H] breadth of study requirements: 70, 160, 260, 271, 272, 337, 340, 341, 342, 343, 344, 350, 352.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 65, 135, 218, 230, 231, 243, 330, 331, 332, 333, 335, 350, 354, 356.

30 Interpersonal Communication I (3)

Development of basic one-to-one communication skills. Includes self-awareness, listening, nonverbal communication, feedback, roleplaying, and receiver awareness.

40 Introduction to Public Speaking (3)

Theories and techniques of organization, evidence, argumentation, persuasion, and delivery in public speaking.

41 Basic Public Debate (3)

History and practice of debate in the public arena, with opportunities to prepare for a variety of public forums for argumentation. Various debate formats, including panel discussions, joint news conferences, and audience-participation debates, in a variety of settings, will be surveyed.

50 Introduction to Mass Media (3)

Introduction to oral, print, and electronic media of communication. Emphasis on history, theory, and criticism of the mass media as cultural institutions.

65 Introduction to Information Technology (3)

The production and consumption of information by individuals, the work place and society. Emphasis on the changing nature of communication processes as a result of the expansion of communication technologies.

70 Introduction to Cinema (3)

An introduction to the history, rhetoric, and aesthetics of film. Film theory and criticism will be studied as well as major genres, authors, and artists.

95 Seminar in Communication (3)

Prerequisite: Consent of instructor. In-depth treatment of topics pertaining to current research in the department or otherwise of timely interest to students or faculty.

108 Advertising Copywriting (3)

(Same as English 108.) To give students a hands-on approach for writing advertising material for print and broadcast against tight deadlines in a professional setting.

110 Introduction to Radio and Television Broadcasting (3)

An introduction to broadcasting, including the areas of history, government regulations, station operation, and program development.

114 Radio Production I (3)

Prerequisite: Comm 110. Theory and practice in the creation of radio programs. Laboratory experience included.

118 Radio and Television Announcing (3)

Prerequisite: Comm 110; 114, and 210 recommended. Training in radio and television studio procedures. Production and criticism of lab programs, including news, continuity, interviews, and oral improvisation. Classroom meetings at the radio lab and the television lab, plus lab hours to be arranged.

130 Interpersonal Communication II (3)

Prerequisite: Comm 30. Interpersonal communication in relationships within group contexts, such as family, classroom, and business. Various theories and diagnostic approaches to interpersonal communication. Extensive laboratory sessions utilizing individual and group exercises.

135 Communication Theory (3)

Survey of elements and processes critical to human communication behavior. Comparison of influential communication theories.

140 Advanced Public Speaking (3)

Prerequisite: Comm 40. Application of advanced public speaking skills, with emphasis on special occasion speaking situations.

141 Business and Professional Speaking (3)

Prerequisite: Comm 40. Application of communication skills in the business and professional environment with emphasis on presentational speaking, organizational constructs germane to professional careers, and uses of various media.

143 Parliamentary Procedure (2)

Prerequisite: Comm 40. Study and practice in rules of procedure by which self-governing groups transact business.

150 Introduction to Public Relations (3)

Prerequisite: Comm 40 or 50. Publicity methods and public relations representation of profit and nonprofit institutions to the public; use of communication research and media, as applied to the public relations profession.

160 Fundamentals of Oral Interpretation (3)

Prerequisite: Comm 40 or consent of instructor. An introduction to the analysis of literature and to the principles of its oral presentation by the interpreter.

193 Practicum in Applied Communication (1-3)

Prerequisite: Consent of instructor. Practicum work at any of the UM-St. Louis public relations offices, sports and school newspapers, Office of Research or Photography Services. Work must be done on campus, under supervision of a working professional in the field, in consultation with a faculty member.

194 Practicum in Debate/Forensics (1-3)

Practical work in the University debate and forensics program, supervised by a faculty member. Repeatable, but

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no more than six credit hours may be earned in departmental practicum courses.

195 Seminar in Communication (3)

Prerequisite: Consent of instructor. In-depth study of topics pertaining to current research in the department or otherwise of timely interest to students or faculty.

196 Practicum in Radio (1-3)

Prerequisites: Comm 110 and consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at the campus radio station, supervised by a faculty member. Repeatable, but no more than six credit hours may be earned in departmental practicum courses.

197 Practicum in Television/Film (1-3)

Prerequisites: Comm 110 and consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at one of the campus television studios or for the UM-St. Louis Television/Film Club, supervised by a faculty member. Repeatable, but no more than six credit hours may be earned in departmental practicum courses.

210 Television Production I (3)

Prerequisites: Comm 110 and consent of instructor. A study of the basic theories and practices of television production. The areas of producing and directing will be studied. The class will provide the student with practical experience in camera operation, switching, lighting, and mixing. Lab arranged.

212 Broadcast Writing and Reporting (3)

Prerequisites: Comm 110 and 214, or English 214, or permission of instructor. Elementary principles and practice of writing for radio and television in varied program formats, emphasis on preparation of written materials for news and public affairs presentation. Lecture and lab.

214 News Writing (3)

(Same as English 214.) Prerequisite: English 10 or equivalent. An introduction to news writing and reporting. Course covers basic components of news reporting principles, and news writing style and structure. Daily writing assignments include coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed.

215 Radio Production II (3)

Prerequisite: Comm 114. Study of advanced theories and techniques of audio production, building on principles and skills learned in Radio Production I. Exploration of complex program formats such as radio drama and special problems such as those encountered in recording live music.

216 Radio News (3)

Prerequisite: Comm 114. Theory and laboratory practice in the gathering, writing, and delivery of news through radio. Lab hours to be arranged.

217 Script Writing for Business and Industry (3)

Prerequisites: Comm 210 and 212. Script writing for training, motivation, education, and other applications. Students will identify and discuss communication problems and solutions in live, slide/tape, video, and film script formats.

218 Public Policy in Telecommunication (3)

Prerequisite: Comm 65 or 110 or consent of instructor. An examination of the structure and operation of domestic, international, commercial and public telecommunication. Regulatory agencies, both private and public, will be considered in terms of their effect on programming and ownership.

219 Promotion, Publicity, and Advertising in Broadcasting (3)

Prerequisite: Comm 110. Introduction to theory and practice in the planning, execution, and evaluation of persuasive campaigns involving radio and television. Emphasis on concept developments and production elements. Discussion of broadcast ethics.

228 Public Relations Writing (3)

(Same as English 228.) Prerequisite: English 214 or equivalent. An introduction to the process of planning, producing, and evaluating written public relations messages. Writing assignments include media releases, letters, memos, position papers, background papers, brochures, and reports and proposals.

230 Small Group Communication (3)

Prerequisite: Comm 40. Development of communication skills needed in small group decision making. Application of these skills to contemporary problems.

231 Communication in the Organization (3)

Prerequisite: Junior standing or consent of instructor. Course integrates communication theories applicable to the structure and function of organizations. The effect of communication variables on departmental interface, member satisfaction and motivation, leadership and subordinate styles, and perception of the organization by the external environment.

240 Persuasive Communication (3)

Prerequisite: Comm 40. A study of persuasive communication, including theories, techniques, forms, functions, applications, potential, and limitations for the individual and organizations. Insights from both classical rhetoric and contemporary communication theory.

241 Argumentation and Debate (3)

Prerequisite: Comm 40, or 41, or consent of instructor. Principles of argumentation and debate with practice in preparing briefs and in delivering spoken arguments in formal debate. Emphasis on analysis of issues, logical reasoning, and audience analysis.

243 Communication in American Politics (3)

Prerequisite: Comm 40. Analysis of audience response and media preferences in political campaigns, campaign speeches, candidates' uses of television and other mass

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media, and measuring effectiveness of campaign communications.

260 Advanced Oral Interpretation (3)

Prerequisite: Comm 160. Advanced practice in analyzing and performing oral interpretation of literary forms.

271 History of Film to World War II (3)

Prerequisite: Comm 70 or consent of instructor. History of world cinema from the late nineteenth century to the 1940s.

272 History of Film Since World War II (3)

Prerequisite: Comm 70 or consent of instructor. History of world cinema from the 1940s to the present day.

273 Basic Film Production (3)

Prerequisite: Comm 70. Introduction to filmmaking equipment and practices. Production of short films.

310 Television Production II (3)

Prerequisite: Comm 210. Study of advanced theories of television production. Refinement of studio television principles learned in Comm 210. Exploration of complex program formats. Lab arranged.

311 Broadcast Management (3)

Prerequisite: Comm 110. Introduction to theories of management, with application to radio and television station operations. Discussion of economic, legal, and ethical problems and issues.

316 Television News (3)

Prerequisite: Comm 210. Theory and laboratory practice in the gathering, writing, and delivery of news through television. Lab arranged.

317 Radio and the Recording Industry (3)

Prerequisite: Junior standing. Historical development and current status of the recording industry, particularly as it interacts with the broadcast industry. Impact of radio and recording technology on the development of rock and other popular music.

330 Empirical Research in Communication (3)

Prerequisite: Comm 135. Introduction to the fundamental tools of quantitative research in communication, including data analysis, statistical design and methods, basic measurement concepts and designs for empirical research.

331 Research Methods in Communication (3)

Prerequisite: Comm 135. Introductory study of research designs and methodologies employed in communication, including historical, critical, and empirical methods. Review of research reports which exemplify these methods.

332 Intercultural Communication (3)

Prerequisite: Junior standing or consent of the instructor. Study of culture as a variable in both interpersonal and collective communicative situations. Emphasis upon opportunities and problems arising from similarities or differences in communication patterns, processes, and codes among various cultural groups.

333 Communication Audit (3)

Prerequisite: Comm 231. The application of specific empirical research designs to evaluate communication flows, effectiveness, or channels in complex organizations.

334 Advertising Media Planning (3)

Prerequisite: Comm 50. A hands-on study of how to determine an advertising budget, select media and develop a strategic plan.

335 Seminar in Applied Communication Research (3)

Prerequisites: Comm 135 and consent of instructor. This course explores the use of communication concepts, theories, methods, and designs in applied field settings with an emphasis on original research.

336 Communication in Advertising (3)

Prerequisites: Comm 50 and junior standing, or consent of instructor. Overview of components in persuasive messages and how advertising messages and campaigns use various media to reach target audiences.

337 Male/Female Communication (3)

Prerequisite: Junior standing or consent of instructor. This course explores the influence of gender upon contemporary American communication behavior. Topics include semantic and syntactic variations in male and female speech, gender-role development as process and product of communication, analysis of communication patterns and barriers within gender groups. Mass, public, interpersonal, and dyadic communication contexts are considered.

340 Rhetorical Criticism (3)

Prerequisite: Comm 40. The application of rhetorical theories to the analytical and critical explanation of persuasive messages.

341 Classical Rhetoric and Public Address (3)

Prerequisite: Comm 40 or consent of instructor. A survey of the history and theories of persuasion and public address from ancient times to the Renaissance.

342 Modern Rhetoric and Public Address (3)

Prerequisite: Comm 40 or consent of instructor. A survey of the history and theories of persuasion and public address from the post-Renaissance era to the present.

343 The Rhetoric of Protest (3)

Prerequisite: Comm 40. An examination of the persuasive messages and tactics used in social movements and their campaigns.

344 Advanced Argumentation Theory (3)

Prerequisite: Comm 241 or consent of instructor. This course focuses on advanced argumentation theory. It is aimed at providing an advanced understanding of the complex issues faced by argumentation scholars.

345 Theory and Practice of Interviewing (3)

Prerequisite: Comm 40 and junior standing, or consent of instructor. The application of modern communication theory to interview situations. This theory and practicum course is designed to aid the student in mastering specific skills

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appropriate to specialized settings.

346 Advanced Interviewing Techniques (3)

Prerequisite: Comm 345. Examination and application of problem solving and information-gathering methods, with emphasis on specialized situations such as journalistic; health, crisis intervention, and counseling; superior-subordinate relationships and employment. In-class study approach and field interview assignments.

350 Mass Communication History (3)

Prerequisite: Comm 50 or 110. Examination of the social, economic, and political factors contributing to the development of American mass media. Emphasis on significant personalities who helped shape its course; analysis of select critical works.

352 Mass Media Criticism (3)

Prerequisite: Comm 50 or 110. The study of media content and its effect on society. Reading and viewing of selected works. Independent reading and critical analysis required.

354 Comparative Telecommunication Systems (3)

Prerequisite: Comm 65 or consent of instructor. Historical aspects of various systems of telecommunication throughout the world. Examination of American, Canadian, European Economic Community (EC), and other telecommunication systems.

355 Media Law and Regulation (3)

Prerequisite: Comm 50 or 110. Discussion of laws affecting the mass media. Exploration of problems and issues in legal regulation of media content, ownership, access, and accountability. Discussion of industry self-regulation and the influence of citizens' organizations.

356 International Communication (3)

Prerequisite: Comm 50 or 110. Examination of the social, technical, economic, and political factors affecting international broadcasting and transnational media systems.

358 Communication in Public Relations (3)

Prerequisite: Comm 150. An overview of communication within the area of public relations. Emphasis on ethics, law, professional standards, and written communication. Case study approach.

362 Storytelling (1-3)

Prerequisite: Junior standing or consent of instructor. This course gives an overview of the history of storytelling, types of tales, and appropriate uses for storytelling. The primary emphasis of the course is in developing storytelling skills through preparation, performances, and evaluation.

363 Introduction to Cataloging (3)

Prerequisite: Senior or postgraduate status. Cataloging books using Anglo-American Cataloging Rules II and the Dewey classification.

364 Selection and Acquisition of Library Materials (3)

Prerequisite: Senior or postgraduate status. Introduction to types of materials in libraries; their source of supply, evaluation, selection, and acquisition routines and procedures.

365 Introduction to Reference (3)

Prerequisite: Senior or postgraduate status. Introduction to reference materials and procedures, including automated reference sources.

366 Administration of School Libraries/Media Centers (3)

Prerequisite: Senior or postgraduate status. Operational objectives and functions of school learning resource centers, including physical facilities and personnel standards.

370 Documentary Film (3)

Prerequisite: Comm 70. Consideration of the history, theory, and criticism of nonfiction film. Screening of representative documentary films.

390 Directed Readings (3)

Prerequisites: Consent of instructor; not open to students who have any Y or delayed grades outstanding. Supervised independent study involving readings, conferences, papers, etc., in one of the department's disciplines: communication theory and rhetoric, or mass communication.

391 Supervised Research (1-5)

Prerequisites: Junior/senior standing and consent of instructor; not open to students who have any Y or delayed grades outstanding. Supervised field or laboratory research, data collection, literature searches, qualitative or quantitative data analysis, report writing and other techniques used by communication researchers. Repeatable, but no more than five credit hours may be earned in supervised research courses.

392 Administration of Cocurricular Activities (3)

Prerequisites: Junior standing and consent of instructor. A survey of the skills required to administer the various cocurricular activities associated with teachers in the secondary schools, such as: operation of debate tournaments, public speaking competitions, and mass media centers.

393 Internship in Applied Communication (3-6)

Prerequisites: Senior standing, with a least 12 hours of course work in communication theory and rhetoric; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Advanced practical work in business communication, political campaign communication, advertising, public relations, or other forms of organizational or public communication. Work must be done off campus, under supervision of a working professional in the field, in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

394 Internship in Journalism (3-6)

Prerequisites: Senior standing, with at least 12 hours of course work in journalism, mass communication, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work

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with an off-campus newspaper, magazine, or other news organization, supervised by a journalism professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

395 Senior Seminar in Communication (3)

Prerequisite: Senior standing and consent of instructor. This course will deal with basic issues, questions, theories and themes central to the discipline of communication. The course project will consist of a critique of selected communication literature and permit the student to integrate and synthesize the knowledge base accumulated in the systematic study of communication.

396 Internship in Radio (3-6)

Prerequisites: Senior standing, with at least 12 hours of course work in radio, broadcasting, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at an off-campus radio station, supervised by a professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

397 Internship in Television/Film (3-6)

Prerequisites: Senior standing, with at least 12 hours of course work in television, film, video, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work at an off-campus television, film, or video organization, supervised by a television, film, or video professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

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Faculty

Scott H. Decker, Professor*; Chairperson
Ph.D., Florida State University
Robert Bursik, Professor
Ph.D., University of Chicago
G. David Curry, Associate Professor
Ph.D., University of Chicago
Bruce A. Jacobs, Assistant Professor
A.B.D., University of Southern California
Janet L. Lauritsen, Associate Professor*
Ph.D., University of Illinois-Urbana
Kimberly K. Leonard, Associate Professor*
Ph.D., The Wharton School, University of Pennsylvania
Jody Miller, Assistant Professor
Ph.D., University of Southern California
Richard B. Rosenfeld, Associate Professor*
Ph.D., University of Oregon
Allen E. Wagner, Associate Professor*
Ph.D., Washington University
Richard Wright, Professor*
Ph.D., Cambridge 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. An emphasis on understanding the theoretical foundations which underlie human behavior and the institutions of justice characterizes the departmental orientation. Faculty research and publications also reflect this concern with an understanding of both the underlying theoretical foundations and their application. 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. Merging theory with practice is a daily routine for supplemental faculty members. Full-time faculty members provide course work that forms the sound basis of a liberal arts education.

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, 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 formal 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. 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.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.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), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics, computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and inter-disciplinary. The criminology and criminal justice department may require students to pass a placement test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

Degree Requirements

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:

CCJ 10, Introduction to Criminology and Criminal Justice
CCJ 110, Theories of Crime
CCJ 120, Criminal Law
CCJ 130, Criminal Justice Policy
CCJ 200, Writing in Criminology and Criminal Justice
CCJ 210, Research Methods in Criminology and Criminal Justice

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CCJ 220, Statistical Analysis in Criminology and Criminal Justice
 CCJ 390, Seminar in Criminology and Criminal Justice

Two courses from the following four:

CCJ 230, Crime Prevention
 CCJ 240, Policing
 CCJ 260, Corrections
 CCJ 270, Juvenile Justice

Two courses at the 300 level:

CCJ 300, Communities and Crime
 CCJ 305, Comparative Criminology and Criminal Justice
 CCJ 310, Computers in Criminal Justice
 CCJ 315, Ethics in Criminology and Criminal Justice
 CCJ 320, Forms of Criminal Behavior
 CCJ 325, Gender, Crime, and Justice
 CCJ 330, History of Crime and Justice
 CCJ 335, Probation and Parole
 CCJ 340, Race, Crime, and Justice
 CCJ 345, Rights of the Offender
 CCJ 350, Victimology
 CCJ 380, Special Topics in Criminology and Criminal Justice

Elective Courses

CCJ 99, The City
 CCJ 180, Alcohol, Drugs and Society
 CCJ 227, Urban Law: Poverty and the Justice System
 CCJ 280, Internship in Criminology and Criminal Justice
 CCJ 290, 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:

CCJ 10, Introduction to Criminology and Criminal Justice

The candidate must then select from two of the following three courses:

CCJ 110, Theories of Crime
 CCJ 120, Criminal Law
 CCJ 130, 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 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 nonthesis course of study.

Core Curriculum

CCJ 400, Proseminar: Criminology and Criminal Justice
 CCJ 405, Methods
 CCJ 410, Statistics
 CCJ 415, Foundations of Criminological Theory
 CCJ 420, Contemporary Criminological Theory

Two of the following four courses

CCJ 451, Juvenile Justice System
 CCJ 452, The Police
 CCJ 453, Adjudication
 CCJ 454, 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 coursework.

Application To consider an applicant for admission, the Department of Criminology and Criminal Justice must have transcripts, three letters of recommendations, Graduate Record Examination scores, and a writing sample. Applications 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) are required. Students may enroll for dissertation credits (CCJ 499) only when all other degree requirements have been completed.

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Required courses for the Ph.D. are:

- CCJ 400 Proseminar (3)
- CCJ 405 Methods (3)
- CCJ 410 Statistics (3)
- 415 Foundations of Criminological Theory (3)
- 420 Contemporary Criminological Theory (3)
- 430 Law and Social Control (3)
- 440 Nature of Crime (3)
- 450 Criminal Justice Organization (3)
- 480 Multivariate Statistics (3)

In addition to the above 27 hours, students must choose two of the following three courses:

- 465 Qualitative Research Design (3)
- 470 Quantitative Research Design (3)
- 475 Evaluation Research Methods (3)

Students are also required to specialize in one of the following three areas:

- Option 1:** Crime and Criminality
- Option 2:** Criminal Justice
- Option 3:** Law and Social Control

Courses in Option 1 include the following:

- 441 Juvenile Delinquency (3)
- 442 Communities and Crime (3)
- 443 Violent Crime (3)
- 444 Organizational Crime (3)
- 445 Property Crime (3)
- 446 Sex Crime (3)
- 447 Public Order Crime (3)
- 448 Victimization (3)

Courses in Option 2 include the following:

- 451 Juvenile Justice Systems (3)
- 452 The Police (3)
- 453 Adjudication (3)
- 454 Corrections (3)
- 455 Ethical and Legal Issues in Criminal Justice (3)

Courses in Option 3 include the following:

- 431 The Nature of Punishment (3)
- 432 Criminal Law (3)
- 433 Philosophy of Law (3)
- 434 Human Rights (3)
- 435 Law, Courts, and Public Policy (3)
- 436 Comparative Legal Systems (3)
- 437 Private Justice (3)

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 of the Department of Criminology and Criminal Justice.

Qualifying Examination

Graduate students in the Ph.D. program cannot become recognized as "Ph.D. Candidates" until they have passed the qualifying 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.

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Course Descriptions

Prerequisites may be waived by consent of the department or instructor.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 10, 75, 99, 110, 120, 130, 164, 180, 200, 210, 220, 226, 227, 230, 240, 260, 270, 280, 290, 300, 305, 310, 315, 320, 325, 328, 330, 335, 340, 345, 350, 380, 390, 399.

10 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.

75 Crime and Punishment (3)
(Same as Sociology 75 and Interdisciplinary 75.) 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 The City (3)
(Same as PolSci 99, Sociology 99, and Interdisciplinary 99.) 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 Theories of Crime (3)
Prerequisite: CCJ 10. Introduction to major theoretical approaches to the study of crime and justice.

120 Criminal Law (3)
Prerequisite: CCJ 10. Analysis of substantive criminal law, evidence and judicial procedure.

130 Criminal Justice Policy (3)
Prerequisite: CCJ 10. Introduction to criminal justice policy making, planning, and implementation.

180 Alcohol, Drugs, and Society (3)
(Same as Sociology 180.) Prerequisite: Sociology 10 or Psych 3. 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 Writing in Criminology and Criminal Justice (3)
Prerequisite: English 10 or equivalent. This team-taught course exposes students to the types of writing expected of professionals in the field. Examples include report writing, abstract book reviews, essays and editorials, research reports, and formats for citation and referencing.

210 Research Methods in Criminology and Criminal Justice (3)

Prerequisite: CCJ 10. Examination of basic methods of research design, measurement and data collection in criminology and criminal justice.

220 Statistical Analysis in Criminology and Criminal Justice (3)

Prerequisites: CCJ 10, 210 and 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 Law and the Individual (3)

(Same as PolSci 226.) Prerequisite: PolSci 11, or 20, 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.

227 Urban Law: Poverty and the Justice System (3)

Prerequisite: CCJ 170 or PolSci 11, or consent of instructor. Examination of administrative regulations and the civil law process as it affects the life of the urban, rural, and the poor.

230 Crime Prevention (3)

Prerequisite: CCJ 10. Examination of situational, social, and legislative approaches to the prevention of crime and delinquency. Emphasis on theories, implementation and consequences of these approaches.

240 Policing (3)

Prerequisite: Criminology and Criminal Justice 10. 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 Corrections (3)

Prerequisite: CCJ 10. 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 The Juvenile Justice System (3)

Prerequisite: CCJ 10. 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 Internship in Criminology and Criminal Justice (3)

Prerequisite: Junior standing. Internship under faculty supervision in criminal justice setting.

290 Directed Readings (1-6)

Prerequisite: CCJ 10 and consent of instructor.

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Individualized study, under regular faculty supervision, designed to meet particular educational needs of selected students.

300 Communities and Crime (3)

(Same as Sociology 300.) Prerequisites: CCJ 110, 120, 130, 210, 220, 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.

305 Comparative Criminology and Criminal Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, 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 Computers in Criminal Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. Use of computers, data base systems, and software applications in research and professional practice.

315 Ethics in Criminology and Criminal Justice (3)

(Same as Philosophy 315.) Prerequisites: CCJ 110, 120, 130, 210, 220, or Philosophy 153, 154, 156, 230, 235, 238, or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

320 Forms of Criminal Behavior (3)

(Same as Sociology 320.) Prerequisites: CCJ 110, 120, 130, 210, 220, 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 Gender, Crime, and Justice (3)

(Same as Sociology 325.) Prerequisites: CCJ 110, 120, 130, 210, 220, 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.

328 Institutions and the Control of Crime and Delinquency (3)

(Same as Sociology 328.) Prerequisites: CCJ 110, 120, 130, 210, 220, 260, or Sociology 214 or Sociology 326. Institutional responses to crime and delinquency. Theories and programs of rehabilitation and punishment. Organizational conditions affecting behavior of correctional personnel.

330 History of Crime and Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, or consent of instructor. The analysis, development, and change in philosophies and responses to crime. Emphasis on major forms and definitions of crime, the emergence of modern policing, the birth of the prison, and the juvenile court.

335 Probation and Parole (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, 260, or consent

of instructor. Analysis of alternatives to incarceration and postincarceration supervision. Emphasis on diversion, restitution, and community reintegration.

340 Race, Crime, and Justice (3)

(Same as Sociology 340.) Prerequisites: CCJ 110, 120, 130, 210, 220, 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 Rights of the Offender (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, 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 Victimology (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, 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 Special Topics in Criminology and Criminal Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220. In-depth study of a selected topic in criminology and criminal justice.

390 Seminar in Criminology and Criminal Justice (3)

Prerequisites: CCJ 110, 120, 130, 210, 220, 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.

399 Senior Thesis (1-6)

Prerequisites: CCJ 110, 120, 130, 200, 210, 220, and consent of instructor. A major research paper prepared under the guidance of a CCJ faculty member. Students may receive 1-6 elective credits over one or two semesters. Thesis credits may not substitute department 300-level course requirements. Enrollment restricted to senior majors.

400 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 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 Statistical Applications in Criminology and Criminal Justice (3)

Prerequisites: CCJ 405. Examination of elementary principles of quantitative analysis and their application to crime and justice problems. Topics include univariate,

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bivariate and multivariate procedures for discrete and continuous data, and a comprehensive introduction to ordinary least squares regression.

415 Foundations of Criminological Theory (3)
(Same as Sociology 415.) Prerequisite: Graduate standing. Incorporation of the history of criminological thought including the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

420 Contemporary Criminological Theory (3)
Prerequisite: CCJ 415. 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 Law and Social Control (3)
(Same as Sociology 461.) 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 The Nature of Punishment (3)
Prerequisite: Graduate standing. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

432 Criminal Law (3)
Prerequisite: Graduate standing. A study of substantive criminal law, the laws that control the behavior of all citizens, and procedural criminal law, the laws that guide the behavior of criminal justice agents.

433 Philosophy of Law (3)
(Same as Philosophy 433.) Prerequisite: Graduate standing. 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 Human Rights (3)
Prerequisite: Graduate standing. 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 Law, Courts, and Public Policy (3)
(Same as PolSci 422.) Prerequisite: Graduate standing. Analysis of public policies, as represented by laws, court decisions, and agency adjudication, judicial review discrimination, intergovernmental 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 Comparative Legal Systems (3)
Prerequisite: Graduate standing. Examination of diverse types of law and legal systems. The course contrasts Western and non-Western legal systems.

437 Private Justice (3)
Prerequisite: Graduate standing. 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 Nature of Crime (3)
Prerequisite: Graduate standing. 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 Juvenile Delinquency (3)
Prerequisite: Graduate standing. Examination of youth crime and juvenile offenders. Topics include definitions of juvenile crime, and theories of juvenile crime causation in the United States.

442 Communities and Crime (3)
Prerequisite: Graduate standing. 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 Violent Crime (3)
Prerequisite: Graduate standing. 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 Organizational Crime (3)
Prerequisite: Graduate standing. 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 Property Crime (3)
Prerequisite: Graduate standing. 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 Sex Crime (3)
Prerequisite: Graduate standing. 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 Public Order Crime (3)
Prerequisite: Graduate standing. Examination of the nature of, prevalence of, and efforts to control public order crimes such as gambling, illicit drug use, prostitution, vagrancy,

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and disorderly conduct. The function of public order crimes as a means to control disruptive or threatening persons and groups is emphasized.

448 Victimization (3)

Prerequisite: Graduate standing. 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 Criminal Justice Organization (3)

Prerequisite: Graduate standing. An analysis of criminal justice as a system of complex organizations. Topics include theories of organizations and organizational behavior, organizational environments, and factors which explain their development and change.

451 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 The Police (3)

Prerequisite: Graduate standing. Historical, social and political analysis of policing in America. Examination of federal, state, county, and municipal agencies.

453 Adjudication (3)

Prerequisite: Graduate standing. 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 Corrections (3)

Prerequisite: Graduate standing. 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 Ethical and Legal Issues in Criminal Justice (3)

(Same as Philosophy 455.) Prerequisite: Graduate standing. 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 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 Quantitative Research Design (3)

Prerequisite: CCJ 405 and CCJ 410. Examination of experimental, longitudinal, and cross-sectional designs. Sources of data, sampling procedures, operational definitions, and issues of reliability are also discussed.

475 Evaluation Research Methods (3)

(Same as Psych475, Sociology 475, and Public Policy Administration 475.) 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 Multivariate Statistics (3)

Prerequisite: CCJ 410. 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 Directed Readings (1-6)

Prerequisite: Directed Readings/Research in Criminology and Criminal Justice. Directed reading and research, under faculty supervision, designed to meet particular educational needs of selected students.

495 Internship in Criminology and Criminal Justice (3)

Prerequisite: Graduate standing. Supervised placements with criminal justice agencies. Designed primarily for students with limited field experience.

498 M.A. Thesis Research (1-6)

Prerequisites: Graduate standing.

499 Independent Study and Research (3)

Prerequisite: Graduate standing. Directed study or research in criminology and criminal justice.

Economics

Faculty

Sharon G. Levin, Professor*; Chairperson
Ph.D., University of Michigan

Elizabeth M. Clayton, Professor Emeritus
Ph.D., University of Washington

Susan K. Feigenbaum, Professor*
Ph.D., University of Wisconsin

Joseph P. McKenna, Professor Emeritus*
Ph.D., Harvard University

William E. Mitchell, Professor*
Ph.D., Duke University

Donald Phares, Professor*
Ph.D., Syracuse University

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M.A., University of Missouri-St. Louis

Mary Suiter, Associate Director; Lecturer, Center for Entrepreneurship & Economic Education
M.I.E., University of Delaware

*members of Graduate Faculty

The economics department is actively engaged in teaching, research, publishing, and community service. Members have received numerous grants for basic and applied research projects. In addition to published research, members regularly present papers and serve as moderators and discussants at professional meetings. They have been honored with teaching and research fellowships and as visiting scholars at leading universities throughout the United States. Faculty members actively participate in community service; they address local citizen and business groups on topics of current interest, and frequently act as consultants for public service groups and local governmental units.

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 housing, productivity, employment, taxation, zoning, technology diffusion, the former Soviet Union, international trade flows, agriculture, energy, monetary economics, conglomerates, and public choice.

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 School of Business Administration and the Department of Political Science in offering a master's degree program in public policy administration.

Departmental Honors The economics department has established the following requirements for departmental honors:

- 1) A minimum GPA of 3.5 overall and in the major.
- 2) Satisfactory completion of Econ 403, Seminar in Economic Research. This course will automatically serve as an honors thesis or project.

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 of Arts and Sciences general education requirements. Candidates for the B.S. degree, however, do not need to fulfill the College's foreign language requirement. Candidates for the B.A. degree may take any foreign language to meet this 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.

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All prerequisites for economics courses must be completed with a C- or better.

Satisfactory/Unsatisfactory (S/U) Option

Courses outside the major field and Economics 51, Principles of Microeconomics, and Economics 52, Principles of Macroeconomics, may be taken on a satisfactory/unsatisfactory (S/U) 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:
Econ 51, Principles of Microeconomics
Econ 52, Principles of Macroeconomics
Econ 220, Money, Banking, and Monetary Theory
Econ 251, Intermediate Economic Theory: Microeconomics
Econ 252, Intermediate Economic Theory: Macroeconomics
Econ 265, Economic Statistics
Econ 380, History of Economic Thought

Since many theories in economics make use of calculus, it is also recommended that students take: **Math 80**, Analytic Geometry and Calculus I, or **Math 101**, Survey Calculus

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. 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, and interdisciplinary.

Requirements outside the economics department should be completed by the end of the sophomore year.

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:

Econ 51, Principles of Microeconomics
Econ 52, Principles of Macroeconomics
Econ 220, Money, Banking, and Monetary Theory
Econ 251, Intermediate Economic Theory: Microeconomics
Econ 252, Intermediate Economic Theory: Macroeconomics
Econ 265, Economic Statistics
Econ 365, Introduction to Econometrics
Math 80, Analytic Geometry and Calculus I, or **Math 101**, Survey Calculus
Math 122, Computers and Programming, or **BA 103**, Computers and Information Systems

Also required are two of the following:

Econ 350, Quantitative Methods for Economics and Business Analysis
Econ 352, Analysis of Business Cycles
Econ 366, Applied Econometrics
Econ 367, Econometric and Time Series Forecasting or any mathematics course numbered 175 or above (with consent of adviser)

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.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, and interdisciplinary.

Requirements outside the economics department should be completed by the end of the sophomore year.

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.

Graduate School Preparation:

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

Math 175, Analytical Geometry and Calculus II
Math 180, Analytical Geometry and Calculus III,
Math 245, Linear Algebra
Math 250, Introduction to Modern Mathematics
Math 320, Mathematical Statistics

General Business Preparation:

It is recommended that students interested in pursuing careers in business also take:

BA 140, Fundamentals of Financial Accounting
BA 145, Managerial Accounting
BA 156, Legal Environment of Business
BA 204, Financial Management
BA 206, 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, Economic Statistics, cannot be counted towards the economics minor if the student has also taken Math 31, Math 132, BA 131, or the equivalent.

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The following courses are required:

Econ 51, Principles of Microeconomics

Econ 52, Principles of Macroeconomics

Econ 251, Intermediate Economic Theory: Microeconomics

It is also recommended that students take: Econ 252, Intermediate Economic Theory: Macroeconomics

Also required is a GPA of 2.0 or better for courses presented for the minor. The satisfactory/unsatisfactory option may be applied to Econ 51 and 52 only.

Graduate Studies

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 candidates' 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.

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, Quantitative Methods for Economics and Business Analysis

BA 410, Managerial Economic Analysis

BA 411, Analysis of National Economic Environment

MS/IS 481, Statistical Analysis for Management Decisions

Econ 403, Seminar in Economic Research

Econ 451, Microeconomic Analysis

Econ 452, Macroeconomic Analysis

Econ 465, Econometric Theory and Methods

Students must also complete the equivalent of Econ 220, Money, Banking, and Monetary Theory, with a grade of C- or better by the end of their first year. This course may be satisfied by independent study and a proficiency test. Graduate credit is not given for this course.

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. And 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 six hours of economics electives may be taken at the 300 level. With the approval of the graduate coordinator, students may take up to nine 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, Public Policies Toward Business

BA 440, Financial Accounting: Theory and Practice

BA 450, Financial Management

BA 460, Organization Behavior and Administrative Processes

BA 470, Contemporary Marketing Concepts

MS/IS 480, Management Information Systems

Econ 366, Applied Econometrics

Econ 453, Topics in Managerial Economic Analysis

Econ 467, Business and Economic Forecasting

Electives

Candidates must complete at least nine hours of electives in 400-level economics courses. With the approval of the

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graduate coordinator, students may take additional graduate courses outside the Department of 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:

Econ 451, Microeconomic Analysis

Econ 452, Macroeconomic Analysis

Econ 465, Econometric Theory and Methods

and two of the following:

Econ 366, Applied Econometrics

Econ 453, Topics in Managerial Economic Analysis

Econ 467, Business and Economic Forecasting

The remaining 3 credit hours may be chosen from any economics elective numbered above 403.

Students also must complete the equivalent of Econ 220, Money, Banking, and Monetary Theory, with a grade of C- or better within their first year of study. This course may be satisfied by independent study and a proficiency test. Graduate credit is not given for this course.

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, 455 SSB. For additional information, call the director of graduate studies at 516-5307.

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Course Descriptions

Courses in this section are grouped as follows: Economics; Geography; and Home Economics.

Prerequisites may be waived by consent of the department.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 40, 51, 52, 210, 216, 217, 219, 220, 230, 231, 238, 240, 251, 252, 253, 256, 260, 261, 262, 265, 266, 270, 272, 302, 304, 305, 306, 317, 320, 331, 350, 352, 355, 357, 364, 365, 366, 367, 380, 395.
GEOGRAPHY: 101, 102, 211.

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40 Introduction to the American Economy (3)

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 does not substitute for Econ 51 or 52. Students who have already completed Econ 51 or 52 may not take Econ 40 for credit.

51 Principles of Microeconomics (3)

Prerequisite: Math 30. 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 Principles of Macroeconomics (3)

Prerequisite: Econ 51. 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.

210 Selected Topics in Economics (3)

Prerequisites: Econ 51 and 52. 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 Political Economy of Public Expenditures (3)

Prerequisite: Econ 51. 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 Political Economy of Government Revenues (3)

Prerequisite: Econ 51. 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 Law and Economics (3)

Prerequisite: Econ 51. 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 Money, Banking, and Monetary Theory (3)

Prerequisites: Econ 51 and 52. 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 International Economic Analysis (3)

Prerequisite: Econ 40, or 51, or 52. 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 International Finance (3)

Prerequisite: Econ 40, or 51, or 52. Introduction to international monetary systems; foreign exchange markets; financing of international transactions; the international position of the dollar.

238 Comparative Economic Systems (3)

Prerequisite: Econ 40, or 51, or 52. 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 Economic Development (3)

Prerequisites: Econ 51 and 52. 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 Intermediate Economic Theory: Microeconomics (3)

Prerequisites: Econ 51 and 52. Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition.

252 Intermediate Economic Theory: Macroeconomics (3)

Prerequisites: Econ 51, 52; 220 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.

253 Managerial Economics (3)

Prerequisite: Econ 51; Math 80 or 101 recommended. Application of microeconomic theory to the decision-making process in the business firm. Discussion of cost

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behavior, price and output determination under various competitive conditions, as well as factors affecting wages, interest, and profits.

256 The Consumer and the Economy (3)

Prerequisite: Econ 40 or 51. Examination of issues in consumer choice and personal financial management in today's economy. Analysis of methods of increasing consumer efficiency and the role of government in consumer protection.

260 Labor Economics (3)

Prerequisite: Econ 40, or 51, or 52. Forms of labor organization, state and federal labor legislation, and policies of labor unions. Emphasis on an application of economic theory to the relations of labor and business.

261 The Economics of Poverty and Income Maintenance (3)

Prerequisite: Econ 51 or permission of instructor. Considers the problems of defining and measuring poverty, as well as competing views of its causes. Examines the incentive effects of government transfer programs for the family's economic decisions, with emphasis on labor market behavior. Topics will include unemployment insurance, AFDC, food stamps, and negative income tax schemes.

262 Economics of Women, Men, and Work (3)

Prerequisite: Econ 40 or 51. 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 Economic Statistics (3)

Prerequisites: Math 30, Econ 51, and Econ 52. 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 Industrial Organization (3)

Prerequisite: Econ 51. 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 Urban and Regional Economics (3)

Prerequisites: Econ 51 and 52. 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 The Political Economy of Health Care (3)

Prerequisite: Econ 40 or Econ 51. 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.

302 Planning Processes in the Urban Economy (3)

Prerequisites: Econ 51 and junior standing. Economic techniques and criteria used in planning and evaluating programs and projects for the urban economy, including costing, cost-benefit and cost-effectiveness, and information control systems. Special attention will be given to St. Louis area studies for schools, transportation, public facilities, economic development, and social services delivery.

304 Survey Research Practicum (3)

(Same as PolSci 304 and Sociology 304.) Prerequisites: Junior standing 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.

305 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 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 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 Public Finance: State and Local (3)

Prerequisites: Econ 51 and 52 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 Financial Markets and Institutions (3)

Prerequisite: Econ 220. Demand, supply, and flow of funds in the macrofinancial system, including money, capital,

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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.

331 International Economic Analysis: Finance (3)

Prerequisite: Econ 231 or 252. Provides advanced study of the foreign sector in the theory and methods of international macroeconomics; income determination and trade balance; devaluation; international linkages; global monetary theory.

350 Quantitative Methods for Economics and Business Analysis (3)

Prerequisites: Math 30, Econ 51, Econ 52, or Business 410. (Concurrent enrollment in Business 410 is acceptable.) Econ 251 is recommended. An introduction to fundamental mathematical tools and their application to economic models and business analysis. Students who have completed Mathematics 175 or equivalent may not take Econ 350 for credit.

352 Analysis of Business Cycles (3)

Prerequisites: Econ 220; 252; 265 or equivalent. 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.

355 Business and Government (3)

Prerequisite: Econ 51. Relations between business firms and government at all levels. Questions of regulation, public ownership, guidelines, and competition considered.

357 Government Regulation and Antitrust Policy (3)

Prerequisite: Econ 51. 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 Natural Resource Economics (3)

Prerequisite: Econ 51, 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.

364 Manpower Policies (3)

Prerequisite: Econ 251, or Econ 260, or BA 410. Analysis of the allocation of human resources with emphasis on the economic theory of labor markets in both the short and the long run. Discussion of the operation of the labor market in specific occupations.

365 Introduction to Econometrics (3)

(Same as Public Policy Administration 365.) Prerequisites: Econ 52; Econ 251 or BA 410; Econ 265 or MS/IS 481 or Public Policy Administration 401; Math 80 or Math 101. 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 Applied Econometrics (3)

Prerequisite: Econ 365 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 Econometric and Time Series Forecasting (3)

Prerequisite: Econ 365 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.

380 History of Economic Thought (3)

Prerequisites: Econ 51 and 52. The evolution of economic thought from the ancients through post-Keynesian theory.

395 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 Seminar in Economic Research (3)

Prerequisites: Econ 220; Econ 251 or BA 410; Econ 252 or BA 411. 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.

420 Monetary Theory and Policy (3)

Prerequisites: Econ 220; Econ 251 or BA 410; Econ 252 or BA 411; Econ 350. 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.

Economics

421 Public Sector Microeconomics (3)

(Same as Public Policy Administration 421.) Prerequisite: Econ 251 or BA 410. 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 Financial Markets (3)

Prerequisites: Econ 220; Econ 251 or BA 410; Econ 252 or BA 411. 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 International Trade (3)

Prerequisite: Econ 251 or BA 410. 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 International Monetary Analysis (3)

Prerequisite: Econ 220; Econ 252 or BA 411. 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.

451 Microeconomic Analysis (3)

Prerequisites: Econ 251 or BA 410; Econ 252 or BA 411; Econ 350. Survey of microeconomic comparative statics. Detailed examination of demand and supply, product, and factor markets. Partial equilibrium in competitive, imperfectly competitive, and monopolistic markets.

452 Macroeconomic Analysis (3)

Prerequisites: Econ 251 or BA 410; Econ 252 or BA 411; Econ 350. 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 Topics in Managerial Economic Analysis (3)

Prerequisites: Econ 251 or BA 410; Econ 350. Considers how different types of economic organizations form and coordinate production using prices and other mechanisms. Emphasizes the role of transaction costs, bounded rationality under conditions of contract incompleteness, and insurance issues.

460 Structure and Performance of United States Industry (3)

Prerequisites: Econ 251 or BA 410; Econ 350. 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.

465 Econometric Theory and Methods (3)

Prerequisites: Econ 251 or BA 410; Econ 252 or BA 411; Econ 350; Econ 365 or MS/IS 481; Math 245 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 Business and Economic Forecasting (3)

Prerequisites: Econ 251 or BA 410; Econ 252 or BA 411; Econ 350; Econ 365 or MS/IS 481. 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 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.

472 Health Economics (3)

Prerequisites: Econ 251 or BA 410; Econ 265 or equivalent; Econ 365 or equivalent recommended. 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 Labor Economics: Theory and Public Policy (3)

Prerequisite: Econ 251 or BA 410. This course examines labor supply, labor demand, and market determination of wages. Topics covered include the effect of technological

Economics

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 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 Directed Readings (1-6)

Prerequisite: Consent of instructor. Independent study through readings, reports, research projects, and conferences.

Geography

101 Introduction to Geography (3)

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 World Regions (3)

Prerequisite: Geography 101 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.

210 Urban Geography (3)

Prerequisite: Sophomore standing. An in-depth examination of urban growth, the location and basis of cities, and the internal spatial structure of cities provide the main topics of consideration. In addition, contemporary urban problems including zoning, urban renewal, blight, the journey to work and shop, pollution, etc., are discussed with a spatial emphasis.

211 Location Theory (3)

Prerequisites: Math 80 or 101 and Econ 51. A survey of industrial location theory, agriculture location theory, and central place theory; programming formulations of location models; spatial competition; location-allocation problems; and noneconomic approaches to locational analysis.

220 Social Geography (3)

Prerequisite: Sophomore standing. Topics presented in a spatial (geographic) framework include the diffusion of innovations, population (distribution, problems, and solutions), settlement patterns, migration, poverty, and urban-social problems (e.g., race and residential choice).

Home Economics

83 Clothing Selection (3)

Study of line, form, space, color, and texture in selection of clothing as related to the individual. There will be wardrobe planning of men's, women's, and children's wear, as well as appropriate projects, field trips, and guest speakers.

130 Nutrition in Health (3)

A study of dietary nutrients essential for health, proper selection of foods to provide them, and current issues affecting them.

177 Community Nutrition (3)

Current issues and resources in nutrition. National nutrition policy, economic aspects of the food supply, nutrition-related roles of public agencies, selected nutrition programs, and community resources are emphasized.

181 History of Fashion and Costume (3)

An illustrated lecture presentation to gain insight into fashion as a kaleidoscopic portrayal of society and idiomatic style changes from ancient Egypt to the present. The course will cover the history of fashion as a definitive subject and will describe how costume reflects social, cultural, and political events of each period.

186 Fashion Merchandising (3)

A survey course of fashion merchandising with emphasis on retail principles, operations, and practices in the many sectors of fashion marketing. Specific application through case studies, problems, and field projects may be included.

330 Child Nutrition (3)

Prerequisite: Home Economics 130 or instructor's permission. A study of nutrition related to the major periods of development: fetal, infant, childhood, and adolescent.

English

Faculty

Jane Williamson, Associate Professor*, Chairperson
Ph.D., Bryn Mawr College
David Carkeet, Professor*
Ph.D., Indiana University
Joseph Carroll, Professor*
Ph.D., University of California-Berkeley
B. Bernard Cohen, Professor Emeritus
Ph.D., Indiana University
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
Charles Larson, Professor*
Ph.D., Indiana University
Howard Schwartz, Professor*
M.A., Washington University
James E. Tierney, Professor*
Ph.D., New York University
Peter Wolfe, Professor*
Ph.D., University of Wisconsin
Richard M. Cook, Associate Professor*
Ph.D., University of Michigan
Kathy Gentile, Associate Professor*
Ph.D., University of Oregon
Barbara Kachur, Associate Professor*
Ph.D., The Ohio State University
Deborah A. Larson, Associate Professor*
Ph.D., Columbia University
Bruce L. Liles, Associate Professor Emeritus*
Ph.D., Stanford University
John T. Onuska, Jr., Associate Professor*;
Ph.D., Harvard University
Sally Ebest, Associate Professor*
Ph.D., Indiana University
Jane Zeni, Associate Professor*
Ed.D., University of Missouri-St. Louis
Francis Grady, Assistant Professor*
Ph.D., University of California-Berkeley
Steven Schreiner, Assistant Professor*
Ph.D., Wayne State University
Dennis Bohnenkamp, Senior Lecturer
M.A., University of Missouri-Columbia
Ellie Chapman, Senior Lecturer Emerita
M.A., Murray State University
Bill Foster, Lecturer
M.A., University of Missouri-Columbia
Judy Gurley, Senior Lecturer
M.A., University of Arkansas
Linda Kick, Lecturer
M.A., University of Toronto
M.A., University of Missouri-Columbia
William Klein, Lecturer
M.A., University of Tulsa
Judith Linville, Lecturer
M.A., University of Arkansas
Terence Martin, Senior Lecturer
Ph.D., Southern Illinois University-Carbondale
David Rota, Senior Lecturer
Ph.D., Southern Illinois University-Carbondale

Nanora Sweet, Senior Lecturer *
Ph.D., University of Michigan
Susan Grant, Senior Lecturer
M.A., Southern Illinois University-Edwardsville
Charles Wartts, Lecturer in Creative Writing
M.F.A., University of Iowa
Harry Weber, Lecturer
M.A., University of Minnesota

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The English department offers or participates in the offering of the B.A. in English, the B.A. in English with certification for secondary teaching, and the B.S. in secondary education with a major 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 also 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, a writing track where half of the course work deals with composition and writing theory, or a creative writing track where 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

Majors must meet the University general education requirements and the requirements of the School or College from which they expect to receive their degree. After fulfilling the general education and specific major degree requirements, students are to take the remaining 70 hours required to complete the B.A. in English 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, and interdisciplinary. English courses may be used to meet the University's humanities requirement, **except** the following:

- 10, Freshman Composition
- 11, Freshman Composition for International Students
- 22, Traditional Grammar

English

112, Topics in Writing
 209, Practical Criticism: Writing About Literature
 210, Advanced Expository Writing
 211, Advanced Expository Writing for International Students
 212, Business Writing
 213, Technical Writing
 214, News Writing
 215, Feature Writing
 216, Writing in the Sciences
 218, Reporting
 262, The Curriculum and Methods of Teaching English
 300, Writing in the Professions
 305, Writing for Teachers
 313, Advanced Business and Technical Writing
 319, Editing

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, Freshman Composition
 11, Freshman Composition for International Students
 209, Practical Criticism: Writing About Literature
 210, Advanced Expository Writing
 211, Advanced Expository Writing for International Students
 212, Business Writing
 213, Technical Writing
 214, News Writing
 215, Feature Writing
 216, Writing in the Sciences
 218, Writing in the Sciences
 262, The Curriculum and Methods of Teaching English
 300, Writing in the Professions
 305, Writing for Teachers
 313, Advanced Business Writing
 319, Editing

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, Freshman Composition; English 11, Freshman Composition for International Students; and English 209, Practical Criticism: Writing About Literature.

- 1) Students majoring in English must take:
 131, English Literature I
 132, English Literature II
 171, American Literature I
 172, American Literature II
- 2) English 209, Practical Criticism: Writing About Literature. (For English majors, this course is a prerequisite or corequisite for 300-level courses in English.)
- 3) Students must also complete one course from five of the following nine areas:

Area 1 Medieval English
 324, Chaucer

325, Medieval English Literature

Area 2 Shakespeare

337, Shakespeare: Tragedies and Romances
 338, Shakespeare: Comedies and Histories

Area 3 The Renaissance

332, Elizabethan Poetry and Prose
 339, Tudor and Stuart Drama
 342, Early Seventeenth-Century Poetry and Prose
 345, Milton

Area 4 Restoration and Eighteenth-Century English

346, Restoration and Eighteenth-Century Drama
 352, Age of Dryden and Pope
 353, Age of Johnson
 364, The Eighteenth-Century English Novel

Area 5 Nineteenth-Century English

365, The Nineteenth-Century English Novel
 368, Early Romantic Poetry and Prose
 369, Later Romantic Poetry and Prose
 371, Prose and Poetry of the Victorian Period
 372, Literature of the Late Nineteenth and Early Twentieth Centuries

Area 6 Nineteenth-Century American

373, Selected Major American Writers I
 374, Selected Major American Writers II
 375, American Fiction to World War I

Area 7 Twentieth-Century English/American

376, Modern American Fiction
 383, Modern British Fiction
 384, Modern Poetry
 385, Modern Drama
 386, Poetry Since World War II

Area 8 Literary Criticism

321, History of Literary Criticism
 327, Contemporary Critical Theory

Area 9 Special Topics

306, Adolescent Literature
 323, Continental Fiction
 380, Studies in Women and Literature
 390, Seminar
 391, Special Topics in Jewish Literature
 395, Special Topics in Literature

Work in 100-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 or consent of the instructor as a prerequisite for all courses in Areas 1-4 and English 132 or consent of the instructor as a prerequisite for all courses in Areas 5 and 7, except American literature courses. English 171 or consent of the instructor is a prerequisite for all courses in Area 6, and both English 171 and English 172 or consent of the instructor are prerequisites for English 376. All survey courses (English 131, 132, 171, and 172) must be taken before the major has completed 90 hours toward a degree.

English

A maximum of six satisfactory/unsatisfactory hours may be taken in the department. Majors must compete at least 18 graded (i.e., not satisfactory/unsatisfactory) hours in English courses at the 200 level or above with a grade point of 2.0 or better in these courses.

Transfer students majoring in English must complete a minimum of 12 graded hours in English courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

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

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. Alternatively, this requirement may be met by an adolescent literature unit within a children's literature course.
- 2) Twelve hours in composition and rhetoric:
 - English 10**, Freshman Composition, may be counted.
 - English 209**, Practical Criticism: Writing About Literature, is required.
 - English 305/SEC ED 305**, Writing For Teachers, is required. Recommended courses include creative writing, journalism, and business writing.
- 3) English language requirements
 - a **English 122**, Traditional Grammar
Students with sufficient background may gain exemption from the English 122 requirement by passing the English-Educational Studies Test of Basic Grammar. This test may be taken only twice. Certification candidates must pass English 122 or the English-Educational Studies Test of Basic Grammar before applying for student teaching.
 - b **English 308**, English Grammar
 - c **English 307**, Linguistics or **English 309**, History of the English Language
- 4) **English 262**, The Curriculum and Methods of Teaching English. Must be taken before student teaching, and if possible, concurrently with SEC ED 213, Techniques of Secondary School Teaching.
- 5) **English 270**, English Teaching Intern Seminar, must be taken concurrently with SEC ED 290, 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.

Courses in professional education listed as requirements under the secondary education department are also required for secondary certification. Note that SEC ED 385, Problems of Teaching Reading in Secondary Schools, is required for prospective English teachers.

Bachelor of Science in Secondary Education with a Major in English 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 School of Education rather than those of the College of Arts and Sciences.

Minor in English A student may minor in English by taking at least 18 hours of English courses exclusive of Basic Writing, English 10, Freshman Composition, and English 11, Freshman Composition for International Students. English 209 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 advisor in the English department in order 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 three 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, Broadcast Writing and Reporting
Comm 217, Script Writing for Business and Industry
CCJ 200, Writing in Criminology and Criminal Justice
English 103, Poetry Writing
English 104, Short Story Writing
English 105, Play Writing
English 108, Advertising Copywriting, or Comm 103 Advertising Copywriting
English 209, Practical Criticism: Writing About Literature
English 210, Advanced Expository Writing
English 211, Advanced Expository Writing for International Students
English 212, Business Writing
English 213, Technical Writing
English 214 or Communication 214, News Writing
English 215, Feature Writing
English 216, Writing in the Sciences
English 218, Reporting
English 228 or Comm 228, Writing for Public Relations
English 300, Writing in the Professions
English 302, Writing Literary Criticism
English 303, Advanced Poetry Writing
English 304, Advanced Fiction Writing
English 305, Writing for Teachers
English 313, Advanced Business and Technical Writing
English 316, Gateway Writing Project
English 319, Editing
English 320, 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.)

English

Note: English 313, Advanced Business and Technical Writing, may be substituted for English 320 as the required final course for students who wish to do their final projects in business or technical writing.

Courses taken to fulfill requirements for the Writing Certificate may not be taken on a satisfactory/unsatisfactory basis.

Graduate studies

Admission Requirements

To enter the graduate program in English, a candidate must satisfy the requirements both of the Graduate School and of the Department of English. A candidate should have a bachelor's degree, with at least 24 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. In addition, the English department requires letters of recommendation from two of the applicant's former English instructors. The graduate committee will use the letters, the undergraduate record, and the Graduate Record Examination scores as the basis for its decision. Applications should be submitted according to the following schedule: May 1 for the Fall Semester; May 1 for the Summer Session; and December 1 for the Winter Semester. Late applications will be considered for the upcoming semester only if all spaces for that semester have not been filled.

Teaching Assistantships

A number of teaching assistantships are available for qualified applicants. 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-level courses. Nine hours may be taken in 300-level courses approved by the department and Graduate School.

At the outset of the program, students in the literature and writing theory tracks must take English 400, Introduction to Graduate Study in English, which focuses upon bibliography, research methods, and literary criticism. Students must receive graduate credit for English 400.

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 writing theory or creative writing tracks must take 18 hours in literature courses and 18 hours in writing courses. The literature courses should provide broad coverage, rather than a narrow focus on a particular genre or historical period.

Thesis Option Students in literature or composition and writing theory may elect the thesis option, which requires a total of six (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 details regarding the program may be found in *The Master of Arts in English*, available from the English department.

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, placing a premium upon creation and interpretation of the written word. Numerous recent English majors have successfully entered law school.

English

Course Descriptions

Courses in this section are grouped as follows: Composition; Language; Literature; and Special Offerings.

English 10, Composition, or its equivalent, is a general prerequisite for all English courses numbered 131 and above. This, and other specific prerequisites, may be waived by consent of the department.

English 210, Advanced Expository Writing, its equivalent or consent of the instructor is a general prerequisite for all literature courses numbered 300 and above for non-English majors.

The following courses fulfill the Humanities [H] breadth of study requirements: COMPOSITION: 103, 104, 105, 302, 303, 304. LANGUAGE: 220, 322. LITERATURE: 12, 13, 15, 16, 17, 20, 70, 71, 120, 123, 124, 125, 126, 127, 128, 131, 132, 133, 134, 135, 171, 172, 225, 280, 306, 321, 323, 324, 325, 327, 332, 337, 338, 339, 342, 345, 346, 352, 353, 364, 365, 368, 369, 371, 372, 373, 374, 375, 376, 380, 383, 384, 385, 386, 391, 395. SPECIAL OFFERINGS: 250, 390. THEATRE: 21, 23, 80, 198, 223, 261, 281, 282, 322.

Composition

10 Freshman Composition (3)

This course teaches critical reading and thinking skills and emphasizes writing as a process. It is designed to prepare students for college writing by moving them through a sequence of increasingly complex writing assignments, beginning with the narrative and ending with the research paper. Class discussion and small-group workshops focus on problems of invention, organization, development, and revision in essay writing. The course fulfills the campus freshman writing requirement. It does not count toward the major in English.

11 Freshman Composition for International Students (3)

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 in all University requirements.

103 Poetry Writing (3)

Prerequisite: English 10 or equivalent. Theory and practice of poetry writing.

104 Short Story Writing (3)

Prerequisite: English 10 or equivalent. Theory and practice of writing the short story.

105 Play Writing (3)

Prerequisite: English 10 or equivalent. Theory and practice of writing plays.

108 Advertising Copywriting (3)

(Same as Communication 108.) To give students a hands-

on approach for writing advertising material for print and broadcast against tight deadlines in a professional setting.

112 Topics in Writing (3)

Prerequisite: English 10 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.

209 Practical Criticism: Writing About Literature (3)

Prerequisites: English 10 or equivalent and junior standing or consent of the department. 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.

210 Advanced Expository Writing (3)

Prerequisites: English 10 or equivalent and junior standing or consent of department. Development of the writer's style and critical and analytical capabilities. Course offers an introduction to research methods and fulfills the University requirement for a junior level course in communicative skills. May not be taken on the satisfactory/unsatisfactory option.

211 Advanced Expository Writing for International Students (3)

Prerequisite: English 11 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.

212 Business Writing (3)

Prerequisites: English 10 or equivalent and junior standing or consent of department. The major elements of business writing. Writing assignments include business correspondence (inquiry, complaint, employment letters, etc.), reports (informal, travel, periodic, etc.), proposals (sales, etc.), analysis (marketing research, etc.), and writing for House organizations (company newsletters, etc.). 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 business material. Fulfills the University requirement for a junior-level course in communicative skills, subject to

English

the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option.

213 Technical Writing (3)

Prerequisites: English 10 or equivalent and junior standing or consent of department. The major elements of industrial technical writing. Writing assignments include technical descriptions, abstracts, 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 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.

214 News Writing (3)

(Same as Communication 214.) Prerequisite: English 10 or equivalent. An introduction to news writing and reporting. Course covers basic components of news, reporting principles, and news writing style and structure. Daily writing assignments include coverage of speeches, meetings and interviews, accidents, deaths, courts, sports, consumer affairs, and government. Emphasis on clarity, accuracy, and speed.

215 Feature Writing (3)

Prerequisite: English 10 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. Fulfills the University requirement for a junior-level course in communicative skills. May not be taken on the S/U option.

216 Writing in the Sciences (3)

Prerequisite: English 10 or equivalent and junior standing or consent of department. 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 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.

218 Reporting (3)

Prerequisite: English 214 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.

228 Public Relations Writing (3)

(Same as Comm 228.) Prerequisite: English 214 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.

300 Writing in the Professions (3)

Prerequisite: Completion of the University's junior-level requirement in communication skills. A reading and writing course (1) to analyze and imitate the ways that writers in the arts and humanities, sciences, and business adapt their on-paper personalities, topics, organizations, and styles to achieve different aims or address different audiences; and (2) to speculate what finished texts imply about how different writers and disciplines see the world.

302 Writing Literary Criticism (3)

Prerequisite: English 210 or equivalent as judged by instructor. Intensive training in the writing of literary criticism, with some attention to the bibliography and to methods of research in literature. Recommended for all English majors.

303 Advanced Poetry Writing (3)

Prerequisite: English 210 or its equivalent as judged by instructor. Workshop in poetry writing.

304 Advanced Fiction Writing (3)

Prerequisite: English 210 or its equivalent as judged by instructor. Workshop in fiction writing.

305 Writing for Teachers (3)

(Same as SEC ED 305.) Prerequisite: English 210 or a comparable course in advanced composition. Designed for prospective as well as in-service teachers, the course includes: (1) writing—short papers to be shared in workshop groups; (2) reading—current theory and research on writing and the implications for teachers; (3) teaching—classroom activities that foster growth in writing.

313 Advanced Business and Technical Writing (3)

Prerequisite: English 210 or its equivalent as judged by instructor. An advanced, project-oriented course to produce substantial, multifaceted business and technical writing projects (e.g., reports, manuals, proposals) that demonstrate the ability to handle complex assignments requiring initiative, independent judgment, and good writing skills.

319 Editing (3)

Prerequisites: English 210 or its equivalent as judged by instructor; English 22 or English 322. Introduction to the language and processes of editing. Includes copy editing, the study of style manuals, and an overview of the production process. Counts toward requirement for the Writing Certificate.

320 Independent Writing Project (3)

Prerequisite: English 210 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

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individually with the instructor to complete an extensive writing project.

485 Theories of Writing (3)

An analysis of major modern theories in composition.

486 Studies in Rhetoric (3)

Provides graduate students with a clear definition of and strong background in rhetoric. Topics may include classical rhetoric, modern rhetorical theory, rhetoric/composition.

487 Writing/Reading Theory (3)

The parallel evolution of reading and writing theory and pedagogy. Topics include the influence of psycho-linguistics and reader-response theory and the link between reading and writing theory and instruction.

488 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 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 Gateway Writing Project (1-6)

(Same as SEC ED 436.) 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 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 Graduate Workshop in Poetry (3)

Prerequisite: Open to students in the creative writing 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 compile an ongoing body of original poetry. May be repeated for maximum graduate credit of nine (9) hours.

493 Graduate Workshop in Fiction (3)

Prerequisite: Open to students in the creative writing 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 compile an ongoing body of original fiction. May be repeated for maximum graduate credit of nine (9) hours.

494 Final Writing Project (3)

Prerequisite: Successful completion of 12 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. Students will be required to write at least 60 pages of original poetry or fiction of publishable quality.

Language

122 Traditional Grammar (3)

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 Linguistics (3)

Prerequisite: English 210; majors, English 209. 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 English Grammar (3)

Prerequisite: English 210; majors, English 209. A study of modern English grammar from the perspectives of traditional, structural, and transformational grammar.

309 History of the English Language (3)

Prerequisite: Prerequisites: English 10 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 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

12 Literary Types (3)

The student is introduced to the various literary types, including poetry, drama, fiction, and the essay.

13 Topics in Literature (3)

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.

14 Short Subjects (1)

A course on special limited subjects in literature, language, or writing. Content will vary from semester to semester. Subject matter may include, for example, Shakespeare's sonnets, the novels of Tolkien, Wertmüller's films, or any other topics suitable for treatment in a one-hour course. Since the topics of English 14 may change each semester,

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the course may be repeated for credit if the topics are substantially different.

15 Images of the Elderly in Film (3)

(Same as Gerontology 15.) 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 Images of Age in Literature (3)

(Same as Gerontology 16.) 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 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 Myth (3)

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 African-American Literature (3)

A survey of prose, poetry, and drama by black Americans from the period of enslavement through the Negro Renaissance to the present.

71 Native American Literature (3)

(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 Classical Literature in Translation (3)

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 Jewish Literature (3)

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 Literature of the New Testament (3)

A comprehensive understanding of the New Testament, its literary background, and significance for Western civilization.

125 Literature of the Old Testament (3)

Prerequisite: Sophomore standing or consent of instructor. A comprehensive understanding of the Old Testament, its literary background, and significance for Western civilization.

126 Continental Medieval Masterpieces in Translation (3)

A survey of the masterworks of the early and later Middle Ages, to include the *Divine Comedy*, *Nibelungenlied*, *Song of Roland*, *El Mio Cid*, selections from *Chretien de Troyes*, Boccaccio's *Decameron*, and Machiavelli's *The Prince*.

127 Survey of European Literature From 1650 to the Second World War (3)

Works of continental writers such as Moliere, Goethe, Dostoevsky, Ibsen, and Kafka, read in translation.

128 The Contemporary World in Literature (3)

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 English Literature I (3)

The development of English literature from the Middle Ages through the eighteenth century. Reading and analysis of representative works of selected major writers.

132 English Literature II (3)

The development of English literature during the nineteenth and twentieth centuries. Reading and analysis of representative works of selected major writers.

133 Introduction to Poetry (3)

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 Introduction to Drama (3)

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 Introduction to Fiction (3)

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 American Literature I (3)

Representative selections from American authors from the middle of the seventeenth century to the middle of the nineteenth century.

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172 American Literature II (3)

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."

225 Themes and Forms in Literature (3)

The study of particular literary ideas, modes, and genres, and their significance. Topics announced in advance by the department. Since the topics of English 225 may change each semester, the course may be repeated for credit if the topics are substantially different.

280 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 may change each semester, the course may be repeated for credit if the topics are substantially different.

306 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; multi-culturalism; 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 History of Literary Criticism (3)

Historical survey of the principles of literary criticism from Plato to the present.

323 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 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 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 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.

332 Elizabethan Poetry and Prose (3)

Spenser, Sidney, Wyatt, and other poets of the latter sixteenth century. The origin and development of prose fiction.

337 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 Shakespeare: Comedies and Histories (3)

Shakespeare's early work for the theatre 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 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 theatres 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 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 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 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 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 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 The Eighteenth-Century English Novel (3)

The origins and early development of the English novel, from Defoe to Jane Austen.

365 The Nineteenth-Century English Novel (3)

Novels of the Romantic and Victorian Periods, from Austen to George Eliot.

368 Early Romantic Poetry and Prose (3)

The English romantic movement with special emphasis on

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the early writers—Blake, Wordsworth, and Coleridge. Additional readings in selected prose writers and minor poets.

369 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 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 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 Selected Major American Writers I (3)

American literature of the nineteenth century: Emerson, Thoreau, Hawthorne, Melville, Whitman, and others.

374 Selected Major American Writers II (3)

American literature of the late nineteenth and early twentieth centuries: James, Twain, Stephen Crane, Dreiser, and others.

375 American Fiction to World War I (3)

Development of the novel and short story in America.

376 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 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 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 Modern Poetry (3)

Critical reading and analysis of poetry of the late nineteenth and early twentieth centuries: Yeats, Eliot, Frost, Williams, and others.

385 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 Poetry Since World War II (3)

Reading and analysis of contemporary poetry.

391 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 Special Topics in Literature (3)

Special topics in literature that are not covered in other 300-level English courses. Since the topics of English 395 may change each semester, the courses may be repeated for credit if the topics are substantially different.

400 Introduction to Graduate Study in English (3)

A course especially designed to prepare students to perform effectively in graduate classes in English. The course is concerned with basic bibliographical tools; terminology, both technical and historical; various approaches to the study of literature, such as intrinsic analysis of a literary work, the relationships of biography to literary study, and the relevance of other disciplines (psychology or philosophy, for example) to literature; the writing of interpretive and research essays. Throughout the semester a balance between criticism and research is maintained.

415 Literary Criticism (3)

An examination of selected theories of literature.

416 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.

420 Old English (3)

Elements of old English grammar and exercises from Anglo-Saxon literature.

421 Studies in Middle English Literature (3)

Special topics in English literature before 1500.

430 Renaissance Literature (3)

Special topics in English literature from 1500 to 1660.

450 Eighteenth-Century Literature (3)

Studies in Augustan poetry and prose, including drama and fiction, with emphasis on background and major figures.

460 Studies in Poetry (3)

Study of a few selected British and American poets.

465 Studies in Fiction (3)

Study of a few selected British and American novelists and short story writers.

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467 Studies in Drama (3)

Study of a few selected British and American dramatists.

470 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 American Literature Before 1900 (3)

Selected American writers or topics from the Colonial period to 1900.

476 Twentieth-Century American Literature (3)

Selected American writers or topics from 1900 to the present.

480 Twentieth-Century British Literature (3)

Selected British and Commonwealth writers of the twentieth century.

495 Seminar in Special Topics (1-3)

Special topics which are not covered in other graduate-level English courses.

497 Independent Reading (1-3)

Directed study in areas of English for which courses are not available.

499 Thesis (6)

Prerequisite: 3.5 graduate G.P.A. Thesis research and writing on a selected topic in English studies.

Special Offerings

250 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 The Curriculum and Methods of Teaching English (3)

(Same as SEC ED 232.) Prerequisites: SEC ED 213 and a near-major in the subject matter. 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.

270 English Teaching Intern Seminar (1)

(Same as SEC ED 270.) Prerequisite: Concurrent enrollment in SEC ED 290. 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.

390 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 may change each

semester, the course may be repeated for credit if the topics are substantially different. Enrollment limited to twelve students.

Theatre

21 Fundamentals of Acting (3)

Oral and physical communication of a role through improvisations, exercises, and scene work. Emphasis on modern representational method with some attention given to other styles.

23 Production Aesthetics (3)

An analysis of the visual components of dramatic presentation, including an introduction to theatrical styles and forms, technical design elements, and presentational techniques. A broad survey of theatre production.

60 Voice and Diction (3)

A course designed to aid the student in developing clear and distinct enunciation and in using correct pronunciation as requisite in mass media communication, public address, theatre, and oral interpretation.

80 Introduction to the Theatre (3)

A study of theatre as an art form, emphasizing the audience's appreciation of the art of the playwright, actor, director, and designer. Study of major periods, genres, and plays from classical to modern times.

124 Stage Movement (3)

Training in movement techniques for the stage, including mime, stage combat, and dramatic dance forms.

125 Stagecraft (4)

A survey of the theory and practice of stage scenery methods. Practical experiences in construction, rigging, and stage lighting and painting techniques, as well as supervised work in all other phases of theatrical production will be emphasized. Two hours of lecture and four hours of laboratory.

126 Costuming for the Theatre (3)

This course covers the theory and practice of costume design and construction. It includes an overview of the history of clothing and fashion and its effect on the actor playing period drama. Lab required.

128 Stage Lighting (3)

Prerequisite: Theatre 23 or consent of instructor. An introduction to the theory and practice of stage lighting. The course will include a variety of established theories of stage lighting as well as practical training in lighting instrumentation and control systems.

198 Practicum in Theatre (1-2)

Prerequisites: Theatre 21, 23, or 80. Laboratory experience in campus theatre production from one of the following areas: acting, directing, stage management, lighting sound design, scene construction, house management. Repeatable, but no more than four credit hours may be earned in departmental practicum courses.

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221 Ensemble Acting (3)

Prerequisite: Theatre 21. Laboratory-discussion course emphasizing role analysis, scene study, characterization, and ensemble acting.

223 Aesthetics of Theatrical Styles (3)

Prerequisite: Theatre 23. Analysis of the development of dramatic and artistic styles as they affect the visual presentation of ideas in theatre.

224 Movement for Musical Theatre (3)

Prerequisite: Theatre 124 or consent of instructor. Specialized training in movement and dance techniques for musical theatre.

225 Designing for the Theatre (3)

An introduction to the theories and practices of scenic and costume design for the theatre. The course will survey the evolution of theatrical designs through different cultures, dramatic genres, and theatre architecture.

261 Readers Theatre (3)

Prerequisite: Communication 160. Study of the oral interpretation of literature as a theatrical experience. Study of theory, techniques, and performance.

281 Theatre from the Ancient Greeks to the Restoration (3)

Prerequisite: Theatre 80 or consent of instructor. History of theatre and drama from Classical Greek to the Restoration period.

282 Theatre from the Eighteenth Century to the 1990s (3)

Prerequisite: Theatre 80 or consent of instructor. History of theatre and drama from the eighteenth century to the present.

321 Acting Styles (3)

Prerequisite: Theatre 221. Studies in period acting styles, emphasizing cultural distinctions in manners, movement, and vocal practice.

322 Directing for the Theatre (3)

Prerequisite: Theatre 21 or consent of instructor. A survey of the theories and practices of theatrical directing. The course will explore the director's role in the theatre from script analysis and production planning to the performance of laboratory scenes.

323 Theatre Management (3)

Prerequisite: Communication 135. Comprehensive study of theatre management techniques, including season selection, budget control, box office, facility management, and promotional techniques for theatre.

398 Internship in Theatre (3)

Prerequisite: Senior standing with at least 12 hours of course work in theatre. Supervised practical work at a theatre off-campus in one of the following areas: acting, directing, design stage management. Repeatable, but no more than six hours total credit may be earned in internship courses.

Foreign Languages and Literatures

Faculty

Ingeborg M. Goessl, Assistant Professor*, Chairperson, German

Ph.D., University of Kansas

Linda Quinn Allen, Assistant Professor, French

Ph.D., Purdue University

Marcus Allen, Associate Professor Emeritus*, French

Ph.D., University of Pittsburgh

Albert J. Camigliano, Assistant Professor*, German

Ph.D., University of Wisconsin

Roland A. Champagne, Professor*, French

Ph.D., The Ohio State University

Alfred F. Goessl, Associate Professor Emeritus*, German

Ph.D., Tulane University

Paul R. Hoffman, Assistant Professor Emeritus, German

M.A., University of Michigan

Rolf R. Mueller, Assistant Professor, German

Ph.D., University of Kansas

Theresa Sears, Associate Professor, Spanish

Ph.D., Cornell University

Lorna V. Williams, Professor*, Spanish

Ph.D., Indiana University

Jeanne Morgan Zarucchi, Associate Professor*; French

Ph.D., 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, Lecturer, French

M.A., Washington University

Martha Caeiro, Lecturer, Spanish

M.A., Washington University

Sandra Harris, Lecturer, French

M.A., University of Missouri-Columbia

Geremie Hoff, Senior Lecturer, Italian and Spanish

M.A., Webster University

Denise Mussman, Lecturer, ESL

M.A., University of Illinois-Chicago

Margaret B. Phillips, Lecturer, Latin

Ph.D., St. Louis University

Susana Walter, Lecturer, Spanish

M.A., Washington University

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The Department of Foreign Languages and Literatures offers course work in French, German, and Spanish, leading to the B.A. degree, and a field of concentration in each of these languages for those students seeking the B.S. degree in education. In addition, the department offers lower-level courses in Chinese, English as a Second Language, Italian, Japanese, Korean, Latin, and Russian.

Courses in Chinese, Japanese and Korean are offered on the UM-St. Louis campus in conjunction with Washington University faculty, as part of the Joint Center for East Asian Studies. 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 and St. Louis University. 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 3-6 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 that is renewable each semester on a competitive basis. For information, contact the department.

German Majors Students of German may apply for UM-St. Louis Summer Abroad scholarships that will partially finance their summer studies abroad. Qualified German majors with junior or senior standing may apply for educational fee waivers. For information, contact the department.

Departmental Honors Candidates for departmental honors in French, German, 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 and 002)
- 2) maintain an overall GPA of 3.2
- 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

Any course offered by the department may be taken on a satisfactory/unsatisfactory basis by nonmajors except Language 001, 002, and 101 (or equivalent), and Language 115a, b, and c, Intensive Language. Courses taken as a part of the major may not be taken on a satisfactory/unsatisfactory basis.

Students who have fulfilled the language requirement (thirteen hours: Language Courses 001, 002, and 101) may enroll in a second language on a satisfactory/unsatisfactory basis.

Foreign Languages and Literatures

Specific Requirements or Restrictions

Students entering with no high school language units must enroll in Language 001 or may enroll in Language 115. Language 115 (a, b, and c) is the intensive study of a language and will satisfy the foreign language requirement.

A D in a Language 001 course is a passing grade but not an entrance grade for a Language 002 course. A D in a Language 002 course is a passing grade but not an entrance grade for a Language 101 course or its equivalent. A D in a Language 101 course fulfills the language requirement, but is not an entrance grade for a higher level course.

Students with a degree of proficiency equivalent to 13 hours of college-level work may obtain exemption and/or credit by passing the department's placement exam. Upon taking the exam, non-native speakers of the language will receive credit (up to 13 hours) provided that they take a higher level course at UM-St. Louis and receive a grade of C- or better. A native speaker is defined as a person who speaks the target language fluently and has had formal schooling through the secondary-school level or equivalent in the target language. The specific dates for the exam are announced in the Schedule of Courses or may be obtained from the admissions office or the department.

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 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 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 and 002). The maximum number of hours that may be taken in the major is 45 (including Language 001 and 002). In addition, students seeking the B.A. in a foreign language who desire a teaching certificate must also take Course 264 (same as SEC ED 274), Curriculum and Methods of Teaching Foreign Languages, Course 364 (same as SEC ED 374), Foreign Language Teaching Seminar, and fulfill the professional secondary education requirements of the School 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 and 002), 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 School of Education concerning their program.

Transfer Students

Transfer students majoring in one of the modern 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 on 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, Intermediate French Language and Culture, or the equivalent
- 170, Composition and Conversation
- 180, Readings in French
- 200, Advanced Grammar
- 211, Contemporary French Civilization
- 280, French Literature I: Middle Ages to Eighteenth Century
- 281, French Literature II: Nineteenth and Twentieth Centuries

and four courses at the 300 level.

In addition to fulfilling the general education and specific major degree requirements, each French major is advised to take 15 hours of electives from two or more of the following areas: art, economics, English, history, music, philosophy, or political science. Listings of recommended courses may be obtained in the department office. The remaining hours should be selected from university-level courses at UM-St. Louis in one or more of the areas listed below 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, and interdisciplinary.

The following courses are also strongly **recommended**:

- German 110**, Masterpieces of German Literature in Translation
- Spanish 110**, Spanish Literature in Translation
- History 332c**, Modern France: To 1870
- History 333a**, Contemporary France: Since 1870

German

Each major in German must complete the following courses:

Foreign Languages and Literatures

101, Intermediate German Language and Culture
170, Composition and Conversation
180, Readings in German
201, Masterpieces of German Literature
202, The German Novelle and Drama
208, Intermediate Composition and Conversation
210, German Culture and Civilization

and **four** courses at the 300 level.

In addition to fulfilling the general education and specific major degree requirements, each German major is advised to take 15 hours of electives from two or more of the following areas: art, economics, English, history, music, philosophy, or political science. Listings of recommended courses may be obtained in the department office. The remaining hours should be selected from university-level courses at UM-St. Louis in one or more of the areas listed below 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, and interdisciplinary.

The following courses are also strongly recommended:

English 120, Classical Literature in Translation
English 337, Shakespeare: Tragedies and Romances
French 110, Modern French Literature in Translation, or **150**, European Literature in Translation: Special Topics
Spanish 110, Spanish Literature in Translation, or **150**, European Literature in Translation: Special Topics
History 333b, Germany in the Modern Age
Philosophy 105, Twentieth-Century Philosophy

Spanish

Each major in Spanish must complete the following courses:

101, Intermediate Spanish Language and Culture, or **105**, Commercial Spanish, or the equivalent

Two of the following three:

171, Spanish Conversation and Pronunciation
172, Spanish Composition
180, Readings in Spanish
200, Syntax of the Spanish Language
210, Hispanic Culture and Civilization: Spain, or **211**, Hispanic Culture and Civilization: Spanish America
280, Introduction to Hispanic Literature: Spain
281, Introduction to Hispanic Literature: Spanish America

and four courses at the 300 level, one of which must be: **399**, Seminar on Hispanic Literature

In addition to fulfilling the general education and specific major degree requirements, each Spanish major is advised to take 15 hours of electives from two or more of the following areas: art, economics, English, history, music, philosophy, or political science. Listings of recommended

courses may be obtained in the department office. The remaining hours should be selected from university-level courses at UM-St. Louis in one or more of the areas listed below 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, and interdisciplinary.

The following courses are also strongly recommended:

French 110, Modern French Literature in Translation, or **150**, European Literature in Translation: Special Topics
German 110, Masterpieces of German Literature in Translation
History 332a, History of Spain
History 371, History of Latin America: to 1808
History 372, History of Latin America: Since 1808
PolSci 253, Political Systems of South America
PolSci 254, Political Systems of Mexico, Central America, and the Caribbean

Specific Requirements for the Minor

A minor in French, German, or Spanish may be earned by completing six courses in the language beginning with Language 101 or its equivalent. These courses must be completed with a grade of C- or better. Transfer students must complete at least two courses for the minor at UM-St. Louis. After Language 101, students must complete the following courses in the language of their chosen minor:

French

French 170, Composition and Conversation
French 180, Readings in French
French 280, French Literature I, or **French 281**, French Literature II

Plus any two additional courses on the 200 level or above.

German

German 170, Composition and Conversation
German 180, Readings in German
German 201, Masterpieces of German Literature, or **German 202**, The German Novelle and Drama
Plus any two additional courses on the 200 level or above.

Spanish

Two of the following three:

Spanish 171, Conversation and Pronunciation
Spanish 172, Composition
Spanish 180, Readings in Spanish
Spanish 200, Syntax of the Spanish Language, or **Spanish 271**, Advanced Spanish Conversation
Spanish 280, Introduction to Hispanic Literature: Spain, or **Spanish 281**, Introduction to Hispanic Literature: Spanish America

Plus an additional course on the 200 level or above.

Foreign Languages and Literatures

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.

Foreign Languages and Literatures

Course Descriptions

Prerequisites may be waived by consent of the department.

The following courses fulfill the Humanities [H] breadth of study requirements:

FRENCH: 110, 150, 180, 211, 280, 281, 331, 341, 342, 353, 354, 362, 365, 371, 375, 390. GERMAN: 110, 150, 180, 201, 202, 210, 315, 320, 345, 397, 398, 399. SPANISH: 110, 111, 150, 180, 210, 211, 280, 281, 310, 315, 320, 321, 325, 330, 331, 335, 340, 345, 351, 360, 399.

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 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 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 Intermediate Chinese I (5)

Prerequisite: Chinese II or equivalent. Grammar review and continued development of language skills.

102 Intermediate Chinese II (5)

Prerequisite: Chinese 101 or equivalent. Continuation of Chinese 101.

English as a Second Language

301 Conservation and Pronunciation (3)

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. Placement by assessment or consent of program coordinator.

302 Listening and Note-taking (2)

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. Placement by assessment or consent of program coordinator.

303 Writing and Reading (3)

Students develop vocabulary, organization and grammatical accuracy for college level writing. Reading and editing skills are emphasized. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

305 Advanced ESL Grammar (2)

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 Special Readings (1-3)

Prerequisites: Consent of instructor. Independent study through readings, reports and conferences.

400 International Teaching Assistant Seminar (1-3)

Prerequisites: Consent of instructor. 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 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 French II (5)

Prerequisite: French 1 or equivalent. Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate French Language and Culture (3)

Prerequisite: French 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

110 Modern French Literature in Translation (3)

Prerequisite: Sophomore standing. Reading and discussion of selected works in French literature from the modern period, in English translation. No credit toward major in French.

111 Francophone Culture (3)

Prerequisites: French 101 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, 115B, 115C Intensive French (5)

Prerequisites: Aptitude test and permission of department. An intensive study of French. 115a, 115b, 115c 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.

Foreign Languages and Literatures

125 Introduction to French/English Translation Techniques (3)

Prerequisite: French 101 or equivalent, or permission of instructor. Practical training in translating from English into French and French into English using a variety of technical, scientific, literary, and commercial texts.

150 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 is announced in advance by the department. Does not count toward major in French.

160 French Phonetics (3)

Prerequisite: French 101 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 Composition and Conversation (3)

Prerequisite: French 101 or equivalent. Emphasis will be placed on the development of speaking and writing skills in French.

180 Readings in French (3)

Prerequisite: French 170 or equivalent. Development of language skills through reading and discussion of literary texts.

190 Special Readings in French (1-3)

Prerequisites: French 101 and consent of the department. Independent study on mutually acceptable topics through readings, reports, and conferences.

200 Advanced Grammar (3)

Prerequisite: French 170 or equivalent. Problems in grammatical analysis.

205 Commercial French (3)

Prerequisite: French 170 or equivalent. Introduction to French business language with emphasis on technical vocabulary and correct French usage in business affairs.

211 Contemporary French Culture (3)

Prerequisite: French 180 and 200 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 in French.

264 Curriculum and Methods of Teaching Foreign Languages (3)

(Same as SEC ED 274.) Prerequisites: SEC ED 213 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.

271 Intermediate French Conversation (3)

Prerequisites: French 170 or consent of department.

Emphasis will be placed upon the further development of oral skills in French.

280 French Literature I: Middle Ages to Eighteenth Century (3)

Prerequisite: French 180 and 200 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 French Literature II: Nineteenth and Twentieth Centuries (3)

Prerequisite: French 180 and 200 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 Special Readings (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

300 Syntax and Stylistics (3)

Prerequisite: French 200 or equivalent. Advanced theoretical and practical study of modern French syntax. Analysis of French prose style.

331 Medieval and Renaissance Literature (3)

Prerequisite: French 280 or 281. 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 Seventeenth-Century French Theatre and Poetry (3)

Prerequisite: French 280 or 281. Critical reading and analysis of French Classical Age theatre and poetry, including works by Corneille, Moliere, Racine, and La Fontaine.

342 Seventeenth-Century French Prose (3)

Prerequisite: French 280 or 281. 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 Eighteenth-Century French Literature (3)

Prerequisite: French 280 or 281. The philosophic movement. Selected readings of the eighteenth century, including Montesquieu, Voltaire, Diderot, and Rousseau.

354 Eighteenth-Century French Theatre and Novel (3)

Prerequisite: French 280 or 281. Critical reading and discussion of representative novels and plays of the eighteenth century.

362 Nineteenth-Century French Novel (3)

Prerequisite: French 280 or 281. Critical reading of selected works by the major novelists of the period. Discussion of realism and naturalism.

364 Foreign Language Teaching Seminar (2)

(Same as SEC ED 374.) Prerequisite: Concurrent enrollment in SEC ED 290 or consent of instructor. A practicum course in

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the teaching of foreign languages. Review and explanation of drills, dialogues, and a variety of classroom techniques, oral and written. A continuation of French 264, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with SEC ED 290, Student Teaching.

365 Modern French Poetry (3)

Prerequisite: French 280 or 281. A study of French poetry in the nineteenth and twentieth centuries through critical readings of selected works by major poets.

371 Twentieth-Century French Novel (3)

Prerequisite: French 280 or 281. A study of selected works by the principal novelists of the modern period.

375 Modern French Theatre (3)

Prerequisite: French 280 or 281. A study of French drama in the nineteenth and twentieth centuries through critical study of selected works by major dramatists.

390 Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

399 French Seminar (3)

Prerequisite: French 280 or 281. Specialized topic in French literature. Subject to be announced by instructor in charge of seminar.

400 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 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 German II (5)

Prerequisite: German 1 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.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

50 German for Reading Knowledge (3)

This course presumes no prior knowledge of German and is designed to provide the student with a basic recognition knowledge of vocabulary, structure, and syntax. German for Reading Knowledge does not fulfill the language requirement nor does it count toward a major or minor in German.

100 Scientific German (3)

Prerequisite: German 2 or equivalent. Reading of selected German texts in the natural and social sciences. Designed primarily for majors in these areas. This course is the equivalent of German 101. German 101 and German 100 may not both be taken for credit.

101 Intermediate German Language and Culture (3)

Prerequisite: German 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

110 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 major in German.

115A, 115B, 115C Intensive German (5)

Prerequisites: Aptitude test and permission of department. An intensive study of German assuming no previous knowledge of German. 115a, 115b, 115c 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 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 Composition and Conversation (3)

Prerequisite: German 101 or equivalent. Emphasis will be placed on the development of speaking and writing skills in German.

180 Readings in German (3)

Prerequisite: German 170 or equivalent. May be taken concurrently. Further development of language skills through readings and discussions of literary texts.

190 Special Readings (1-3)

Prerequisites: German 101 and consent of department. Independent study on mutually acceptable topics through readings, reports, and conferences.

201 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 The German Novelle and Drama (3)

Prerequisite: German 201 or equivalent. Reading and critical analysis of selected German Novellen and dramas.

208 Intermediate Composition and Conversation (3)

Prerequisite: German 170 or equivalent. Emphasis on speaking and writing German.

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210 German Culture and Civilization (3)

Prerequisite: German 180 or equivalent. A survey of the development of German culture and civilization. All reading and class work in German.

264 Curriculum and Methods of Teaching Foreign Languages (3)

(Same as SEC ED 274.) Prerequisites: SEC ED 213 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.

290 Special Readings: German (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

308 Advanced Composition and Conversation (3)

Prerequisite: German 208 or equivalent. Continuation of German 208. Designed to develop accuracy and fluency of expression in German.

315 German Classicism and Romanticism (3)

Prerequisites: German 201 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 German Realism and Naturalism (3)

Prerequisites: German 201 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 Modern German Literature (3)

Prerequisites: German 201 and one other 200-level course in German. Representative works from modern German literature.

364 Foreign Language Teaching Seminar (2)

(Same as SEC ED 374.) Prerequisite: Concurrent enrollment in SEC ED 290 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 German 264, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with SEC ED 290, Student Teaching.

390 Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

397 Survey of German Literature Part I (3)

Prerequisite: German 201 or 202. 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 Survey of German Literature Part II (3)

Prerequisite: German 201 or 202. 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 German Seminar (3)

Prerequisite: German 201 or 202. Specialized topic in German literature.

Ancient Greek

001 Ancient Greek 1 (5)

Study of grammar, syntax, and vocabulary, accompanied by readings of simple prose selections.

002 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.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate Ancient Greek Language and Culture (3)

Prerequisite: Ancient Greek 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

151 Greek and Latin in English Today (3)

(Same as Latin 151.) 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 Special Readings (1-3)

Prerequisites: Greek 101 and consent of department. Independent study through readings, reports, and conferences.

Modern Greek

001 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 Modern Greek II (5)

Prerequisite: Modern Greek 001 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 Intermediate Modern Greek Language and Culture (3)

Prerequisite: Modern Greek 002 or equivalent. Grammar

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review and continued development of language skills with readings in their cultural context.

Hebrew

Courses in Biblical and Modern Hebrew are available at Washington University for UM-St. Louis students. Consult the Foreign Languages and Literatures department for details.

101D Beginning Biblical Hebrew (3)

102D Beginning Biblical Hebrew (3)

211D Intermediate Biblical Hebrew (3)

212D Biblical Literature (3)

105D Beginning Modern Hebrew I (5)

106D Beginning Modern Hebrew II (5)

213D Intermediate Modern Hebrew I (5)

Note: Course 101 at Washington University is equivalent to Course 001 at UM-St. Louis.

Italian

001 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 Italian II (5)

Prerequisite: Italian 1 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.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate Italian Language and Culture (3)

Prerequisite: Italian 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

190 Special Readings (1-3)

Prerequisite: Italian 101 or equivalent. Readings on literary topics mutually acceptable to student and instructor.

Japanese

Courses in Japanese are taught on the UM-St. Louis campus by faculty of Washington University, through the Joint Center for East Asian Studies.

001 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 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 Intermediate Japanese I (5)

Prerequisite: Japanese II or equivalent. Grammar review and continued development of language skills.

102 Intermediate Japanese II (5)

Prerequisite: Japanese 101 or equivalent. Continuation of Japanese 101.

Korean

001 Korean I (5)

Emphasis is placed upon the understanding, speaking, reading, and writing of Korean and upon the acquisition of the fundamentals of grammar and syntax.

002 Korean II (5)

Prerequisite: Korean I or equivalent. Emphasis is placed upon the understanding, speaking, reading, and writing of Korean. Continuation of the acquisition of the fundamentals of grammar and syntax.

101 Intermediate Korean I (5)

Prerequisite: Korean II or equivalent. Grammar review and continued development of language skills.

102 Intermediate Korean II (5)

Prerequisite: Korean 101 or equivalent. Continuation of Korean 101.

Latin

001 Latin 1 (5)

A study of Latin grammar, syntax, and vocabulary, accompanied by reading selections from literary texts.

002 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.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate Latin Language and Culture (3)

Prerequisite: Latin 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

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151 Greek and Latin in English Today (3)

(Same as Ancient Greek 151.) 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 Special Readings (1-3)

Prerequisites: Latin 101 and consent of department. Independent study through readings, reports, and conferences.

Portuguese

Courses in Portuguese are available at Saint Louis University for UM-St. Louis students. Consult the Foreign Languages department for details and obtain the necessary forms from the registrar's office.

Russian

001 Russian I (5)

Emphasis will be placed upon the speaking and understanding of Russian and upon the acquisition of the fundamentals of grammar and syntax. Five hours of class and one-hour language laboratory per week required.

002 Russian II (5)

Prerequisite: Russian 1 or equivalent. Emphasis will be placed upon the speaking and understanding of Russian and upon the acquisition of the fundamentals of grammar and syntax. Five hours of class and one-hour language laboratory per week required.

008 Introduction to Life in Russia (2)

This course gives insights into the practices, customs and habits of contemporary Russian society. It targets the beginner and teaches many useful phrases for basic reading skills for business or travel. Course is taught in English and does not count towards the language requirement.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

100 Scientific Russian (3)

Prerequisite: Russian 2 or equivalent. Introduction to reading of selected Russian texts in the natural and social sciences. Designed primarily for majors in these areas. This course is the equivalent of Russian 101. Russian 101 and Russian 100 may not both be taken for credit.

101 Intermediate Russian Language and Culture (3)

Prerequisite: Russian 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

190 Special Readings (1-3)

Prerequisite: Russian 101 or equivalent. Readings on literary topics mutually acceptable to student and instructor.

Spanish

001 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 Spanish II (5)

Prerequisite: Spanish 1 or equivalent. Emphasis will be placed upon the speaking and understanding of Spanish and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

35 English Grammar for Students of Foreign Languages (1)

This course is designed to familiarize the student with basic English grammar and the terms commonly used in the teaching of most languages. This course does not count toward a major or minor in English or any foreign language.

101 Intermediate Spanish Language and Culture (3)

Prerequisite: Spanish 2 or equivalent. Grammar review and continued development of language skills with readings in their cultural context.

105 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; both may not be taken for credit.

110 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.

111 Spanish-American Literature in Translation (3)

Prerequisite: Sophomore standing. Lectures on the literature and culture of Spanish America. Reading and discussion of works of representative poets, novelists, and essayists of the contemporary period. No credit toward major in Spanish.

115A, 115B, 115C Intensive Spanish (5)

Prerequisites: Aptitude test and permission of department. An intensive study of Spanish assuming no previous knowledge of Spanish. 115a, 115b, 115c 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.

Foreign Languages and Literatures

150 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 is announced in advance by the department. Does not count toward major in Spanish.

171 Spanish Conversation and Pronunciation (3)

Prerequisite: Spanish 101 or equivalent. Emphasis will be placed upon the development of oral skills in Spanish and upon the problems of Spanish pronunciation and intonation.

172 Spanish Composition (3)

Prerequisite: Spanish 101 or equivalent. Emphasis in developing the capacity and the ability to write in Spanish.

180 Readings in Spanish (3)

Prerequisite: Spanish 101 or equivalent. Development of language skills through reading and discussion of a variety of texts.

190 Special Readings (1-3)

Prerequisites: Spanish 101 and consent of department. Independent study through readings, reports, and conferences.

200 Syntax of the Spanish Language (3)

Prerequisite: Spanish 171, 172, 180 (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 Hispanic Culture and Civilization: Spain (3)

Prerequisite: Spanish 171, 172, 180 (2 of the 3 courses) or equivalent. The development of Spanish peninsular civilization from its Roman beginnings to the present.

211 Hispanic Culture and Civilization: Spanish America (3)

Prerequisite: Spanish 171, 172, or 180 (2 of the 3 courses) equivalent. The development of the cultures and civilization of the Spanish-speaking nations of the Western hemisphere.

264 Curriculum and Methods of Teaching Foreign Languages (3)

Same as SEC ED 274. Prerequisites: SEC ED 213 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.

271 Advanced Spanish Conversation (3)

Prerequisite: Spanish 171 or consent of department. Emphasis will be placed upon the further development of oral skills in Spanish.

280 Introduction to Hispanic Literature: Spain (3)

Prerequisite: Spanish 171, 172, 180 (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 is recommended for prerequisite.

281 Introduction to Hispanic Literature: Spanish America (3)

Prerequisite: Spanish 171, 172, 180 (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 is recommended for prerequisite.

290 Special Readings: Spanish (1-3)

Prerequisite: Consent of department. Independent study through readings, reports, and conferences.

300 Advanced Spanish Grammar (3)

Prerequisite: Spanish 200 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 Spanish Literature From 1898 to 1939 (3)

Prerequisite: Spanish 280. A study of cultural and literary characteristics of the period. Emphasis on leading novelists, poets, essayists, and dramatists.

315 Spanish Literature From 1939 to the Present (3)

Prerequisite: Spanish 280. A study of cultural and literary development since the Spanish Civil War. Emphasis on leading novelists and dramatists.

320 Realism and Naturalism in the Nineteenth-Century Spanish Novel (3)

Prerequisite: Spanish 280. 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 Poetry and Drama of the Nineteenth Century (3)

Prerequisite: Spanish 280. 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 Poetry and Drama of the Golden Age (3)

Prerequisite: Spanish 280. 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 Applied Linguistics in Spanish (3)

Prerequisites: Spanish 200 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.

Foreign Languages and Literatures

327 Spanish Dialectology (3)

Prerequisites: Spanish 200 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 Cervantes (3)

Prerequisite: Spanish 280. A study of Don Quixote in relation with the author's life and with the cultural background of the Spanish Golden Age. Independent readings on other works of Cervantes.

331 Picaresque and Satirical Prose (1550-1650) (3)

Prerequisite: Spanish 280. A study of Renaissance and Baroque prose in its social context. All readings and discussions in Spanish.

335 Masterpieces of Spanish Medieval and Renaissance Literature (3)

Prerequisite: Spanish 280. 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 Spanish-American Literature of the Nineteenth Century (3)

Prerequisite: Spanish 281. 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 Modernismo (3)

Prerequisite: Spanish 281. The genesis, development, and influence of this literary movement in Spanish-American letters with emphasis on Modernista poetry and prose.

345 Spanish-American Literature of the Twentieth Century (3)

Prerequisite: Spanish 281. A study of the leading Spanish American poets, essayists, and novelists of this period as interpreters of contemporary man's dilemma and the "pathos" and "ethos" of their culture.

351 Spanish-American Fiction in the Twentieth Century (3)

Prerequisite: Spanish 281. The role of prose fiction in Spanish American literary and cultural history from World War I to the present.

360 Spanish American Poetry From Modernismo to the Present (3)

Prerequisite: Spanish 281. A study of poetry and its role in the literary and cultural history of Spanish-American society from Modernismo to the present.

364 Foreign Language Teaching Seminar (2)

(Same as SEC ED 374.) Prerequisite: Concurrent enrollment in SEC ED 290 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 Spanish 264, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with SEC ED 290, Student Teaching.

390 Special Readings (1-3)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences.

399 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 Spanish as Spoken Today (3)

Prerequisite: Graduate standing. 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.

History

Faculty

Mark A. Burkholder, Professor*; Chairperson
Ph.D., Duke University

Jerry M. Cooper, Professor*
Ph.D., University of Wisconsin

Walter Ehrlich, Professor Emeritus*
Ph.D., Washington University

Louis Gerteis, Professor*;
Ph.D., University of Wisconsin

John R. Gillingham, Professor*
Ph.D., University of California-Berkeley

Steven C. Hause, Professor*
Ph.D., Washington University

Charles P. Korr, Professor*
Ph.D., University of California-Los Angeles

William S. Maltby, Professor*
Ph.D., Duke University

Richard H. Mitchell, Professor*
Ph.D., University of Wisconsin

James Neal Primm, Curators' Professor Emeritus of History*
Ph.D., University of Missouri-Columbia

Steven W. Rowan, Professor*; Graduate Coordinator
Ph.D., Harvard University

Arthur H. Shaffer, Professor*; Education Coordinator
Ph.D., University of California-Los Angeles

Blanche M. Touhill, Professor*; Chancellor
Ph.D., St. Louis University

Robert Archibald, Associate Professor*; President, Missouri Historical Society
Ph.D., University of New Mexico

J. Frederick Fausz, Associate Professor
Ph.D., William and Mary

Paul Corby Finney, Associate Professor*
Ph.D., Harvard University

Winston Hsieh, Associate Professor*
Ph.D., Harvard University

Adell Patton Jr., Associate Professor*
Ph.D., University of Wisconsin

Richard W. Resh, Associate Professor*
Ph.D., University of Wisconsin

John A. Works, Jr., Associate Professor*; Undergraduate Coordinator
Ph.D., University of Wisconsin

Andrew J. Hurley, Assistant Professor*
Ph.D., Northwestern University

Gerda W. Ray, Assistant Professor*
Ph.D., University of California-Berkeley

Leslie Brown, Instructor
M.A., Duke University

Priscilla Dowden, Lecturer
M.A., Cornell University

Louise B. Robbert, Adjunct Professor
Ph.D., University of Wisconsin

Suzanne H. Burkholder, Adjunct Assistant Professor
Ph.D., University of California-San Diego

Eric Sandweiss, Adjunct Assistant Professor
Ph.D., University of California-Berkeley

*members of Graduate Faculty

General Information

The study of history, in addition to providing background for other subjects and disciplines, is an essential part of a liberal arts education. It encourages students to develop self-knowledge and helps them to understand people of widely disparate backgrounds and periods. The history department offers instruction in a wide variety of fields and formats at all levels, and the program is organized to serve as an introduction to the discipline of history.

Cicero said, "To be ignorant of the past is to remain a child," Santayana reminded nations that those who did not know history were doomed to repeat it, and Demosthenes told Athenians that "the time for extracting a lesson from history is ever at hand." The past does not die; we cannot let bygones be bygones. We remember, and we bolster that memory with the written and artifactual record to make it more accurate and lasting. This extension of memory allows us to establish a common pool of wisdom. One of the early acts of the tyrant is to burn the history books. Knowledge of what has been said and done is essential to freedom.

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 School 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 Latin American, European, East Asian, United States, and African history.

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, American Civilization

History 4, American Civilization

History 207, The History of Missouri

History 302, United States History: Revolution and the New Nation, 1763 to 1815

History 311, 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 five credit hours must complete a seminar paper.

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Degree Requirements

Bachelor of Arts in History Students are encouraged to take programs which combine breadth of coverage with intensity. The following courses are required:

Courses 1 to 199.

History 3, American Civilization

History 4, American Civilization

History 31, Topics in European Civilization: The Emergence of Western Europe to 1715

History 32, Topics in European Civilization: 1715 to the Present

Non-Euro/American survey: One three-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 393, Senior Seminar

Three additional **200** or **300-level** courses

Other

38-hour minimum/45 maximum; 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 31 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 areas 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 fourteen hours of 300-level history courses in residence. One of the courses must be History 393, Senior Seminar (5.0 credit hours).

Undergraduate majors must complete a minimum of fourteen hours of 300 level history courses in residence. One course must be 393, Senior Seminar (5.0 credit hrs.)

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 School 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 School of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the School of Education section in this *Bulletin*.

Graduate Studies

Degree Requirements

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 (including Britain and Russia), United States history, East Asian history, Latin American history, and African and Middle Eastern history. Within these general areas of study, students may specialize in the following fields:

Europe to 1715
Europe since 1715
Latin America
China and Japan since 1800
United States to 1865
United States since 1865
Africa and the Middle East

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

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written work. The sample may or may not be academic work, and length is not a consideration. Applicants must take the Graduate Record Examination (GRE) Aptitude Test; the Advanced Test is optional. The departmental Graduate Committee bases its admission decisions upon the undergraduate transcript, the letters of recommendation, the sample of written work, and the GRE scores.

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). This 26-hour core must include seven courses at three credit hours each (21 hours in all), and one five-credit-hour writing seminar (consisting of a two-credit-hour research paper supplement to a three-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 three credit hours or more), the second and third with a minimum of two courses each (at three 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 six 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 may demonstrate foreign language competence by satisfactory performance on a GSFLT examination or by other means approved by the department Graduate Committee. Candidates may demonstrate quantitative methods competence by satisfactory performance in History 300, Selected Topics in History; Quantitative Methods in Historical Research, or by other means approved by the Graduate Committee.

2) Research Paper Option—36 hours total

To complete this option, the candidate must complete two five-credit-hour seminars (each consisting of a 400-level reading seminar plus two 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.

Career Outlook

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 our 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 that are 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, broadening the historian's traditional options of teaching, civil service, and social service.

Writing history accurately is a public service, as well as intellectual exercise. To break off a significant fragment of the human past and examine it closely is an act of social importance; historical research contributes to society's store of useful memory. Writing a history essay or monograph based on primary sources carries with it the stirring experience of firsthand knowledge. One who paints, writes poetry, or carves in stone understands the problems of the masters better than any armchair critic. The writer of history gains a new awareness in understanding it.

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Course Descriptions

Students enrolled in variable credit reading courses for five credit hours must complete a seminar paper.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 3, 4, 30, 31, 32, 61, 62, 71, 72, 81, 82, 83, 84, 201, 202, 203, 207, 211, 212, 220, 241, 242, 243, 244, 252, 262, 300, 301, 302, 303, 304, 305, 306, 311, 312, 313, 314, 315, 316, 317, 321, 323, 324, 330, 331, 332, 333, 334, 335, 336, 337, 341, 342, 345, 347, 348, 349, 351, 352, 353, 354, 355, 358, 361, 362, 371, 372, 380, 381, 382, 385, 386, 390, 393.

The following courses fulfill the Cultural Diversity requirement: 61, 62, 71, 72, 81, 82, 83, 84, 252, 262, 361, 362, 371, 380, 381, 382, 385, 386.

3 American Civilization (3)

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. Course fulfills the state requirement.

4 American Civilization (3)

Continuation of History 3 to the present. Course fulfills the state requirement. Either History 3 or History 4 may be taken separately.

30 The Ancient World (3)

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 Topics in European Civilization: Emergence of Western Europe to 1715 (3)

Lectures and discussions on the development of Western European society and tradition from approximately 800 to 1715.

32 Topics in European Civilization: 1715 to the Present (3)

Lectures and discussions on the development of Western European society and tradition from 1715 to the present. Either History 31 or History 32 may be taken separately.

61 East Asian Civilization (3)

The development of Asian civilization from earliest times to the Manchu conquest. This course fulfills the Cultural Diversity requirement.

62 East Asian Civilization (3)

Continuation of History 61 with emphasis on the Asian response to the Western incursion. Either History 61 or History 62 may be taken separately. This course fulfills the Cultural Diversity requirement.

71 Latin American Civilization (3)

A survey of selected topics important in the development

of Latin America from pre-Columbian times to the twentieth century. This course fulfills the Cultural Diversity requirement.

72 Mexican Civilization (3)

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. This course fulfills the Cultural Diversity requirement.

81 African Civilization to 1800 (3)

Introduction to African cultural history from the emergence of early man to the abolition of the Atlantic slave trade. This course fulfills the Cultural Diversity requirement.

82 African Civilization Since 1800 (3)

Survey of African initiative and response in the period spanning the loss and reassertion of independence. History 81 or History 82 may be taken separately. This course fulfills the Cultural Diversity requirement.

83 The African Diaspora to 1800 (3)

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, multi-racialism, transformation from heterogeneous crowds to new homogeneous communities, and cultural linkages between Africans and their descendants in the Atlantic Communities. This course satisfies the Cultural Diversity requirement.

84 The African Diaspora Since 1800 (3)

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, multi-racialism, 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. This course satisfies the Cultural Diversity requirement.

201 History of Women in Comparative Cultures (3)

Prerequisite: Junior standing or the 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. This course fulfills the Cultural Diversity requirement.

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202 Black History in the United States (3)

Prerequisite: Junior standing or the consent of the instructor. The experience of black people in America from the period of the slave trade to the twentieth century, beginning with the areas and cultures of West Africa. The development and importance of slave trade, the institutionalization of slavery; black resistance to bondage; the role of blacks during the Civil War and reconstruction period; the rise of segregation and disfranchisement of blacks; the testing of laws; and the protest and revolutionary movements of today.

203 U.S. Social Movements in the 20th Century

Prerequisite: Junior standing or the consent of the 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.

207 History of Missouri (3)

Prerequisite: Junior standing or the consent of the instructor. Lecture and readings. Seventeenth-century Spanish and French explorations and interaction with the Indians; settlement and organization of the Louisiana territory; lead mining and the fur trade; the Louisiana Purchase; the Missouri territory; the struggle for statehood and slavery; antebellum politics; banking and internal improvements; westward expansion; Civil War and reconstruction; postwar agrarian politics, industrialization; Irish, German, and southern European immigration; the Progressive reforms—Political and economic change; and twentieth-century social changes and political developments. Course satisfies the state requirement.

211 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 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.

220 History of Feminism in Western Society (3)

Prerequisite: Junior standing or the consent of the instructor. History of feminist movement and feminist thought on status of women, family, work, and sexuality in the United States, Great Britain, Western Europe, and Russia, as well as the relationship between feminist theory and the feminist movement.

241 European Social History to 1715

Prerequisite: Junior standing or the consent of the instructor. This is a survey course that examines the life of ordinary people in late medieval and early modern Europe. It begins with an analysis of economic conditions and the social relationships that derive from them, but 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 and drink, clothing and housing, leisure and entertainment, and popular attitudes.

242 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.

243 Western Legal System to 1800

Prerequisite: Junior standing or the consent of the instructor. An introduction to the development and elaboration of English Common Law and other legal systems (Roman law, canon law, Germanic Customary law) which developed in Western Europe before the period of the Napoleonic codifications and the English Benthamite reforms.

244 War and Society in Pre-Industrial Europe

Prerequisite: Junior standing or the consent of the instructor. The development of early modern warfare from the end of the feudal era to the battle of Waterloo.

252 The World of Islam (3)

Prerequisite: Junior standing or consent of instructor. The development of Islam as a religion and a civilization will be traced from its Arabian origins to its present position as the major religion of Africa and Asia. Special emphasis on the Islamic state, Sufi mysticism, the Shariah and the Muslim confrontation with modernization. This course fulfills the Cultural Diversity requirement.

255 Curriculum and Methods of Teaching Secondary School History and Social Studies (3)

(Same as SEC ED 255.) Prerequisite: At least junior standing. 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.

256 Social Studies Teaching Intern Seminar (1)

(Same as SEC ED 256.) Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application

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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.

262 Modern History of the Pacific Rim

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. This course fulfills the Cultural Diversity requirement.

300 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 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 United States History: Revolution and the New Nation, 1763 to 1815 (3)

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. Course fulfills the state requirement.

303 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 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 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 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.

311 Topics in American Constitutional History (3)

Prerequisite: Junior standing or consent of instructor. Origins and development of the principal institutions and ideas of the American constitutional system; the role of the

Constitution and the Supreme Court in the growth of the nation; important Supreme Court decisions; great American jurists and their impact upon the law; historical background to current constitutional issues. Course fulfills the state requirement.

312 British Indian Relations 1850-1806 (3)

Prerequisite: Junior standing or the consent of instructor. This lecture-and-discussion class will explore the reciprocal impact of Anglo-Amerindian contacts in North America from Roanoke Island to the Lewis and Clark Expedition. Arranged chronologically and focusing on multidisciplinary ethnohistory, the course will compare the east-to-west "frontier (s)" and investigate cultural changes among all intersecting groups through primary historical documents and tribal ethnographies.

313 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 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 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 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 Comparative Urban History (3)

Prerequisite: Junior standing or consent of the instructor. Historical overview of urban social problems in comparative perspective with an emphasis on cities in Latin America and the United States.

321 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.

History

323 Yorkist 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 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.

330 The Ancient Near East(3)

Prerequisite: Junior standing or consent of the instructor. The Bronze age in Mesopotamia and Egypt, Amorite expansion, the Hittite Empire, Arameans, Canaanites, Philistines, Phoenicians and Israelites in Syria-Palestine at the end of the Bronze Age and into the Iron Age, the Kingdom of Israel, the Assyrian and Persian Empires, Egypt in the first millennium B.C. Major themes: politics, economy, religion and culture.

331 The Ancient World: Greece (3)

Prerequisite: Junior standing or consent of the instructor. The Bronze age in the Aegean: Minoans and Mycenaens: the dark age transition; historical Greek civilization from Homer to Alexander; comparative political forms; Greek colonization; Athens and Sparta; classical Greece and the dispersion of Greek culture to the end of the Hellenistic period.

332 Rome: The Republic (3)

Prerequisite: Junior standing or consent of the instructor. Italy in the first millennium B.C.; Etruscans, Greeks and indigenous Italic people; the legendary royal period ca. 750-500 B.C.; the Republic 509 to 29 B.C. The major focus of this course will concern the political and social transformation of Italy due to the Punic wars of the third century B.C.

333 Rome: The Empire (3)

Prerequisite: Junior standing or consent of the instructor. The Augustan Principate and the creation of a Roman monarchic and imperialistic system extending over the years 29 B.C. to the reign of Justinian, 527-565 A.D. Themes: politics and economy, war, society, ethnicity, gender, culture, religion and philosophy.

334 History of the Church: Early Christianity (3)

Prerequisite: Junior standing or consent of the instructor. Survey of Jewish, Greek, and Roman antecedents, Christian beginnings, and the emergence of Christian traditions, to the council of Nicaea (325 A.D.).

335 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 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 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 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 The Age of Reformation (3)

Prerequisite: Junior standing or consent of the instructor. Religious, intellectual, political, and socioeconomic developments of the sixteenth century.

345 Europe in the Age of the French Revolution and Napoleon (3)

Prerequisite: Junior standing or consent of the instructor. This is an advanced course in European history in the late 18th and early 19th centuries. Special emphasis is placed upon France during the revolution of 1789-1799 and the reign of Napoleon, but the course examines all of the major states of Europe. The course looks at political and socio-economic history, also investigates a broad range of cultural, intellectual, diplomatic, military, religious, and institutional topics.

347 Europe in the Belle Epoque (1870-1914) (3)

Prerequisite: Junior standing or consent of the instructor. This is an advanced course examining European history in the late 19th and early 20th centuries. Special emphasis is placed upon the great powers of that era (Austria-Hungary, Britain, France, Germany, Italy, and Russia) and the European state system in a period of German hegemony. Topics covered include the persistence of monarchy and the old order, the gradual development of democratic institutions, the challenge of socialism and trade unionism, standards of living and the conditions of daily life, the position of women and the development of feminism, the condition of minorities and human rights, European imperialism in Africa and Asia, and the origins of World War One.

348 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 Europe, 1950-Present: Peace and Prosperity(3)

Prerequisite: Junior standing or consent of instructor.

History

A survey of the main social, economic, political, military, and cultural trends since the outbreak of World War II.

351 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 Germany in the Modern Age (3)

Prerequisite: Junior standing or consent of instructor. The course deals with whether or not the Third Reich should be considered the culmination of German history. Problems of national unification, economic development, representative government, and cultural modernism will be considered.

353 Russian History to 1917 (3)

Prerequisite: Junior standing or consent of instructor. This course will emphasize the history of Russia from the Napoleonic Wars to the Revolution of 1917, including social and bureaucratic modernization and the development of the bureaucratic state, foreign policy and maintenance of the empire, rise and development of liberal reform and revolutionary movements, and the Revolution of 1917.

354 History of Russia From 1917-Present (3)

Prerequisite: Junior standing or consent of the instructor. The nature and results of the Bolshevik revolution (October 1917). Topics include Lenin as a ruler, War Communism, and NEP; the struggle for power and the triumph of Stalin, 1924-1930; collectivization of agriculture and industrialization; Stalinist foreign policy, the Second World War, and the Cold War; and continuity and change in post-Stalinist Russia.

355 History of Spain (3)

Prerequisite: Junior standing or consent of the instructor. A survey of Spanish history from the fifteenth century to the present, emphasizing its period of imperial greatness and examining the effects of empire on national development.

358 Central Asia, Nationalism, and the Contemporary World (3)

Prerequisite: Junior standing or consent of the instructor. This course provides a broad background for understanding developments leading to the present-day configuration of Central Asia, a cultural and ethnic mosaic that was under Russian and Soviet domination for 130 years. It will analyze changes in Central Asian culture and art, demography, economics, history, language, politics, and related fields in order to examine nation building, identity levels, and potential ethnic and religious conflicts. This course fulfills the Cultural Diversity requirement.

361 Modern Japan: 1850 to Present (3)

Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern

Japan. This course fulfills the Cultural Diversity requirement.

362 Modern China: 1800 to Present (3)

Prerequisite: Junior standing or consent of instructor. The economic, social, and political development of modern China. This course fulfills the Cultural Diversity requirement.

371 History of Latin America: To 1808 (3)

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. This course satisfies the Cultural Diversity requirement.

372 History of Latin America: Since 1808 (3)

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. This course satisfies the Cultural Diversity requirement.

380 West Africa to 1800 (3)

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. This course fulfills the Cultural Diversity requirement.

381 West Africa Since 1800 (3)

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 postindependence development. This course fulfills the Cultural Diversity requirement.

382 History of Southern Africa (3)

Prerequisite: Junior standing or consent of instructor. Historical roots of apartheid and black nationalism in South Africa and Rhodesia/Zimbabwe. Foundation of white African societies, Khoisan resistance, the Mfecane and African state formation, the mineral revolution, colonialism versus autonomy, and the current confrontation of rival ideologies. This course fulfills the Cultural Diversity requirement.

385 Africa Diaspora to 1800 (3)

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, multi-racialism, economics of the South Atlantic system, political dimensions and the social transformation from heterogeneous crowds to new and homogenous communities. Linkages between Africans

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and their descendants in the Atlantic communities of Latin America, the Caribbean, as well as North America will be stressed. This course fulfills the Cultural Diversity requirement.

386 African Diaspora Since 1800 (3)

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. This course fulfills the Cultural Diversity requirement.

390 Special Readings (1-10)

Prerequisite: Consent of the instructor. Independent study through readings, reports, and conferences.

393 Senior Seminar (5)

Prerequisites: Consent of department. Studies in historical methodology and historiography. Directed readings, research, and writing leading to the production of an original piece of historical scholarship. Required for all history majors. May not be taken for graduate credit.

400 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.

405 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.

410 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 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 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 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 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.

435 Introduction to Historical Agencies (3)

Prerequisite: Graduate standing and consent of instructor. A survey of the varieties, purposes, and functions of historical agencies in American culture. To be team-taught

by members of the department and adjunct faculty from area historical agencies.

436 Studies in Historical Agencies (3)

Prerequisite: Graduate standing and consent of instructor. Specialized studies in various aspects of historical agency activity, such as museology, archives and manuscripts, site interpretation, and historic preservation. Specific topics will be announced each semester; the course may be repeated for credit if the topic is not a duplication of a course taken previously.

437 Practicum in Historical Agencies (1-6)

Prerequisite: Graduate standing and consent of instructor. Participation as a staff worker in the practical operation of an historical agency in the St. Louis metropolitan area. Students will design their programs in consultation with the department and the staff of the participating historical agency.

440 United States History for the Secondary Classroom (3-6)

The intent of this course is 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 may not be used to meet requirements for graduate degrees in History.

441 World History for the Secondary Classroom (3-6)

The intent of this course is 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 may not be used to meet requirements for graduate degrees in History.

448 Thesis Seminar (2-6)

Prerequisite: Graduate standing and consent of instructor. Thesis research and writing on a selected topic in history.

449 Directed Readings (3)

Prerequisite: Consent of a member of the doctoral faculty. Directed research at the graduate level.

450 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 Doctoral Research Seminar in American History to 1865 (3)

Prerequisite: Consent of the instructor and advanced

History

graduate standing. Discussion and presentation of research on a special topic within the field.

455 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 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 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 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 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.

461 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 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 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 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 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 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 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 Dissertation Research (1-18)

Prerequisite: Completion of the doctoral qualifying examination. Dissertation research and writing on a selected topic in history.

492 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 Directed Readings for Doctoral Students (1-6)

Prerequisite: Consent of a member of the doctoral faculty. Directed research at the doct.oral level.

Mathematics and Computer Science

Faculty

Raymond Balbes, Professor*; Chairperson
Ph.D., University of California-Los Angeles

Edward Z. Andalaft, Professor*
Ph.D., University of Missouri-Columbia

William Connett, Professor*
Ph.D., University of Chicago

Deborah Tepper Haimo, Professor Emeritus*
Ph.D., Harvard University

Wayne L. McDaniel, Professor*
Ph.D., St. Louis University

A. Prabhakar Rao, Professor*
Ph.D., University of California, Berkeley

Alan L. Schwartz, Professor*
Ph.D., University of Wisconsin-Madison

Stephen Selesnick, Professor*
Ph.D., University of London

Jerrold Siegel, Professor*
Ph.D., Cornell University

Grant V. Welland, Professor*
Ph.D., Purdue University

Chal Benson, Associate Professor*
Ph.D., Yale University

Haiyan Cai, Associate Professor*
Ph.D., University of Maryland

Ronald Dotzel, Associate Professor*
Ph.D., Rutgers University

Richard Friedlander, Associate Chairperson;
Associate Professor*
Ph.D., University of California-Los Angeles

Rajiv Mehrotra, Associate Professor*
Ph.D., Wayne State University

Gail Ratcliff, Associate Professor*
Ph.D., Yale University

Lloyd Richardson, Associate Professor*
Ph.D., Peabody College of Vanderbilt University
(primary appointment in the School of Education)

Frederick Wilke, Associate Professor Emeritus*
Ph.D., University of Missouri-Columbia

Sanjiv K. Bhatia, Assistant Professor*
Ph.D., University of Nebraska-Lincoln

W.L. Golik, Assistant Professor*
Ph.D., New Mexico State University

Cezary Janikow, Assistant Professor*
Ph.D., University of North Carolina at Chapel Hill

Kyungho Oh, Assistant Professor*
Ph.D., Purdue University

Shiying Zhao, Assistant Professor*
Ph.D., University of South Carolina

John Antognoli, Senior Lecturer; Coordinator
of Evening Program
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

May Kay McKenzie, Lecturer
M.S., St. Louis University

Mark Nugent, Lecturer
M.S., St. Louis University

Shahla Peterman, Senior Lecturer
M.S., University of Wisconsin-Madison

Gillian Raw, Senior Lecturer
M.A., Washington University

Paul Schneider, Senior Lecturer
M.A., St. Louis University

Cynthia Siegel, Senior Lecturer
M.S., 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 School 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 but giving students the depth necessary to pursue graduate study successfully. The B.S. in applied mathematics and the B.S. in computer science provide a solid foundation for the student interested in applications of mathematics, including computer-related mathematics. 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 work leading to the M.A. in mathematics. The program is designed to ensure that students will obtain a strong background in the areas of analysis and algebra. Through appropriate choice of electives, students may build upon this background a degree program well-suited to preparation for teaching at the high school, junior college, or four-year liberal arts college level; a program directed toward application of mathematics in industry or business; or a program designed to serve as a basis upon which students may continue toward a Ph.D. in mathematics.

Mathematical Sciences Alumni Scholarship

The Mathematical Sciences Alumni Scholarship is a monetary award for an outstanding junior or senior majoring in mathematical sciences, as evidenced by a grade point average of 3.5 or higher in at least 24 graded hours of course work at the University of Missouri-St. Louis and superior achievement in courses in mathematical sciences. Application forms may be obtained from the Department of Mathematics and Computer Science. The deadline for application is March 15.

Mathematics and Computer Science

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.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. or B.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: criminology and criminal justice, anthropology/archaeology, art (appreciation, history, studio), astronomy, biology, chemistry, communication, economics, English, foreign languages/literature, geology, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and interdisciplinary.

The Department of Mathematics and Computer Science may require students to pass a placement test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

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 Courses. Placement into introductory courses assumes a mastery of two years of high school algebra.

A minimum grade of C- shall be 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, Analytic Geometry and Calculus I
175, Analytic Geometry and Calculus II
180, Analytic Geometry and Calculus III
202, Introduction to Differential Equations
245, Elementary Linear Algebra
250, Introduction to Modern Mathematics

2) **Probability and Statistics**

132, Applied Statistics I

3) **Five** courses from at least three of the following blocks.

Analysis and Topology

310, Advanced Calculus I
311, Advanced Calculus II
316, Functions of a Complex Variable
380, Introduction to Topology

Algebra

335, Theory of Numbers
340, Introduction to Abstract Algebra I
341, Introduction to Abstract Algebra II
345, Linear Algebra

Applications

303, Applied Mathematics I
306, Applied Differential Equations
320, Mathematical Statistics I
321, Mathematical Statistics II
323, Numerical Analysis I
324, Numerical Analysis II
327, The Calculus of Variations
355, Discrete Mathematics

Geometry and Logic

(B.S. in secondary education majors must complete 366 or 367.)

358, Mathematical Logic
362, Projective Geometry
364, Introduction to Differential Geometry
366, Foundations of Geometry
367, Introduction to Non-Euclidean Geometry

One of the following computer science courses is required:
Computer Science 122, Computers and Programming or
Computer Science 125, Introduction to Computer Science

Bachelor of Science in Applied Mathematics

The following course work is required:

1) **Mathematics**

80, Analytic Geometry and Calculus I
175, Analytic Geometry and Calculus II

Mathematics and Computer Science

180, Analytic Geometry and Calculus III
202, Introduction to Differential Equations
245, Elementary Linear Algebra
250, Introduction to Modern Mathematics
345, Linear Algebra
310, Advanced Calculus I, or
340, Introduction to Abstract Algebra I

2) Probability and Statistics
132, 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, Applied Mathematics I
316, Functions of a Complex Variable
320, Mathematical Statistics I
323, Numerical Analysis I

One of the following computer science courses is required:

CS 122, Computers and Programming, or
CS 125, Introduction to Computer Science.

Also required are two additional courses in mathematical sciences, numbered above 250, as well as Physics 111, Physics: Mechanics and Heat, and Physics 112, Physics: Electricity, Magnetism, and Optics.

b) Probability and Statistics Option

The following courses in probability and statistics are required:

232, Applied Statistics II
320, Mathematical Statistics I
321, Mathematical Statistics II
330, Multivariate Analysis
333, Nonparametric Methods in Statistics

Also required are the following computer science courses:

125, Introduction to Computer Science
225, Data Structures and Problem Solving

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, Introduction to Computer Science
225, Data Structures and Problem Solving
313, Analysis of Algorithms
323, Numerical Analysis I
324, Numerical Analysis II
355, Discrete Mathematics

Also required are three additional courses numbered above 250, 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) Mathematics

80, Analytic Geometry and Calculus I
175, Analytic Geometry and Calculus II
180, Analytic Geometry and Calculus III
202, Introduction to Differential Equations
245, Elementary Linear Algebra
250, Introduction to Modern Mathematics

Also required is one of the following:

320, Mathematical Statistics I
323, Numerical Analysis I
355, Discrete Mathematics

2) Computer Science

125, Introduction to Computer Science
225, Data Structures and Problem Solving
240, Computer Hardware and Small Computer Systems I
241, Computer Hardware and Small Computer Systems II
313, Analysis of Algorithms
328, Programming Languages and Compiling Techniques
376, Operating Systems

3) Probability and Statistics

132, Applied Statistics I

4) Three further courses in mathematical sciences, numbered above 250, at least one of which must be in computer science. Computer Science 272, Programming Languages Laboratory, may be counted as one of these three courses only if three or more hours of credit are obtained in the course.

Related Area Requirements

In order 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 Students are reminded that related area requirements may not be taken on a satisfactory/unsatisfactory 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, Mechanics, and Physics 223, 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:

Biology 220, General Ecology

Mathematics and Computer Science

Biology 222, General Ecology Laboratory

2) Biology:

Biology 224, Genetics

Biology 342, Population Biology

3) Chemistry:

Chemistry 11, Introductory Chemistry I

Chemistry 12, Introductory Chemistry II

4) Chemistry:

Chemistry 231, Physical Chemistry I

and another 200-level, or above, chemistry course.

5) Computer Science

Computer Science 225, Data Structures and Problem Solving, and one of either

240, Computer Hardware and Small Computer Systems I, or

313, Analysis of Algorithms.

6) Economics:

Economics 365, Introduction to Econometrics, and one of either:

Economics 366, Applied Econometrics, or

Economics 367 Econometric and Time Series Forecasting

7) Philosophy:

Philosophy 160, Formal Logic

Philosophy 260, Advanced Formal Logic

Philosophy 280, Philosophy of Science

8) Physics:

Physics 111, Physics: Mechanics and Heat

Physics 112, Physics: Electricity, Magnetism, and Optics

9) Physics:

Physics 221, Mechanics

and another 200-level, or above, physics course

10) Business Administration:

BA 375, Operations Research and one of the following:

BA 308, Production and Operations Management

BA 329, Business Forecasting

BA 385, Operations Research II

BA 483, Production and Operations Management

(with consent of the School of Business Administration)

BA 487, Advanced Operations Research Applications

(with consent of the School of Business Administration)

11) Engineering:

Engineering 144, Statics

Engineering 145, Dynamics

Many students are qualified, as a result of having studied calculus in high school, to begin their major with Math 175, Analytic Geometry and Calculus II, or Math 180, Analytic Geometry and Calculus III. These students are urged to consult with the department before planning their programs. Credit for Mathematics 80, Analytic Geometry and Calculus I, will be granted to those students who complete Mathematics 175 with a grade of C- or better.

Similarly, students who are ready to begin their computer science studies with Computer Science 225, Data Structures and Problem Solving, will be granted credit for Computer Science 125, Introduction to Computer Science, once they complete Computer Science 225 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, Advanced Calculus I

316, Functions of a Complex Variable

340, Introduction to Abstract Algebra I

345, Linear Algebra

380, 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, Introduction to Computer Science

225, Data Structures and Problem Solving

240, Computer Hardware and Small Computer Systems I

Two additional courses in Computer Science numbered above 240. At least one of these must be either Computer Science 241, Computer Hardware and Small Computer Systems II, or Computer Science 313, Analysis of Algorithms. Computer Science 272, Programming Languages Laboratory, may be counted as one of these courses only if three or more hours of credit are obtained in this course. A minimum of two computer science courses numbered above 240 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, Analytic Geometry and Calculus I

175, Analytic Geometry and Calculus II

180, Analytic Geometry and Calculus III

and one additional three-hour mathematics course numbered above 180. A minimum of two mathematics courses numbered 180 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, Applied Statistics I

232, Applied Statistics II

320, Mathematical Statistics I

321, Mathematical Statistics II

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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

Preliminary Advisement

Incoming students are assigned advisers with whom they should consult before each registration period. First-year students will meet with their advisers to determine proper placement. If necessary, students may have to repeat undergraduate course work for no credit.

Degree Requirements

Master of Arts in Mathematics Candidates for the M.A. degree must complete 30 hours of work including:

a) The following mathematics courses:

310, Advanced Calculus

316, Functions of a Complex Variable

340, Introduction to Abstract Algebra I

345, Linear Algebra

380, Introduction to Topology

b) Fifteen hours of mathematics courses numbered above 400, chosen with prior approval of the graduate director.

Note: Students who have already taken courses equivalent to those in a as part of their undergraduate degree may substitute other courses numbered above 300 in mathematics or related disciplines. Such substitutions require the prior approval of the graduate director. All courses taken within the program and numbered below 400 must be completed with grades of at least B.

Thesis Option Part of b may consist of a thesis written under the direction of a faculty member in the Department of Mathematics and Computer Science. A student who wishes to write a thesis should enroll in six hours of Mathematics 490, Master's Thesis.

Students writing a Master's Thesis must defend their thesis in an oral exam administered by a committee of three department members which includes the thesis director.

Examination Candidates for the degree must take the Master's Qualifying Examination before completing the 21st hour of graduate credit. This examination is based primarily on material covered in the five required 300-level courses. Candidates failing the examination must repeat it during the following semester but are not allowed to take the examination more than twice.

Financial Assistance Financial support is available to full-time graduate students in the form of teaching assistantships. For further information, contact the chairperson of the Department of Mathematics and Computer Science.

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, in computer science, and in 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.

Mathematics and Computer Science

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. Placement into introductory courses assumes a mastery of two years of high school algebra.

A minimum grade of C- shall be required to meet the prerequisite requirement for any course except with permission of the department.

The following courses fulfill the Natural Sciences and Mathematics [SM] breadth of study requirements:
MATHEMATICS: 20, 30, 35, 50*, 80, 101, 102, 103, 151*, 175, 180, 202, 203, 245, 250, 303, 304, 306, 310, 311, 316, 323, 324, 327, 335, 340, 341, 345, 350, 355, 358, 362, 364, 366, 367, 380, 389. **COMPUTER SCIENCE:** 22, 122, 125, 225, 240, 241, 272, 273, 313, 328, 332, 334, 368, 370, 371, 373, 376, 379. **PROBABILITY AND STATISTICS:** 31, 132, 232, 320, 321, 326, 330, 331, 333, 339.

* Mathematics 50 and 151 fulfill this requirement only for students seeking the B.S. in Education degree in Early Childhood Education, Elementary Education, and Special Education

Mathematics

20 Contemporary Mathematics

Prerequisites: A grade of A or B in high school algebra II, or a grade of C or better in a two or four year college intermediate algebra course, or a satisfactory score on the mathematics placement examination. This course presents methods of problem solving, centering around problems and questions which arise naturally in everyday life. Topics surveyed 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. The course may be taken to meet the mathematical proficiency requirement, but may not be used as a prerequisite for other mathematics courses. It is designed for students who do not plan to take Calculus. Credit will not be granted for Math 20 if credit has been granted for Math 31, 80, 101 or 102. Concurrent enrollment in Math 20 and any of these courses is not permitted. (This course counts toward the [SM] requirement for breadth of study.)

30 College Algebra (3)

Prerequisites: A grade of A or B in high school Algebra II, or a grade of C or better in a two or four year college Intermediate Algebra course, or a satisfactory score on the mathematics placement examination. Topics in algebra and probability, polynomial functions, the binomial theorem, logarithms, exponentials, and solutions to systems of equations.

35 Trigonometry (2)

Prerequisite: Math 30 or concurrent registration. A study of the trigonometric and inverse trigonometric functions with emphasis on trigonometric identities and equations.

50 Structure of Mathematical Systems I (3)

Prerequisites: 45 hours of college credit and a satisfactory score on the mathematics placement 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, and Special Education.

80 Analytic Geometry and Calculus I (5)

Prerequisites: Math 30 and 35 or four units of high school mathematics covering the equivalent material and a satisfactory score on the algebra-trigonometry placement examination. Introduction to analytic geometry, differential calculus, and integral calculus. Math 80, 175, and 180 form the calculus sequence.

101 Survey Calculus (4)

Prerequisite: Math 30 or a satisfactory score on the mathematics placement examination. Introduction to analytic geometry and study of the basic techniques of differential and integral calculus with application to various areas. No credit for mathematics majors. Credit not granted for both Math 80 and 101.

102 Finite Mathematics I (4)

Prerequisite: Same as for Math 101. Introductory logic and set theory, partitions and counting problems, elementary probability theory, stochastic processes, Markov chains, vectors and matrices, linear programming, and game theory.

103 Matrix Algebra and Probability Theory (4)

Prerequisites: Math 101 or 80. An introduction to matrix algebra and to probability theory. Topics include the algebra of matrices, determinants, solving systems of equations, Markov chains, probability theory, discrete and continuous random variables, expected value, distribution functions and the central limit theorem. Credit not granted for both Math 102 and 103.

132 Applied Statistics I

See Statistics 132 in Probability and Statistics section that follows.

151 Structure of Mathematical Systems II (3)

Prerequisite: Math 50. An introduction to probability and statistics. An intuitive study of elementary geometry and 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, and Special Education.

175 Analytic Geometry and Calculus II (5)

Prerequisite: Math 80. Selected topics from plane analytic geometry and calculus.

180 Analytic Geometry and Calculus III (5)

Prerequisite: Math 175. Solid analytic geometry and

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selected topics in calculus.

202 Introduction to Differential Equations (3)

Prerequisite: Math 180. Topics will be chosen from linear differential equations, equations with constant coefficients, Laplace transforms, power series solutions, systems of ordinary differential equations.

203 Finite Mathematics II (3)

Prerequisite: Math 102. A continuation of Math 102. Linear programming and game theory, application of combinatorial mathematics. A student cannot receive credit for both Math 203 and BA 375.

245 Elementary Linear Algebra (3)

Prerequisites: Math 101 or 175. 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.

250 Introduction to Modern Mathematics (3)

Prerequisite: Math 180. A careful introduction to important ideas in modern mathematics. Topics will include set algebra, equivalence relations, partitions, functions, mathematical induction, cardinality, fundamental theorem of arithmetic, Cauchy sequences, and development of elementary algebraic and completeness properties of the real numbers.

303 Applied Mathematics I (3)

Prerequisites: Math 202 and 245. Topics chosen from Fourier series, special functions, partial differential equations, and boundary value problems.

304 Applied Mathematics II (3)

Prerequisite: Math 303. A continuation of Math 303. Topics will include systems of differential equations and applications.

306 Applied Differential Equations (3)

Prerequisite: Math 202. Series solutions to ordinary differential equations, numerical methods, Laplace transforms, differential systems, stability, applications to physics, engineering, and biology.

310 Advanced Calculus I (3)

Prerequisite: Math 250 or consent of the department. Limits, continuity, and differentiability of functions of one and several variables, sequences and series, and the Riemann-Stieltjes integral.

311 Advanced Calculus II (3)

Prerequisite: Math 310. Continuation of Math 310.

316 Functions of a Complex Variable (3)

Prerequisite: Math 202 or 250. 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 Mathematical Statistics I (3)

See Stat 320 in Probability and Statistics section that follows.

321 Mathematical Statistics II (3)

See Statistics 321 in Probability and Statistics section that follows.

323 Numerical Analysis I (3)

Prerequisites: Math 202, 245, and ability to program in an upper-level language such as FORTRAN. 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 Numerical Analysis II (3)

Prerequisite: Math 323 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 The Calculus of Variations (3)

Prerequisites: Math 202 and 310. 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 Theory of Numbers (3)

Prerequisite: Math 250 or consent of department. Properties of integers, multiplicative functions, congruences, primitive roots, and quadratic residues.

340 Introduction to Abstract Algebra I (3)

Prerequisite: Math 250 or consent of the department. Introduction to groups, rings, and fields, with emphasis on groups and rings.

341 Introduction to Abstract Algebra II (3)

Continuation of Math 340 with emphasis on fields.

345 Linear Algebra (3)

Prerequisites: Math 245 and 250. Topics selected from vector spaces, bases, linear transformations, matrices, canonical forms, eigenvalues, hermitian and unitary matrices, inner product spaces, and quadratic forms.

350 Special Readings (1-10)

Prerequisites: Math 250 and consent of instructor.

355 Discrete Mathematics (3)

Prerequisite: Math 250. General counting methods including the use of binomial coefficients, and generating functions, difference equations, graph theory, and properties of trees. Possible additional topics selected from proof of computer program properties, finite-state machines, grammars, and first-order logic.

358 Mathematical Logic (3)

Prerequisite: Math 250 or Philosophy 260 or consent of the department. A study of the logic of mathematics by the

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axiomatic method, with a development of the propositional calculus and restricted predicate calculus emphasizing its application to the foundations of mathematics.

362 Projective Geometry (3)

Prerequisites: Math 245 and 250. Analytic approach to the study of projective spaces. Theorems of Desargues, Pascal, and Brianchon. Projective properties of conics.

364 Introduction to Differential Geometry (3)

Prerequisite: Math 250. Geometry of curves and surfaces in Euclidean three-space. Calculus on a surface. Intrinsic geometry of surfaces.

366 Foundations of Geometry (3)

Prerequisite: Math 250 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 Introduction to Non-Euclidean Geometry (3)

Prerequisite: Math 250 or consent of the department. A summary of the history of the non-Euclidean geometries and a study of hyperbolic plane geometry.

380 Introduction to Topology (3)

Prerequisite: Math 250 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 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 Theory of Ordinary Differential Equations (3)

Prerequisite: Math 310. 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 Applied Mathematics (3)

Prerequisites: Math 310, 316, and 345. Fourier series and integrals, Laplace transforms, boundary value problems, matrices, integral equations, Sturm-Liouville systems.

403 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 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.

410 Theory of Functions of a Real Variable (3)

Prerequisites: Math 310 and 380. The real number system, properties of functions of one or more real variables, mapping theorems. Introduction to measure and integration theory.

411 Differentiable Manifolds (3)

Prerequisites: Math 310, 345, and 380. 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 Functions of a Complex Variable (3)

Prerequisites: Math 310, 316, and 380. 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 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 Probability Theory (3)

Prerequisite: Math 410 (may be taken concurrently). Combinatorial analysis, random walks, stochastic independence, random variables, laws of large numbers, generating functions, and branching processes.

423 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.

428 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 Partial Differential Equations (3)

Prerequisites: Math 310, 316, 345, and 380. Classification of partial differential equations; Cauchy, Dirichlet, and Neumann problems; the fundamental solution; existence theorems of potential theory; eigenvalue problems; and Tricomi's problem.

439 Topics in Number Theory (3)

Prerequisite: Consent of instructor. Topics selected from elementary, algebraic, analytic, and other branches of

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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 Algebra (3)

Prerequisites: Math 340 and 345. Basic fundamentals of the theory of groups, rings and fields.

444 Lie Groups (3)

Prerequisites: Math 340 and 411. The course provides an introduction to Lie Groups, Lie Algebras, and their representations.

448 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 Directed Readings (1-6)

Prerequisite: Consent of instructor. Independent readings at an advanced level.

452 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 Optimization and Variation (3)

Prerequisites: Math 310 and 345. Topics from classical optimization, linear programming, calculus of variations, and other techniques of optimization.

470 Functional Analysis (3)

Prerequisites: Math 345 and 410. 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 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 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 to a degree.

Computer Science

22 Introduction to Computing (3)

Prerequisite: Math 30 or equivalent. Fundamental concepts of computer systems and introduction to the applications of computers. The programming language BASIC. Credit will not be granted for both BA 103 and Computer Science 22.

122 Computers and Programming (3)

Prerequisite: Math 80 or 101, or a grade of at least E in Math 30. 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 and Computer Science 122.

125 Introduction to Computer Science (3)

Prerequisite: Math 80 or 101, or a grade of at least E in Math 30. 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.

225 Data Structures and Problem Solving (3)

Prerequisite: Computer Science 125. A continuation of Computer Science 125. 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 Computer Hardware and Small Computer Systems I (3)

Prerequisite: Computer Science 225. Computer Science 240 and Computer Science 241 present an introduction to the design and operation of small computer systems. This course will emphasize logic circuit design, both combinatorial and sequential. Also, basic assembly language programming will be considered.

241 Computer Hardware and Small Computer Systems II (3)

Prerequisite: Computer Science 240. A continuation of Computer Science 240. This course will emphasize specific architectures and application programming.

272 Programming Languages Laboratory (1-3)

Prerequisites: Computer Science 225 or consent of instructor. Computer programming in a specified language. The credit will vary but will usually be 3 hours. The language taught may be a procedural language, such as Ada, a functional language, such as ML, or a mathematical programming language, such as Mathematica. This course may be repeated for up to six hours credit if a different language is studied each time.

273 The C Programming Language (3)

Prerequisite: Computer Science 240. 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.

313 Analysis of Algorithms (3)

Prerequisites: Math 132, 245, 250 and Computer Science 225. This course addresses the design and mathematical

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analysis of fundamental algorithms in computer science and provides an introduction to the theory of NP completeness. Algorithms studied may involve search, sorting, data compression, string manipulation, graph traversal and decomposition, and algebraic and numeric manipulation.

328 Programming Languages and Compiling Techniques (3)
Prerequisites: Computer Science 240, Math 245, and Math 250. Concepts of programming languages will be considered, together with a practical introduction to compilers as defining constraints on the semantic content of such languages. Compiler generator tools, such as lex and yacc, will be presented.

332 Artificial Intelligence (3)
Prerequisites: Computer Science 225, Statistics 132, Math 245 and Math 250. An overview of AI applications will be presented. An AI programming language, such as Prolog or Lisp, will be introduced. Fundamental AI problem solving techniques will be applied to heuristic search and game playing. An introduction to knowledge representation and expert systems will be given. Topics such as theorem proving, neural networks, and natural language processing may also be studied.

334 Topics in Artificial Intelligence (3)
Prerequisite: Computer Science 332 or consent of the instructor. Selected areas of AI will be considered in some depth. Topics may include robotics, computer vision, natural language processing, machine learning, neural networks, and knowledge based systems. The concept of object oriented programming may also be discussed.

368 Computer Graphics (3)
Prerequisites: Computer Science 225 and Math 245. The basic architecture of various types of graphics systems is presented. The course will then present 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 will involve significant project work.

370 Software Design and Development (3)
Prerequisites: Computer Science 225, Math 245, and 250. Software design techniques including stepwise refinement, segmentation, top-down design, and iterative enhancement. Organization and management of software development teams. Documentation of integrated software projects. Organization, management, and development of a large scale software project by students working in teams.

371 Database Design and Implementation (3)
Prerequisites: Computer Science 225, Statistics 132, Math 245, and Math 250. The course presents the foundations, concepts, and principles of data base design. Various models of data representation will be considered, including the hierarchical and relational models. The course will also consider some of the implementation issues for data base systems.

373 Computer Networks and Communications (3)
Prerequisite: Computer Science 241 and Statistics 132.

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.

376 Operating Systems (3)
Prerequisites: Computer Science 240, Statistics 132, and Math 245. The structure of a generic operating system will be studied. The various components, including the interface with the underlying hardware, will be considered in detail. UNIX is considered as a case study throughout the course and familiarity with UNIX and C is required. Some practical work, using the UNIX operating system, will be required.

379 Topics in Computer Science (3)
Prerequisite: Consent of instructor. A seminar on social topics in computer science to be determined by recent developments in the field and the interests of the instructor. May be repeated for credit provided different topics are studied.

Probability and Statistics

31 Elementary Statistical Methods (3)
Prerequisite: Math 30. An introduction to the basic tools and elementary methods of statistics, such as testing of hypotheses, analysis of variance, method of least squares, and time series. Does not satisfy the School of Business Administration requirement ordinarily met by BA 131. A student may not receive credit for both Statistics 31 and BA 131.

132 Applied Statistics I (3)
Prerequisite: Math 80 or 101. An introduction to the basic tools and elementary methods of statistics, such as least squares estimation, analysis of variance, regression, and testing of hypotheses. The use of the statistical package, SAS, for operation on statistical data. A student cannot receive credit for more than one of BA 131, Statistics 31, and Statistics 132.

232 Applied Statistics II (3)
Prerequisite: Statistics 31, or 132, or equivalent. Topics to be chosen from: fitting distributions to data, goodness of fit, parametric and non-parametric correlations and partial correlation, and nonparametric statistics. Sampling, design of experiments, categorical data, and regression. Emphasis on practical applications.

320 Mathematical Statistics I (3)
(Same as Math 320.) Prerequisites: Statistics 132 and Math 180. Introduction to theory of probability and statistics using concepts and methods of calculus.

321 Mathematical Statistics II (3)
(Same as Math 321.) Prerequisite: Statistics 320. Continuation of Statistics 320. Continuous sample spaces, stochastic processes, statistical inference, and statistical models.

326 Introduction to Stochastic Processes (3)
Prerequisite: Statistics 320. Markov chains, martingales,

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stationary distributions of a Markov chain, recurrent states, branching, birth and death, queuing chains, jump processes, second order processes, continuity and differentiation of second order processes, white noise, and stochastic differential equations.

330 Multivariate Analysis (3)

Prerequisites: Math 245 and Statistics 320, or consent of instructor. Multivariate normal distribution and related distributions such as the Wishart distribution. Statistical inference for the multivariate normal distribution. Multiple regression, canonical correlations, multivariate analysis of variance, classification problems, and discriminant analysis.

331 Analysis of Variance and Design of Experiments (3)

Prerequisites: A year of calculus, some matrix theory, and an intermediate course in statistics. Theory of general linear hypotheses, important special cases of analysis of variance, theory of least square estimation, interval estimation. One-way, two-way, and higher-way layouts, completely randomized design, randomized complete blocks. Latin square design, factorial, incomplete block and fractional replications, lattice design, optimum design.

333 Nonparametric Methods in Statistics (3)

Prerequisite: Statistics 320 or consent of instructor. Emphasis on statistical tests which are distribution-free; one-sample and two-sample location and detection of shifts, point estimators, and confidence intervals; relative dispersion, K-sample tests, detection of independence, and regression.

339 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.

Music

Faculty

John Hylton, Professor*; Chairperson
D.Ed., Penn State University

Kenneth E. Miller, Professor Emeritus
Ph.D., Northwestern University

Evelyn Mitchell, Professor Emerita

Arnold Perris, Professor Emeritus
Ph.D., Northwestern University

James Richards, Professor*
Ph.D., University of Rochester, Eastman School of Music

Diane Touliafos, Professor*
Ph.D., Ohio State University

Fred Willman, Professor*
Ph.D., University of North Dakota

Mark Madsen, Associate Professor*
D.M.A., University of Arizona

Robert J. Ray, Associate Professor*
B.M., Northwestern University

Douglas Turpin, Associate Professor*
D.Ed., Washington University

Sally Herman, Assistant Professor*
M.A., Webster University

Leonard Ott, Assistant Professor*
Ph.D., Michigan State University

William Richardson, Assistant Professor*
M.M., Ohio State University

Marvin Sparks, Assistant Professor
M.M., Eastern Illinois University

W. Claude Baker, Composer in Residence
Ph.D., University of Rochester, Eastman School of Music

Darwyn Apple, Lecturer (Violin)**
M.M.

Robert Ceccarini, Lecturer (Trumpet)
Ph.D.

Marian Drake, Lecturer (Cello)
M.M.

Kathryn Haggans, Adjunct Assistant Professor (Voice)
Ph.D.

Carol Koch, Lecturer (Music Ed./Piano)
B.M.E.

Robert Lauver, Lecturer (French Horn)**
B.M.

Ingrid Magid, Lecturer (Non-Western)
M.A.

James Meyer, Lecturer (Clarinet)**
M.A.

Jay Middleton, Lecturer (Voice)
B.M.E.

Alan Rosenkoetter, Lecturer (Guitar)
B.S.

Janis Smith, Lecturer (Flute)**
B.M.E.

Sue Stubbs, Lecturer (Double Bass)
M.M.

Takaoki Sugitani, Lecturer (Violin)

Robert Tobler, Lecturer (Trombone)
M.A.

Jay Middleton, Lecturer (Voice)
B.M.E.

Catherine Warner, Lecturer (Flute)
M.M.E.

*members of Graduate Faculty

**member, Saint Louis Symphony Orchestra

Music faculty members have received recognition for distinguished achievements in conducting, composition, and performance. The faculty is also recognized for research in musicology and music education. Part-time applied music lecturers are all professional musicians.

General Information

Degrees and Areas of Concentration

The Department of Music offers programs of study leading to the B.M. degree in music education (and state teaching certification in grades K-12); the B.M. degree with an emphasis in performance; the B.M. degree with elective studies in business; and the B.A. degree in music.

Instruction in piano, organ, voice, and all band and orchestral instruments is given by full-time faculty and part-time professional musicians, many of whom are members of the Saint Louis Symphony Orchestra. Faculty recitals are regularly scheduled.

Music Minors Three minors in music are available: a minor in music; a minor in music education (choral/vocal, Grades K-9); and a minor in Jazz studies.

Facilities All of the department's facilities, classrooms, rehearsal rooms, studios, practice rooms, and listening labs are located in the Music Building.

Ensembles Thirteen performing ensembles are open to all by audition with credit optional:

- 40, University Chorus
- 41, The University Singers
- 50, University Orchestra
- 52, University Band
- 53, University Wind Ensemble
- 54, Chamber Ensemble: a, brass; b, jazz combo; c, percussion; d, strings; e, voice; f, woodwinds
- 55, Jazz Ensemble
- 56, Opera Workshop

Each year about 40 recitals and concerts are presented.

Undergraduate Studies

General Education Requirements

General education requirements apply to all majors, except students in the B.M. with elective studies in business and B.M. in music education degree programs who are not required to take a foreign language. Courses required for degree programs may not be taken on a satisfactory/unsatisfactory basis.

Students may complete any number of hours of applied music (private lesson) toward a degree. Non-music majors may complete no more than eight hours in music-performing organizations (Music 40, University Chorus; 41, University Singers; 50, University Orchestra; 52, University Band, et.

Music

seq.) toward graduation, including credit transferred. Courses in applied music (private lessons and performing organizations) do not fulfill the humanities general education requirement. Department courses which meet the non-Euro-American study requirement are Music 9, Non-Western Music, and Music 10, Non-Western Music II.

Degree Requirements

Admission to all music degree programs is by audition and interview to demonstrate musical aptitude and potential, moderate technical proficiency, and seriousness in selecting music as a four-year course of study. Auditions are scheduled from January to May for the Fall Semester; a limited number are held in December for the Winter Semester. **APPLICANTS MUST BE ADMITTED TO THE UNIVERSITY BEFORE REQUESTING AN AUDITION.** All students in Applied Music must pass an examination to confirm their level of performance skills before faculty approval for enrollment in Music 244 is granted. This examination usually will be taken in lieu of the Applied Music jury for Music 145.

Evidence of sound musicianship, a close acquaintance with an appropriate portion of musical literature, and the ability to bring it to actual performance are required for graduation in all music degree programs. Students in the Bachelor of Music-Performance Emphasis fulfill this requirement with junior and senior recitals. Those in all other degree programs must satisfy the requirement by participating in three regularly scheduled student recitals during the last two semesters of applied music study, or by performing for a special jury of faculty members. The faculty may invite students who are not in the Bachelor of Music-Performance Emphasis program to give public senior recitals with the recommendation of the applied music instructor.

Music majors are required to participate in an approved ensemble (Symphonic Band, University Singers, University Chorus, or Orchestra) and to study one applied area progressively each semester, and to attend pedagogy and Literature seminars each semester of the degree program. (Music education majors are exempt from these requirements during the student teaching semester.) The following specific ensemble enrollments, depending upon the applied music area, are required:

Wind and percussion students—Symphonic Band; String students—University Orchestra; Voice students—University Singers; Keyboard and guitar students—any approved ensemble, but those in the Bachelor of Music in Music Education program must enroll in an ensemble compatible with the teaching certification they are pursuing. Instrumental students may be required to participate in additional ensembles to enhance their musical development.

Majors are required to appear in performance at the department's discretion and to attend a prescribed number of departmental recitals. Non-keyboard players are required to pass an exam in piano proficiency: Music 118, Intermediate Piano Proficiency, or equivalent for instrumentalists, or Music 120, Intermediate Piano Proficiency, or equivalent for vocalists.

In addition to fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the Bachelor of Arts in Music and Bachelor of Music degrees 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, and interdisciplinary. The music department may require students to pass a placement test in order to enroll in the next level course, provided this or an equivalent test is administered to all students seeking to enroll in that course.

Core Curriculum

The following core courses are required for all music majors:

Music Theory

30A, Theory of Music I
30B, Aural Training I
31A, Theory of Music II
31B, Aural Training II
130A, Theory of Music III
130B, Aural Training III
131A, Theory of Music IV
131B, Aural Training IV
141, Orchestration

Piano Proficiency

14, Piano Proficiency
15, Piano Proficiency
116, Piano Proficiency
118, Piano Proficiency

Music History and Literature

101, History of Western Music I
102, History of Western Music II
and at least one 300-level course.

Applied Music

44Z-347Z, Seminar in Pedagogy and Literature

In addition to the core curriculum, students must fulfill the requirements for the specific degree program or emphasis area as listed below:

Bachelor of Arts in Music

In addition to the required Core Curriculum, candidates must complete the following:

151, Conducting I
192, Senior Research

Applied Area 8 credit hours of private lessons

Ensemble Four hours maximum credit

Music

Bachelor of Music in Music Education

In addition to the required Core Curriculum, candidates must complete the following:

Applied Area 7 credit hours of private lessons

Practicum

151, Conducting I
152, Conducting II
161, Elementary School Materials-Conducting Laboratory
162, Junior-Senior High School Materials Laboratory

Instrumental Certification 10 credit hours
25A, 26A, 27B, and 28B, Instrumental Techniques
123, Intermediate Vocal Techniques, or 44T, Applied Music Voice
124, Intermediate Vocal Techniques, or 45T, Applied Music-Voice

Vocal Certification

125, Singer's Diction: French and Italian
126, Singer's Diction: English and German
25A, 26A, 27B, or 28B, Instrumental Techniques (2 credit hours required)
119, Intermediate Piano Proficiency
120, Intermediate Piano Proficiency
142, Choral Arranging

For students whose applied area is not Voice, the following courses are also required:

123, Intermediate Vocal Techniques
124, Intermediate Vocal Techniques

Ensemble Four hours maximum credit

Curriculum and Methods of Teaching

The following courses are required:
257, Curriculum and Methods of Teaching Elementary School Music
267, Philosophic and Practical Foundations of the Secondary Music Education Curriculum

Proficiency Exam Students working toward certification in choral/vocal or instrumental music K-12 or K-9 are required to pass a proficiency examination before admission to student teaching in music, usually before or during the sixth semester of their program.

Professional Education and Student Teaching

The following education courses are required:
ED FND 111, The School in Contemporary Society
ED PSY 312, The Psychology of Teaching and Learning
ELE ED 210, Elementary School Organization, Management, and Techniques of Teaching
SEC ED 213, Techniques of Secondary School Teaching
SEC ED 293, Student Teaching in Music Education, K-6
SEC ED 294, Student Teaching in Music Education, 7-12
SEC ED 313, The Psychology and Education of Exceptional Individuals

Bachelor of Music with an Emphasis in Performance

In addition to the required Core Curriculum, candidates must complete the following:

311, Analysis of Twentieth-Century Techniques
312, Tonal Counterpoint
151, Conducting I
152, Conducting II
192, Senior Research
119, Intermediate Piano Proficiency (voice majors only)
120, Intermediate Piano Proficiency (voice majors only)

Music History and Literature

An additional 300-level course is required.

Applied Area

24 credit hours of private lessons (junior and senior recitals required).

Ensemble Participation required as follows:

Large Group Four hours maximum credit
Chamber Ensemble/Accompanying Six hours
156, Piano Pedagogy (keyboard students only)

Foreign Language Candidates pursuing this emphasis area with an applied area in voice must complete two semesters of one foreign language selected from French, German, or Italian 1 and Italian 2.

Bachelor of Music with Elective Studies in Business

In addition to the required Core Curriculum, candidates must complete the following:

Applied Area Eight hours of private lessons

Music History and Literature: An additional 300-level course is required.

09, Non-Western Music I, or
10, Non-Western Music II

Practicum

151, Conducting I

Ensemble Four hours maximum credit

Internship

292, Internship (replaces Music 192 in Core Curriculum)

English One of the following English courses is required:

210, Advanced Expository Writing
212, Business Writing
213, Technical Writing

Business Administration The following courses in business administration are required:

140, Fundamentals of Financial Accounting
145, Managerial Accounting

Music

206, Basic Marketing
210, Management as a Behavioral Science I

Two courses selected from the following list must also be taken:

103, Introduction to Business Data Processing
156, Legal Environment of Business
204, Financial Management
256, Business Law
270, Management of Promotion
301, Buyer Behavior
309, Personnel Management
311, Management as a Behavioral Science II
312, Industrial and Labor Relations
347, Income Taxes

Note: The following courses fulfill general education requirements and are prerequisites to the required business administration courses:

Psych 3, General Psychology, or Sociology 10, Introduction to Sociology
Economics 51, Principles of Microeconomics

Curricula for Minors

Minor in Music

Candidates must complete the following courses (24 hours):

Music Theory

30A, Theory of Music I
31A, Theory of Music II
30B, Aural Training I
31B, Aural Training II

Music History and Literature

101, History of Western Music I
102, History of Western Music II

Applied Area Four credit hours of private lessons

Ensemble Two credit hours (four hours maximum credit)

Six additional credit hours to be chosen from courses such as the following:

130A, Theory of Music III
130B, Aural Training III
131A, Theory of Music IV
131B, Aural Training IV
141, Orchestration
116, Intermediate Piano Proficiency (Prerequisite: Music 15)
118, Intermediate Piano Proficiency

Any 300-level **Music History and Literature** course

Applied Music courses in sequence

Any **Ensemble** course

Music education methods courses and instrumental techniques courses may not be taken to complete this minor.

Non-keyboard players are required to pass an exam of piano proficiency (Music 15 or equivalent).

A GPA of 2.5 for all music hours is required to complete this minor.

Minor in Music Education (Choral/Vocal, Grades K-9)

The minor in music education is designed to provide a second classification area for students enrolled in other education programs that lead to initial teaching certification.

Candidates must complete the following courses (41 hours):

Music Theory

30A, Theory of Music I
31A, Theory of Music II
30B, Aural Training I
31B, Aural Training II

Music History and Literature

101, History of Western Music I
102, History of Western Music II

Music Education

***257, Curriculum and Methods of Teaching Elementary School Music**
***267, Philosophic and Practical Foundations of the Secondary Music Education Curriculum**
***269, Curriculum and Methods of Teaching Middle School/Junior High School General Music**

Practicum

151, Conducting I
161, Elementary School Materials: Conducting Laboratory
162, Junior-Senior High School Materials Laboratory

Ensemble

14/15, Piano Proficiency
40/41, Chorus or University Singers
116/118, Intermediate Piano Proficiency

Applied Music, Voice (at least two hours must be private rather than class voice)

* Elementary education majors will omit Music 177 from their regular elementary program to take these courses. Also required, as applicable, is SEC ED 393, Student Teaching.

The student must receive at least a C in each music course and maintain a 2.5 GPA in all music courses (Chorus/Singers is not included in the GPA).

Minor in Jazz Studies Candidates must complete 29 credit hours from the following:

Music Theory

30A, Theory of Music I
31A, Theory of Music II
32, Theory of Jazz
30B, Aural Training I
31B, Aural Training II

Music

Music History and Literature

7, Introduction to Jazz

102, History of Western Music II

Applied Area Four credit hours of private lessons

Jazz Improvisation

20, Jazz Improvisation Laboratory (two credit hours/Music 20 repeated)

Piano Proficiency

14/15, Piano Proficiency

116, Intermediate Piano Proficiency

117, Jazz Keyboard Harmony

Ensemble Two credit hours minimum, to be selected from:

54b, Jazz Combo

54e, Voice

55, Jazz Ensemble

Career Outlook (Undergraduate)

A music degree builds the foundation for a career in professional performance, for teaching in a school or private studio or for serving as a church music director. A music degree may also prepare one for positions in the music industry (recording, publishing, radio programming, manufacturing, or music retail). A trained artistic mind can also be valuable in the fields of advertising, public relations, and consumer services.

A number of UM-St. Louis music graduates have been readily accepted into outstanding graduate programs, including our own. Many are pursuing successful careers in music education, business and industry, or as professional performers.

Graduate Study

Master of Music Education

The Master of Music Education degree is designed to enable music specialists in grades K-12 to pursue continued professional growth in an emphasis area of their choice: Choral, General Music, Instrumental, or Music Technology.

Admission Requirements

Admission to the MME program will require written examinations in music education, music theory, sight singing/ear training and music history. Auditions in performance will complete the admission examinations. The submission of a video tape of the candidate teaching a primary, middle school, or secondary school class is recommended for advising purposes.

Before the admission exams are taken, candidates for the program must have completed a Bachelor of Music in Music Education degree (or equivalent).

Total Number of Credits required for graduation: 32
Credit hours which must be earned in residence: 22

Required Courses and Options:

Each candidate will choose one of the following emphasis areas:

Choral Music Education
Instrumental Music Education
General Music Education
Music Education and Technology

The minimum 32 hour program includes the following requirements.

Major Area (9 credit hours)

481 Foundations of Music Education (3)

491 Music Education Research (3)

499 Master's Project in Music Education (3)

Advanced Methods (3 credits from the following)

451 Advanced Instrumental Methods (3)

461 Advanced Choral Methods (3)

471 General Music: A Model for Multi-Faceted Musical Learning (3)

Other Studies in Music (2 credit hours)

*201 Music Theory Review (NC)

*202 Music History Review (NC)

*203 Ear-Training/Sight Singing Review (NC)

444 Applied Music (1)

445 Applied Music (1)

* required if deficient

Choose three of the following (9 credit hours)

401 Studies in Style and Performance (3)

402 Choral Literature (3)

403 Band Literature (3)

404 Orchestra Literature (3)

411 Scoring and Arranging (3)

421 Advanced Conducting (3)

375 Micro-Computer Applications in Music (3)

492 Psychology of Music (3)

Cognate in Education

Choose one curriculum course (3 credit hours)

Sec Ed 415 The Secondary School Curriculum (3)

Ele Ed 422 Curriculum Construction in Elem Schools (3)

Choose one other education course:

Ed Rem 320 Classroom Testing and Measurement (3)

Ed Fnd 421 Philosophy of Education (3)

Sec Ed 425 Secondary School Supervision (3)

Ele Ed 425 Elementary School Supervision (3)

Ed Rem 330 Educational Statistics (3)

Ed Rem 431 Educational Research Methods (3)

Electives

Choose one elective course (3 credit hours)

301 Marching Band Techniques (3)

375 Micro Computer Applications in Music (3)

376 Micro Computer-Assisted Instruction: Curriculum Development in Music (3)

Music

- 377** Advanced Micro Computer Applications in Music (3)
- 401** Studies in Style and Performance (3)
- 402** Choral Literature (3)
- 403** Band Literature (3)
- 404** Orchestra Literature (3)
- 407** Techniques and Literature for the Jazz Ensemble (3)
- 411** Scoring and Arranging (3)
- 412** Advanced Composition Techniques (3)
- 413** Teaching Music Theory in the High School (3)
- 421** Advanced Conducting (3)
- 431** Advanced Chamber Ensemble (0)
- 446** Applied Music (1)
- 447** Applied Music (1)
- 451** Advanced Instrumental Methods (3)
- 452** Instrumental Music Administration (3)
- 461** Advanced Choral Methods (3)
- 462** Guitar in the Classroom (3)
- 465** Music Theater in the School (3)
- 471** General Music: A Model for Multi-Faceted Musical Learning (3)
- 472** Electronic Music Techniques for Teachers (3)
- 473** Individualizing Music Instruction (3)
- 474** Techniques of Group Keyboard Instruction (3)
- 482** School Music Administration and Supervision (3)
- 483** Contemporary Music Education (3)
- 484** Problems of Urban Music Education(3)
- 492** Psychology of Music (3)
- 495** Special Problems in Music Education (3)
- Ed Tec 340** Selection and Utilization Education Media (3)
- Ech Ed 412** Foundations of Early Childhood (3)
- Spc Ed 412** Psychology of Exceptional Children (3)
- Sec Ed 414** Teaching the Gifted/Talented in the Secondary School (3)
- Sec Ed 418** The Junior High/Middle School (3)
- Sec Ed 427** Supervision of Clinical Experiences in Teacher Education (3)
- Sec Ed 429** The Department Head (3)
- Ed Rem 431** Educational Research Methods (3)

Career Outlook (Graduate)

Many graduate students in music education will already hold full-time music teaching positions. A graduate degree in music education allows for continued professional growth. Music specialists may refine their teaching expertise, add to their understanding and knowledge about music and educational processes, become more specialized in a specific emphasis area of music education (choral, instrumental, general music or music technology) or any combination of these professional growth areas.

Graduate level work in music education is often required to renew a teacher's certificate or to satisfy professional growth requirements specified by an employing school or school district or to advance to new positions within the field of music education.

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Course Descriptions

Prerequisites may be waived by consent of the department.

The following courses fulfill the Humanities [H] breadth of study requirements: 1, 2, 6, 7, 9, 10, 19, 30A, 31A, 32, 101, 102, 103, 105, 108, 130A, 131A, 177, 192, 300, 321, 322, 323, 324, 325, 326, 400.

Applied Music

43A-T Secondary Applied Music (1)

Prerequisites: By audition and consent of department. Individual instruction in performance and literature of the designated instrument. May be repeated for credit. Not applicable to the applied music requirement for music major or music minor degrees.

44, 45, 144, 145, 244, 245, 344, 345, 346, 347 Applied Music (1-2)

Registration by audition and consent of department. Each Applied Music course is a prerequisite for the subsequent course in the sequence. Courses are offered in the following areas: a, bassoon; b, clarinet; c, classical guitar; d, euphonium; e, flute; f, French horn; g, harp; h, oboe; i, organ; j, percussion; k, piano; l, saxophone; m, trombone; n, trumpet; o, tuba; p, violin; q, viola; r, violoncello; s, string bass; t, voice. Applied Music registration requires concurrent large ensemble registration, and includes weekly Pedagogy and Literature seminars.

44Z, 45Z, 144Z, 145Z, 244Z, 245Z, 344Z, 345Z, 346Z, 347Z Seminar in Pedagogy and Literature (0)

Prerequisites: Concurrent registration with each Applied Music course is required. Seminars are offered in the pedagogy and literature for all areas of Applied Music. May be taken on a satisfactory/unsatisfactory grading basis (S/U).

444 Applied Music I (1)

Prerequisite: 300-level applied music or consent of the department. Private instruction in orchestral instruments, organ, guitar, piano, and voice.

445 Applied Music II (1)

Prerequisite: Music 444. Private instruction in orchestral instruments, organ, guitar, piano, and voice.

446 Applied Music III (1)

Prerequisite: Music 445. Private instruction in orchestral instruments, organ, guitar, piano, and voice.

447 Applied Music IV (1)

Prerequisite: Music 446. Private instruction in orchestral instruments, organ, guitar, piano, and voice.

Ensemble Performance

40 University Chorus (1)

Prerequisite: Consent of instructor. Preparation and performance of choral literature.

41 The University Singers (1)

Prerequisite: Consent of instructor. The study and performance of music for vocal chamber ensemble.

50 University Orchestra (1)

Prerequisite: Consent of instructor. Study, preparation, and performance of orchestral repertory.

52 University Band (1)

Prerequisite: Consent of instructor. Study, preparation, and performance of music for the wind ensemble and band.

53 University Wind Ensemble (1)

Prerequisite: Consent of instructor. The study, preparation, and performance of music for wind ensemble and chamber band.

54 Chamber Ensemble (1)

Prerequisite: Consent of instructor. Study, preparation, and performance of music for small ensembles: a, brass; b, jazz combo; c, percussion; d, strings; e, voice; f, woodwinds; g, accompanying.

55 Jazz Ensemble (1)

Prerequisite: Consent of instructor. Study, preparation, and performance of jazz music for big band.

56 Opera Workshop (1)

Prerequisite: Consent of instructor. Instruction in movement, basic stage techniques, technical theater, repertory and performance techniques and preparation. May be repeated for credit.

60 Collegium Musicum (1)

Prerequisite: Consent of instructor. Performance of music for chamber ensemble with particular emphasis on the Renaissance and Baroque periods.

356 Advanced Opera Workshop (1)

Prerequisite: Consent of instructor. Instruction in movement, stage technique, technical theater, repertory, and performance based on advanced vocal skills. May be repeated for credit.

431 Advanced Chamber Ensemble (0)

Prerequisite: Graduate standing in music. Study and performance of traditional and nontraditional chamber literature.

Music Education

177 An Introduction to Music for the Elementary School Teacher (3)

An introduction to the elements of music and the expressive nature of music. Includes application of fundamentals to appropriate literature and activities for use with children in a classroom setting. This course will not apply toward requirements for a music major.

257 Curriculum and Methods of Teaching Elementary School Music (3)

(Same as Ele Ed 277.) Prerequisites: Music 131 and Ed Fnd 111. For the music education major. A study of the

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elementary school music curriculum emphasizing the objectives, methods of teaching and staffing music classes, and analysis of instructional materials and resources.

267 Philosophic and Practical Foundations of the Secondary Music Education Curriculum (1)

(Same as Sec Ed 275.) Prerequisites: Music 131, Music 257/Ele Ed 277, and Ed Fnd 111. Concurrent registration in Music 268/Sed Ed 276 and Music 270/Sed Ed 278 or Music 271/Sec Ed 279. For the music education major. A study of the secondary school music program: curricular objectives, philosophy, and general administrative procedures common to all secondary music classes.

268 Curriculum and Methods of Teaching Instrumental Music I (2)

(Same as Sec Ed 276.) Prerequisites: Music 131, 145, 151, 161, Ed Fnd 111, two of the following: Music 25, 26, 27, 28. Concurrent registration in Music 257/Ele Ed 277. A study of the teaching techniques, materials, curriculum, and organization of the beginning instrumental music education program. Topics include student recruitment the elementary band/orchestra, small group instruction, jazz ensemble, and marching band.

269 Curriculum and Methods of Teaching Middle School/Junior High School General Music (2)

(Same as Sec Ed 277.) Prerequisites: Music 131, Music 257/Ele Ed 277, and Ed Fnd 111. Concurrent registration in Music 267/Sec Ed 275 and Music 271/Sec Ed 279. For the music education major. A study of the middle school/junior high school general music program emphasizing a conceptually based curriculum: objectives, methodologies, materials, innovations, classroom organization, and management.

270 Curriculum and Methods of Teaching Instrumental Music II (2)

(Same as Sec Ed 278.) Prerequisites: Music 131, Music 152a, Music 162, Music 257/ELE Ed 277, Music 268/Sec Ed 276, Ed FND 111, three of the following: Music 25, Music 26, Music 27, Music 28. Concurrent registration in Music 267/Sec Ed 275. A continuation of Music 268/Sec Ed 276. Topics include large group rehearsal techniques, program development, administrative procedures, and evaluation.

271 Curriculum and Methods of Teaching Secondary Choral Music (2)

(Same as Sec Ed 279.) Prerequisites: Music 131, Music 257/ELE Ed 277, and Ed FND 111. Concurrent registration in Music 267/Sec Ed 275 and Music 269/Sec Ed 277. For the music education major. A study of the secondary choral music program: curriculum, methods, teaching techniques, organization, and administrative procedures for choral performance classes.

300 Advanced Techniques in Music Education (1-2)

Prerequisite: A 200-level music education course or permission of the department. Intensive study for advanced music education students and music teachers, emphasizing specialized techniques and innovative concepts. Topics to be announced. May be repeated for credit.

301 Marching Band Techniques (3)

Prerequisite: Junior Standing. Techniques for organizing and training school marching bands. Content will include planning and charting shows, rehearsal problems, corps and traditional styles, and auxiliary units.

375 Microcomputer Applications in Music Education (3)

(Same as Ed 375.) Prerequisites: Music 257 or 267, and ED 301 or consent of instructor. An examination of the potential of microcomputers in the music education field. Experiences with available hardware and software suitable for applications that include inventory, budget, music library cataloging, digital music synthesis, and computer-assisted instruction at all levels.

376 Microcomputer-Assisted Instruction Curriculum Development in Music (3)

(Same as ED 376.) Prerequisites: Music 375/ED 375 or consent of instructor. Design and development of Computer-Assisted Instruction (CAI) lessons in music. Commercial courseware and various CAI models will serve as the basis for creating original programs that can be used effectively to implement objectives of the music curriculum for a specific school or school district. The design, refinement, and production of a major CAI program for use in an elementary, secondary or postsecondary setting is required.

377 Advanced Microcomputer Applications in Music (3)

(Same as ED 377.) Prerequisite: Music Education 375 or consent of the instructor. The study of complex microcomputer applications including music synthesis, MIDI, music-oriented graphics, voice and pitch recognition, administrative applications and computer-assisted instruction.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

407 Techniques and Literature for the Jazz Ensemble (3)

Prerequisite: Graduate standing in music. An examination of jazz music education. Includes methods, materials, improvisational techniques, and administration.

413 Teaching Music Theory in the High School (3)

Prerequisite: Graduate standing in music. A study of the course content and pedagogical techniques for high school music theory courses.

451 Advanced Instrumental Methods (3)

Prerequisite: Graduate standing in music. Development of objectives for instrumental programs and methods of achieving those objectives. Comprehensive musicianship through instrumental performance, analysis of instrumental literature, instrumental philosophies and methodologies, rehearsal organization, and recent research in instrumental music education will be discussed.

452 Instrumental Music Administration (3)

Prerequisite: Graduate standing in music. Study of the organizational problems of the instrumental program; library management; budgeting; awards and incentive

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systems; selection, care, and handling of uniforms and equipment; instrumental balance; seating plans; and operation of festivals and contests.

461 Advanced Choral Methods (3)

Prerequisite: Graduate standing in music. Development of objectives for choral programs and methods of achieving those objectives. Comprehensive musicianship through choral performance, analysis of choral literature, the changing voice, choral philosophies and methodologies, rehearsal organization, and recent research in choral music education will be discussed.

462 Guitar in the Classroom (3)

Prerequisite: Graduate standing in music. A study of guitar instruction in grades 5-12 with a focus on curricular sequence that includes chords, strums and picking patterns essential for song accompaniment skill development. Current materials, suitable for upper elementary and secondary students will be explored.

465 Music Theater in the School (3)

Prerequisite: Graduate standing in music. Techniques appropriate for school musical productions. Aspects of production and planning, including makeup, staging, lighting, and costuming.

471 General Music: A Model for Multifaceted Musical Learning (3)

Prerequisite: Graduate standing in music. An exploration of the general music class as a learning laboratory model designed to actively engage the learner in a series of comprehensive music learning experiences. Emphasizes techniques and materials that will motivate the "nonperformance-oriented" student.

472 Electronic Music Techniques for Teachers (3)

Prerequisite: Graduate standing in music. Basic electronic music instruments, their operation and use as teaching tools. Materials and techniques suitable for use with students in both elementary and secondary school settings will be presented.

473 Individualizing Music Instruction (3)

Prerequisite: Graduate standing in music. The development of learning strategies, materials, and evaluation techniques suitable for better accommodating the varying interests, abilities, and learning styles of individual students in music classes.

481 Foundations of Music Education (3)

Prerequisite: Graduate standing in music. A study of the historical, philosophical, and psychological foundations of music education. Includes principles necessary for development, implementation, and evaluation of the total school music program.

482 School Music Administration and Supervision (3)

Prerequisite: Graduate standing in music. Theory and practice of administration and supervision of school music programs.

483 Contemporary Music Education (3)

Prerequisite: Graduate standing in music. A study of recent trends and issues in music education.

484 Problems of Urban Music Education (3)

Prerequisite: Graduate standing in music. An analysis of current practices, problems, trends, and research involved in developing strategies for the improvement of music programs in inner-city schools.

491 Music Education Research (3)

Prerequisite: Graduate standing in music. Applications of various approaches in defining and analyzing research problems in music education. Historical, experimental, descriptive, and philosophical research will be included.

492 Psychology of Music (3)

Prerequisite: Graduate standing in music. A study of the effects of music on behavior. Tuning and temperament, psychoacoustics, measurement of musical behavior, aesthetic response to music, and functional music.

495 Special Problems in Music Education (1-3)

Prerequisite: Graduate standing in music. Selected problems to meet the needs of the individual student.

499 Master's Project in Music Education (3)

Prerequisite: Graduate standing in music. A project utilizing historical, experimental, philosophical, descriptive, or analytical research techniques. The project will include a written report.

Music History and Literature

1 Introduction to Music (3)

An historically-oriented study of art music, its styles, and forms from the Baroque period to the present day. This course will not apply toward requirements for a music major.

2 Introduction to Symphonic Music (3)

Orchestral music from the Baroque period to the present time; concerto grosso and suite; program music; the symphony. This course will not apply toward requirements for a music major. This course is also offered for independent study through the UM-St. Louis Video Program.

6 Introduction to African-American Music (3)

A survey of the African-American musical heritage from its African origins through its role and development in twentieth-century American society. All genres will be discussed, including African-American composers who wrote in the European tradition. This course will not apply toward requirements for a music major or minor.

7 Introduction to Jazz (3)

A survey course which examines the musical, historical, and social aspects of the subject. This course will not count toward requirements for a music major.

9 Non-Western Music I (3)

The music of Oceania; folk and classical music and dance of East Asia, Tibet and Southeast Asia; the influence of

Music

Buddhism, Islam, and Western acculturation on the functions of music in these societies. This course fulfills the Cultural Diversity requirement.

10 Non-Western Music II (3)

Music of the African continent, West Asia, and South Asia; a survey of the tribal, folk, and classical music and performing arts of these cultures. This course fulfills the Cultural Diversity requirement.

101 History of Western Music I (3)

Prerequisite: Music 30 or consent of department. A general survey of the history of Western music. Includes the evolution and development of styles, forms, and their social setting.

102 History of Western Music II (3)

Prerequisite: Music 30 or consent of department. A continuation of Music 101.

103 Music in Religion (3)

Prerequisite: Sophomore standing or departmental consent. A survey of the role of music in the religious traditions of the East and West from earliest times to the present. The types of music in the various religious traditions and the effects of this music in society are examined.

105 Music as Propaganda (3)

A study of music as a tool of individuals or government and other authorities to teach, to persuade, to beguile a society in various periods and places of world history. Topics include Beethoven and the rise of democracy, nationalism in nineteenth-century Europe, music in Eastern and Western religions, official art in Marxist-socialist states, and protest songs of the Sixties.

108 Women in Music (3)

This course surveys the role of women in the development of music from antiquity to the present day. The course will explore the lives and contributions of women composers, performers, and conductors.

202 Music History Review (3)

Prerequisite: Consent of department. A review of the history of Western music. Includes a survey of styles in major periods of Western music. The credit may not be used to satisfy requirements for a music degree.

300 Directed Studies: Variable Topic (1-5)

Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

321 Music of the Middle Ages (3)

Prerequisite: Music 101 or consent of department. A study of music and musical thought from the beginning of Christianity to 1450. Gregorian chant, polyphonic music, the Ars Antiqua, and the Ars Nova.

322 Music of the Renaissance (3)

Prerequisite: Music 101 or consent of department. A study

of the theoretical and practical impact of humanism on music, musicians, and musical thought from 1450 to 1600. Sacred and secular music; the rise of an instrumental idiom.

323 Music of the Baroque (3)

Prerequisite: Music 101 or consent of department. A detailed study of music from 1600 to 1750. The rise of the new style, national styles in the seventeenth century, and the culmination of the Baroque period.

324 Music of the Classic Period (3)

Prerequisite: Music 102 or consent of department. A study of the growth of classical style; galant and expressive styles; Mozart, Haydn, and Beethoven.

325 Music of the Romantic Period (3)

Prerequisite: Music 102 or consent of department. Composers, forms, and styles in nineteenth-century music. The literary and social background of musical romanticism.

326 Music of the Twentieth Century (3)

Prerequisite: Music 102 or consent of department. A detailed study of trends in modern music and of influential composers; impressionism, serial composition, electronic music, and other recent techniques.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

401 Studies in Style and Performance Practices (3)

Prerequisite: Graduate standing in music. Selected styles, forms, and composers from the various periods in the history of Western art music. Three or more periods or subperiods will be explored to reveal the continuity and contrast in music from the Middle Ages to the twentieth century.

Music Theory and Composition

3 Basic Musicianship (2)

Prerequisite: Music theory placement examination. An introduction to concepts and notational conventions essential to musical performance. Topics include pitch and time organization, and their appearance on the musical staff. No credit toward any degree.

19 Fundamentals of Music (3)

This course provides basic music vocabulary: scales, intervals, and chords, and systematic instruction in the melodic, rhythmic, and harmonic aspects of music. This course will not apply toward requirements for a music major.

30A Theory of Music I (3)

Prerequisite: Consent of the department. The basic materials of music and their use in analyzing and writing music. Concurrent registration in Music 30B is required for music majors and minors.

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30B Aural Training I (1)

Prerequisite: Consent of the department. Systematic instruction in ear training and sight singing. Includes diatonic melodic and rhythmic dictation, chord quality recognition, sight singing of diatonic melodies, and the reading of units and divisions of units in simple and compound meters.

31A Theory of Music II (3)

Prerequisites: Music 30A and Music 30B or consent of department. The study of seventh chords, secondary dominants, and modulation; composition in small forms. Concurrent registration in Music 31B is required for music majors and minors.

31B Aural Training II (1)

Prerequisites: Music 30A and Music 30B or consent of department. The systematic instruction in ear training and sight singing begun in Music 30B is continued. Includes further diatonic melodic and rhythmic dictation, primary chord progressions, sight singing of diatonic melodies, and the reading of unit subdivisions in simple and compound meters.

32 Theory of Jazz (3)

Prerequisite: Music 31 or consent of department. This is a survey analysis of the tonal organization of mainstream jazz music as documented by standard performance practice. Scale formation chordal structure and harmonic function will be examined.

71 Sight Singing I (1)

Rhythmic and tonal sight singing, based on Kodaly methodology. Recommended for music education majors. Will not substitute for music theory sequence.

72 Sight Singing II (1)

Prerequisite: Music 71. A continuation of Music 71.

130A Theory of Music III (3)

Prerequisites: Music 31A and Music 31B or consent of department. Study of chromaticism in eighteenth and nineteenth centuries; composition in simple part forms. Concurrent registration in Music 130B is required for music majors and minors.

130B Aural Training III (1)

Prerequisites: Music 31A and Music 31B or consent of department. Systematic instruction in ear training and sight singing of Music 31B is continued. Chromatic melodic dictation, rhythmic dictation continues, secondary and altered chords in progressions are introduced. Sight singing of chromatic, modulating, and modal melodies, and the reading of syncopated rhythmic patterns are included.

131A Theory of Music IV (3)

Prerequisites: Music 130A and 130B or consent of department. Study of late nineteenth- and early twentieth-century tonal harmony; analysis of large forms; composition in large forms. Concurrent enrollment in 131B is required for all music majors and minors.

131B Aural Training IV (1)

Prerequisites: Music 130A and 130B or consent of department. Systematic instruction in sight singing and advanced aural perceptions. Includes drill in recognition of formal events and key relationships, sight singing of twentieth-century melodies, and rhythmic drills in borrowed divisions and changing meters.

141 Orchestration (2)

Prerequisite: Music 131 or concurrent enrollment. Study of the instruments of the orchestra; scoring for various instrumental ensembles and orchestra.

142 Choral Arranging (2)

Prerequisite: Music 131 or consent of department. Study of vocal ranges, characteristics and capabilities at various ages and scoring for choral ensembles comprised of singers in these varying stages of development.

201 Music Theory Review (3)

Prerequisite: Music 131 or consent of department. A review of techniques employed in the analysis and composition of tonal music. The credit may not be used to satisfy requirements for a music degree.

203 Ear Training and Sight Singing Review (1)

Rhythmic and tonal sight singing based on Kodaly methodology: melodic and harmonic ear training. Does not substitute for music theory sequence. The credit may not be used to satisfy the requirements for a music degree.

300 Directed Studies: Variable Topic (1-5)

Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

311 Analysis of 20th Century Technique (2)

Prerequisite: Music 131 or consent of department. Study of compositional devices in tonal and atonal music of the twentieth century.

312 Tonal Counterpoint (2)

Prerequisite: Music 131 or consent of department. Study of tonal counterpoint with emphasis on the eighteenth-century style. Composition in two and three parts.

330 Seminar in Composition (2)

Prerequisite: Music 311 or consent of instructor. The study of composition in theory and practice.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

411 Scoring and Arranging (3)

Prerequisite: Graduate standing in music. Experience in scoring and arranging music for a variety of ensembles.

412 Advanced Composition Techniques (3)

Prerequisite: Graduate standing in music. Analysis and

Music

evaluation of student works with an emphasis on the further development of style and compositional technique.

Pedagogy

25A High Brass Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching trumpet and horn classes in the school setting.

25B Low Brass Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching trombone, euphonium, and tuba classes in the school setting.

26A Single Reed Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching clarinet and saxophone classes in the school setting.

26B Double Reed and Flute Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching oboe, bassoon, and flute classes in the school setting.

27A High String Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching violin and viola in the school setting.

27B Low String Instrument Techniques (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching cello and bass classes in the school setting.

28A Percussion Instrument Techniques I (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching snare drum, tom-tom, bass drum, cymbals, and drum set in the school setting.

28B Percussion Instrument Techniques II (1)

Prerequisite: Consent of department. The objective of this course is to familiarize students with materials and techniques for teaching timpani, mallet instruments, and miscellaneous percussion instruments in the school setting.

123 Intermediate Vocal Techniques (1)

Prerequisite: Permission of department. Instruction for non-voice majors in the choral option of the music education curriculum.

124 Intermediate Vocal Techniques (1)

Prerequisite: Permission of department. Instruction for non-voice majors in the choral option of the music education curriculum.

156 Piano Pedagogy (2)

Prerequisite: Equivalent of Music 45k or permission of instructor. A study of methods, repertoire, and technical problems pertaining to private studio teaching for all levels of performance ability.

221 Pedagogy of Jazz Improvisation (1)

Prerequisites: Music 131 and permission of instructor. Study of the techniques, systems, and instructional materials used in teaching jazz improvisation.

300 Directed Studies: Variable Topic (1-5)

Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

474 Techniques of Group Keyboard Instruction (3)

Prerequisite: Graduate standing in music. A study of techniques, materials, and equipment appropriate for group keyboard instruction.

Practicum

14, 15 Piano Proficiency (2)

Prerequisite: Permission of department. Group instruction for music majors who do not meet beginning keyboard requirements.

20 Jazz Improvisation Laboratory (1)

Prerequisite: Consent of instructor. The study and application of the theoretical, technical, and performance aspects of jazz improvisation. May be repeated for credit.

116, 118, 119, 120 Intermediate Piano Proficiency (1)

Prerequisite: Music 15 or permission of department. Continuation of piano proficiency study.

117 Jazz Keyboard Harmony (1)

Prerequisite: Applied Music 116 or consent of department. Group keyboard instruction in the application of chordal structures and harmonic functions commonly used in mainstream jazz performance.

125 Singer's Diction: French and Italian (1)

Prerequisite: Music 44 or Music 124. A study of French and Italian pronunciation.

126 Singer's Diction: Latin and German (1)

Prerequisite: Music 44 or Music 124. A study of Latin and German pronunciation.

151 Conducting I (2)

Prerequisite: Music 130. Concurrent registration in Music 161 required. Techniques and problems in conducting.

Music

152a Conducting II—Instrumental (2)

Prerequisite: Music 151. Concurrent registration in Music 162 required. Advanced study of instrumental conducting and rehearsal techniques, score reading, and interpretation.

152b Conducting II—Choral (2)

Prerequisite: Music 151. Concurrent registration in Music 162 required. Advanced study of choral conducting and rehearsal techniques, score reading, and interpretation.

153 Accompanying I (1)

Prerequisite: Consent of department. Accompanying and ensemble practices, including rehearsal techniques, for keyboard majors. Public performance of works studied is required.

154 Accompanying II (1)

Prerequisite: Consent of department. A continuation of Music 153.

155 Accompanying III (1)

Prerequisite: Consent of department. A continuation of Music 154.

161 Elementary School Materials: Conducting Laboratory (1)

Prerequisite: Music 130. Active conducting experience while analyzing and evaluating selected instructional and concert materials for elementary grades.

162 Junior-Senior High School Materials Laboratory (1)

Prerequisite: Music 131. Analysis and evaluation of selected instructional and concert materials for junior and senior high school performance groups.

192 Senior Research (2)

Prerequisite: Consent of department. Required of all senior music majors. Directed readings and research in an area mutually acceptable to the student and instructor.

292 Internship (1-3)

Prerequisites: Senior standing in bachelor of music business emphasis program and permission of the instructor. Supervised experience in the area of the student's career objective, such as music or instrument merchandising, arts management, mass communication, publishing, manufacturing or other, as available. May be repeated once for credit in different area.

300 Directed Studies: Variable Topic (1-5)

Prerequisite: Consent of department. Directed independent study of selected topics in music. May be repeated, if topic is substantially different but no more than 5 hours may be applied toward a degree.

400 Directed Research in Music: Variable Topic (1-5)

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, if topic is substantially different, but no more than 5 hours may be applied toward a degree.

402 Choral Literature (3)

Prerequisite: Graduate standing in music. Study of choral literature appropriate for ensembles from elementary to senior high school. Criteria for evaluating choral literature will be developed, and pedagogical implications of choral music as a means of developing comprehensive musicianship will be discussed.

403 Band Literature (3)

Prerequisite: Graduate standing in music. Study of band literature appropriate for soloists and ensembles from elementary to senior high school. Criteria for evaluating the literature will be developed, and related technical problems will be studied.

404 Orchestra Literature (3)

Prerequisite: Graduate standing in music. Study of orchestral literature appropriate for soloists and ensembles from elementary to senior high school. Criteria for evaluating the literature will be developed, and technical problems will be studied.

421 Advanced Conducting (3)

Prerequisite: Graduate standing in music. Conducting techniques, score reading, and interpretation of choral, orchestral, and band literature.

Philosophy

Faculty

Paul A. Roth, Professor*, Chairperson
Ph.D., University of Chicago
James F. Doyle, Professor*
Ph.D., Yale University
Peter Fuss, Professor*
Ph.D., Harvard University
Robert M. Gordon, Professor*
Ph.D., Columbia University
Tommy L. Lott, Professor
Ph.D., University of California-Los Angeles
Ronald Munson, Professor*
Ph.D., Columbia University
John E. Clifford, Associate Professor*
Ph.D., University of California-Los Angeles
David A. Conway, Associate Professor*
Ph.D., Princeton University
Lawrence H. Davis, Associate Professor*
Ph.D., University of Michigan
Stephanie A. Ross, Associate Professor*
Ph.D., Harvard University
Sigurdur Kristinsson, Assistant Professor*
Ph.D., Cornell University
Piers Rawling, Assistant Professor*
Ph.D., University of California-Berkeley
Henry L. Shapiro, Assistant Professor*
Ph.D., Columbia University
Donald W. Mertz, Adjunct Assistant Professor
Ph.D., Saint Louis University
David J. Griesedieck, Senior Lecturer
M.A., Princeton University

*members of Graduate Faculty

Philosophy continues to keep alive the tradition begun by Socrates, Plato, and Aristotle of critically examining one's most cherished assumptions. Moreover, it deals with questions that are common to several areas of inquiry, such as art, ethics, the social sciences, the natural sciences, and the various professions. The study of philosophy also encourages logical precision, a heightened awareness of assumptions used in any discussion, and an attitude of both open-mindedness and responsible criticism toward new and unusual ideas. These skills are particularly useful for students planning careers in law, business, computer science, writing, or other fields requiring such disciplines of mind. For these reasons many students have found it useful to combine a major in another field with a major in philosophy. To accommodate such students, the department has a special program for double majors.

The philosophy faculty has an unusually wide range of research interests. Faculty members have written books and articles addressing not only the classical and traditional concerns of philosophy, but 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 three options leading to the B.A. degree in philosophy: one for students intending to enter graduate school in philosophy; another for students seeking a general liberal arts education as their ultimate academic objective or as preparation for professional degrees such as law; and the third for students taking a double major in philosophy and another discipline. 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. Any course in philosophy will satisfy the humanities requirement. Philosophy 120, Asian 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.

Option One Designed to prepare students for graduate work in philosophy, the program requires:

- 1) **Philosophy 160**, Formal Logic
- 2) **History of Philosophy**
Choose alternative a or b:
 - a. Two courses from Philosophy 101-107 sequence and one course from Philosophy 201-210 sequence.
 - b. **Philosophy 10**, Western Philosophy I, and **Philosophy 11**, Western Philosophy II; one course from Philosophy 101-107 sequence; and one course from Philosophy 201-210 sequence.
- 3) **Normative Philosophy**
One course from the following:
Philosophy 230, Social and Political Philosophy
Philosophy 235, Classical Ethical Theories
Philosophy 238, Recent Ethical Theory
Philosophy 269, The Marxist Heritage

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- 4) **One of the following courses:**
Philosophy 240, Theories of Knowledge
Philosophy 245, Metaphysics
- 5) **Philosophy and Other Disciplines**
One course from the Philosophy 270-290 sequence.
- 6) **Philosophy 391, Senior Seminar**

When appropriate, **Philosophy 250, 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 Less restrictive, this option is intended for general liberal arts students or students whose special interests, such as prelaw preparation, do not fall clearly into any one traditional academic department. Requirements include:

- 1) **Philosophy 160, Formal Logic**
- 2) **History of Philosophy**
 Choose alternative a or b:
 a. Two courses from the following:
Philosophy 101—107 sequence
Philosophy 201—210 sequence
 b. **Philosophy 10, Western Philosophy I, and Philosophy 11, Western Philosophy II, and one course from the following:**
Philosophy 101—107 sequence
Philosophy 201—210 sequence
- 3) **Philosophy 391, Senior Seminar**
- 4) **A total of twelve hours or more at the 200 level or above.**

Option Three Open only to students seeking a double major, the option requires:

- 1) **Philosophy 60, Logic and Language, or Philosophy 160, Formal Logic**
- 2) **History of Philosophy**
 Choose alternative a or b:
 a. Two courses from the following:
Philosophy 101—107 sequence
Philosophy 201—210 sequence
 b. **Philosophy 10, Western Philosophy I, and Philosophy 11, Western Philosophy II, and one course from the following:**
Philosophy 101—107 sequence
Philosophy 201—210 sequence
- 3) **Philosophy 391, Senior Seminar**
- 4) **A total of nine hours or more at the 200 level or above.**

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, Special Readings;**
- 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, Special Readings, for the senior thesis.

Related Area Requirements Majors are urged to acquire a familiarity with some other field above the introductory level.

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, 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, and interdisciplinary. Transfer students planning to major in philosophy should consult the chairperson of the department as soon as possible in order to have their transcripts evaluated with regard to the above requirement.

Requirements for the Minor Fifteen hours of course work in philosophy are required. Philosophy 60 or Philosophy 160, and four other courses numbered above 100, including two numbered above 200.

Minors are encouraged, though not required, to take Philosophy 391, 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.

Philosophy

Course Descriptions

Prerequisites may be waived by consent of the department.

The following courses fulfill the Humanities [H] breadth of study requirements: 10, 11, 30, 50, 60, 85, 90, 101, 102, 103, 104, 105, 107, 120, 150, 151, 153, 154, 156, 160, 165, 174, 185, 201, 202, 205, 206, 207, 208, 210, 215, 230, 235, 238, 240, 245, 250, 260, 265, 269*, 270, 272, 274, 276, 278, 280, 282, 287, 290, 310, 315, 350, 365, 369, 370, 374, 378, 380, 382, 385, 387, 391.

*Course may fulfill the [H] or Social Sciences [SS] breadth of study requirement.

10 Western Philosophy I: Antiquity to the Renaissance (3)
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 Western Philosophy II: Descartes to the Present (3)
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 Approaches to Ethics (3)
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 Major Questions in Philosophy (3)
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 Logic and Language (3)
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 Philosophy of Religion (3)
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 Freshman Seminar (3)
Prerequisites: Freshman standing and consent of instructor. Topics to be announced. Weekly seminars supplemented by individual conferences. Limited to twelve students.

101 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 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 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 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 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 American Philosophy (3)
Prerequisite: Six hours of philosophy or consent of instructor. A study of selected American philosophers.

120 Asian Philosophy (3)
Critical study of selected philosophical classics of India and China. This course fulfills the Cultural Diversity requirement.

150 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.

151 Sexual Ethics (3)
A critical review of what philosophers, both classical and contemporary, have said about sexual experience and its place in our lives. Included will be such topics as sexual desire, sexual perversion, love and commitment, marriage and adultery. Larger questions might include the role of sexual experience in the good life, issues of sexual privacy, and the morality of laws which regulate sexual activity.

153 Philosophy and Feminism (3)
A critical survey of what various philosophers have said about issues of concern to the women's movement.

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Included will be accounts, both traditional and modern, of such topics as differences between the sexes, sexism in language, oppression, preferential treatment and affirmative action, abortion and rape, and the differences between sexism and racism.

154 Business Ethics (3)

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 Medical Ethics (3)

(Same as Gerontology 156.) An examination of ethical issues in medical practice and research and in public policies affecting health care. Topics include: abortion, euthanasia, medical experimentation, informed consent, and the right to health care.

160 Formal Logic (3)

An introductory study of logical truth and deductive inference, with emphasis on the development and mastery of a formal system.

165 Inductive Logic (3)

An examination of the techniques for evaluating inferences which do not fit deductive frameworks. Examples will be drawn from at least the physical sciences, medicine, ethics, law, and everyday life.

174 Philosophy and Literature (3)

Critical reading and discussion of selected literary works in terms of the philosophical problems they present.

185 Topics in Philosophy of Religion (3)

Prerequisite: Philosophy 85 or Philosophy 50 or permission 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 course may be repeated for credit on approval by the department.

201 Plato (3)

Prerequisite: Six hours of philosophy or consent of instructor. A study of selected Platonic dialogues.

202 Aristotle (3)

Prerequisite: Six hours of philosophy or consent of instructor. A selective study of Aristotle's major works.

205 The Rationalists (3)

Prerequisite: Six hours of philosophy or consent of instructor. An examination of the philosophies of such major figures as Descartes, Spinoza, and Leibniz.

206 The British Empiricists (3)

Prerequisite: Six hours of philosophy or consent of instructor. An examination of the philosophies of such major figures as Locke, Berkeley, and Hume.

207 Kant (3)

Prerequisite: Six hours of philosophy or consent of instructor. A systematic study of the Critique of Pure Reason.

208 Hegel (3)

Prerequisite: Six hours of philosophy or consent of instructor. A critical study of the writings and influence of Hegel.

210 Significant Figures in Philosophy (3)

Prerequisite: Six hours of philosophy or consent of instructor. A critical study of the work of an important philosopher. The philosopher to be considered will be announced prior to registration. This course may be repeated for credit on approval by the department.

215 Existentialism and Phenomenology (3)

A study of some major representatives of these schools from Kierkegaard to the present.

230 Social and Political Philosophy (3)

An analysis of some fundamental concepts and assumptions involved in the theory and practice of social and political organization.

235 Classical Ethical Theories (3)

Significant contributions to moral philosophy from Plato and Aristotle to Bentham and Mill.

238 Recent Ethical Theory (3)

Prerequisite: Six hours of philosophy 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.

240 Theories of Knowledge (3)

Prerequisite: Six hours of philosophy 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.

245 Metaphysics (3)

Prerequisite: Six hours of philosophy or consent of instructor. An examination of selected metaphysical topics such as substance, universals, causality, necessity, space and time, free will, being, and identity.

250 Special Topics in Philosophy (3)

Prerequisite: Six hours of philosophy 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 course may be repeated for credit on approval by the department.

260 Advanced Formal Logic (3)

Prerequisite: Philosophy 160 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.

Philosophy

265 Logical Explorations (3)

Prerequisite: Philosophy 160. A variable content course in which techniques of modern logic are used to explore one or more of the following topics: modal logic, the logic of decision and action, value theory and decision analysis, induction and inductive logic, the logic of knowledge and belief, system construction, and contemporary logical theory. The topic will be announced prior to registration. This course may be repeated for credit on approval by the department.

269 The Marxist Heritage (3)

(Same as Political Science 269 and Interdisciplinary 269.) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

270 Philosophy of Language (3)

A study of the nature and structure of language and its relationship to selected philosophical problems. Included will be such topics as ordinary language philosophy, significant developments in twentieth-century linguistics, prospects for semantic theory, and a discussion of traditional problems of meaning, reference, and synonymy.

272 Philosophical Issues in Education (3)

A critical study and discussion of selected topics in education, including the distinctive features of education as an activity and achievement, concepts of teaching and learning, relations between education and values, and the functions of a university.

274 Philosophy of Art (3)

(Same as Art 274.) A study of issues concerning the definition of art, meaning and truth in the arts, aesthetic experience, and criticism.

276 Philosophy of History (3)

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 explanation.

278 Philosophy of Mind (3)

Prerequisite: Three hours of philosophy or consent of instructor. The nature of mind and its relation to brain, body, and the person or "self" as a whole. Examination of theories of the mental such as behaviorism and functionalism, and mental phenomena such as consciousness, desire, and the emotions.

280 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.

282 Philosophy of Social Science (3)

A detailed analysis of issues raised by the social sciences, including the logical characterization of explanations, predictions, laws, and theories; types of reductionism; objectivity and values; and the empirical basis of the social sciences.

287 Philosophy of Law (3)

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.

290 Philosophical Issues in Other Disciplines (3)

Prerequisite: 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, 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.

310 Contemporary Philosophers (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 course may be repeated for credit on approval by the department.

315 Ethics in Criminology and Criminal Justice (3)

(Same as Criminology and Criminal Justice 315.) Prerequisite: CCJ 110, 120, 130, 210, 220, Philosophy 153, 154, 156, 230, 235, 238, or consent of instructor. Examination of major ethical issues encountered in criminology and criminal justice research and practice.

330 Topics in Ethical Theory (3)

Prerequisite: Philosophy 235, 238, nine hours of philosophy, 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.

350 Special Readings (1-3)

Prerequisite: Written consent of instructor. Independent study through readings, reports, and conferences.

353 Feminist Ethical Theory (3)

Prerequisite: Philosophy 153, 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.

365 Theory of Decisions and Games (3)

Prerequisite: Six hours of Philosophy and junior standing, PolSci 401 (or the equivalent) or consent of instructor. (Same as PolSci 306). 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

Philosophy

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.

369 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 Topics in Philosophy of Language (3)

Prerequisite: Philosophy 270, graduate standing, or consent of instructor. Intensive examination of selected problems encountered in developing philosophical accounts of truth, reference, propositional attitudes, and related concepts.

374 Seminar in Aesthetics (3)

Prerequisite: Philosophy 274, graduate standing, or consent of instructor. Selected topics, such as vision and representation, musical aesthetics, and recent theorists (e.g., Goodman, Dickie, Danto, Margolis). This course may be repeated for credit on approval by the department.

378 Seminar in Philosophy and Psychology (3)

Prerequisite: Philosophy 278, graduate standing, or consent of instructor. An examination of selected topics at the interface of philosophical and psychological research. This course may be repeated for credit on approval by the department.

379 Philosophy of Cognitive Science (3)

Prerequisite: Philosophy 278, 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 Seminar in Philosophy of Science (3)

Prerequisite: Philosophy 280, graduate standing, or consent of instructor. Intensive study of selected problems in philosophy of science. This course may be repeated for credit on approval by the department.

382 Seminar in Philosophy of Social Science (3)

Prerequisite: Philosophy 282, graduate standing, or consent of instructor. An intensive examination of selected topics such as the nature of explanation in social science and the postmodernism debate (e.g., Habermas, Foucault, Clifford). This course may be repeated for credit on approval by the department.

385 Seminar in Philosophical Theology (3)

Prerequisite: Philosophy 185, nine hours of philosophy, or consent of instructor. An intensive study of problems arising out of traditional and contemporary philosophical theology.

387 Seminar in Philosophy of Law (3)

Prerequisite: Philosophy 287, 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.

391 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.

433 Philosophy of Law (3)

(Same as CCJ 433.) 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.

455 Ethical and Legal Issues in Criminal Justice (3)

(Same as Criminology and Criminal Justice 455.) 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.

485 Seminar in the Humanities (3)

A study of selected topics using works of more than one discipline in the humanities.

Physics

Faculty

Ian Brown, Research Professor of Physics and Chemistry
Ph.D., University of St. Andrews Scotland

Bernard J. Feldman, Professor*
Ph.D., Harvard University

Donald P. Ames, Adjunct Professor
Ph.D., University of Wisconsin

Ta-Pei Cheng, Professor*
Ph.D., Rockefeller University

Ricardo Flores, Associate Professor*
Ph.D., University of California-Santa Cruz

Phil Fraundorf, Associate Professor*
Ph.D., Washington University

Peter H. Handel, Professor*
Ph.D., University of Bucharest

Bob L. Henson, Professor*
Ph.D., Washington University

Lakshminarayanan Vasudevan, Adjunct Associate Professor
Ph.D., University of California-Berkeley

Daniel Leopold, Adjunct Associate Professor
Ph.D., Washington University

Mary Leopold, Adjunct Assistant Professor
Ph.D., Washington University

Jingye Liu, Adjunct Assistant Professor
Ph.D., Arizona State University

Jacob J. Leventhal, Curators' Professor*
Ph.D., University of Florida

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

Richard D. Schwartz, Professor*; Chairperson
Ph.D., University of Washington

Hareh Sirirardene, Adjunct Assistant Professor
Ph.D., University of Missouri-Rolla

Wilfred H. Sorrell, Associate Professor*
Ph.D., University of Wisconsin

Bruce A. Wilking, Professor*
Ph.D., University of Arizona

*members of Graduate Faculty

General Information

Degrees and Areas of Concentration The physics department offers course work leading to the B.A. in physics, the B.S. in physics, and in cooperation with the School 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, 11, 12, 22, 50, 51, 121, 301, 322.

Atmospheric Science: 1.

Engineering: 10, 30, 124, 125, 126, 144, 145, 146, 147, 201, 202.

Geology: 1, 2, 53, 201, 290.

Physics: 1, 10, 11, 12, 50, 111, 112, 113, 170, 171, 172, 173, 200, 201, 202, 221, 223, 281, 282, 289, 301, 311, 312, 323, 325, 331, 335, 341, 343, 344, 350, 351, 353, 354, 356, 365, 370, 381, 390, 395.

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.

Core Curriculum The following physics courses are required:

111, Mechanics and Heat

112, Electricity, Magnetism, and Optics

200, Survey of Theoretical Physics

221, Mechanics

223, Electricity and Magnetism

231, Introduction to Modern Physics I

Also required are:

Math 80, Analytic Geometry and Calculus I

Math 175, Analytic Geometry and Calculus II

Math 180, Analytic Geometry and Calculus III

Math 202, Introduction to Differential Equations

Chem 11, Introductory Chemistry I or equivalent

Computer Science 125, Introduction to Computer Science

Note Students are urged to begin the calculus sequence (Math 80, 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.

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.

Physics

Bachelor of Science in Physics The B.S. degree provides students with four options: general physics, astrophysics, engineering physics, or geophysics.

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 48 hours, but no more than 51, are required. In addition to the core curriculum, the following physics courses are required:

201, Elementary Electronics I
311, Advanced Physics Laboratory I
323, Modern Optics
325, Linear Analysis of Physical Systems
331, Introduction to Quantum Mechanics
341, Thermal and Statistical Physics

and three electives at the 200 or 300 level.

Also required are:

Math 245, Elementary Linear Algebra
Math 303, Applied Mathematics II
Chem 12, Introductory Chemistry II, or equivalent

and one elective in math or computer science.

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, Modern Optics
Physics 331, Introduction to Quantum Mechanics
Astronomy 50, Introduction to Astronomy I
Astronomy 51, Introduction to Astronomy II
Astronomy 301, Astrophysics
Astronomy 322, Observational Astronomy

and two physics electives at the 200 or 300 level. With permission of the astronomy adviser, there may be substitution of Astronomy 1, 11, or 12 for 50 or 51.

Also required are:

Math 303, Applied Mathematics I

and one additional elective in mathematics or computer science.

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 46 hours, but no more than 51, are required. In addition to the core curriculum, the following courses are required:

Engineering 30, Engineering Graphics
Engineering 124, Circuits I

Engineering 144, Statics
Engineering 145, Dynamics
Physics 201, Elementary Electronics I
Physics 323, Modern Optics
Physics 325, Linear Analysis of Physical Systems
Physics 341, Thermal and Statistical Physics

Also required are two additional courses in computer science or numerical analysis.

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 201, Elementary Electronics
Biology 11, Introductory Biology I
Biology 12, Introductory Biology II

and two additional physics electives at the 200 or 300 level.

Also required are:

Chem 12, Introductory Chemistry II
Chem 261, Structural Organic Chemistry
Chem 262, Organic Reactions
Chem 263, Techniques of Organic Chemistry

Note: With approval of the Chairperson of Physics and Astronomy, students with strong mathematical preparations, who have already completed the Physics 11 and Physics 12 sequence in basic physics may substitute these courses for two required core courses Physics 111 and Physics 112, respectively. However, this is not the recommended route because Physics 111 and 112 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.

Bachelor of Science in Education with an Emphasis in Physics This program is designed for students wishing to teach physics in secondary schools and gives a firm foundation in the history, philosophy, and principles of physics. Students must fulfill the School of Education's general education requirements. For details, consult the physics department and the School of Education.

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, Mechanics and Heat
112, Electricity, Magnetism, and Optics
200, Survey of Theoretical Physics

and two additional emphasis courses chosen from the following physics courses:

Physics

201, Elementary Electronics
 221, Mechanics
 223, Electricity and Magnetism
 231, Introduction to Modern Physics

A GPA of at least 2.0 is required in courses presented for a minor. It is required that a student complete a minimum of six hours of graded work in 100 level or above courses on the UM-St. Louis campus.

Graduate Studies

Admission Requirements

In addition to meeting the Graduate School general admission requirements, applicants must submit scores from the Graduate Record Exam (GRE) physics test. 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; of the latter 15, a maximum of three credit hours may be counted for thesis research. The writing of a thesis is optional. A comprehensive examination must be passed, which includes a defense of the thesis if the student has chosen to write one. A grade point average of 3.0 must be maintained during each academic year. The requirements must be fulfilled within six years from the time of admission. Two-thirds of required graduate credit must be taken in residence. No language requirement.

Doctorate

A minimum of 72 hours 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. Language requirement—pass examination or equivalent of one year collegiate level course work with grade of B or better; overall requirement of B grades or better. Thesis: Thesis may be written in absentia.

Special Equipment, Facilities, or Programs

The supporting facilities of the University of Missouri-St. Louis include a modern library with holdings in excess of 390,000 bound volumes, a microtext department containing 72,000 titles, and approximately 87,000 titles in the government documents section. Campus computing facilities include a Hitachi Data Systems EX31 and a network of DEC Micro VAX systems and VAX stations which the department shares with the chemistry department. The department maintains a SPA RC station 2 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, Thesis Research or Seminar
 Total: 9 hours

Fourth Semester

Physics: 400-level and 300-level course
 Physics 490 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, University of Chicago, and others. 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, McDonnell-Douglas, and the National Center for Atmospheric Research. Several former students are currently teaching physics in high schools around the St. Louis area.

Physics

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.

The following courses fulfill the Natural Sciences and Mathematics [SM] breadth of study requirements:

ASTRONOMY: 1, 11, 12, 22, 50, 51, 121, 301, 322.

ATMOSPHERIC SCIENCE: 1.

GEOLOGY: 1, 2, 53, 201, 290. PHYSICS: 1, 11, 12, 50, 111, 112, 113, 200, 201, 202, 221, 223, 281, 282, 289, 301, 311, 312, 323, 325, 331, 335, 341, 343, 344, 351, 353, 354, 356, 365, 370, 381, 390.

Astronomy

1 Cosmic Evolution/Introductory Astronomy (4)

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 Planets and Life in the Universe (3)

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 The Violent Universe and the New Astronomy (3)

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 Practical Astronomy (2)

Prerequisite: Astronomy 1 or 11. 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 Introduction to Astronomy I (3)

Prerequisites: Math 30 and 35. 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 Introduction to Astronomy II (3)

Prerequisites: Math 30 and 35. A survey of astronomy and cosmology focusing on discoveries and phenomena

outside of the solar system: stars, galaxies, quasars, etc.

121 The Search for Extraterrestrial Life (3)

Prerequisite: Astronomy 1 or 11. 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 Astrophysics (3)

Prerequisite: Physics 231 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 Observational Astronomy (4)

Prerequisites: Astronomy 50, Astronomy 51, and Math 180 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 Elementary Meteorology (4)

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 General Geology (4)

Earth materials and processes, including geological aspects of the resource/energy problem. Laboratory involves identification of common rocks and minerals.

2 Historical Geology (4)

Prerequisite: Geology 1. 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 Oceanography (3)

The atmospheric and ocean circulations; the chemistry and geology of the deep sea; and their effects on the distribution of marine organisms.

201 Stratigraphy and Sedimentation (3)

Prerequisites: Geology 1 and 2. Principles of stratigraphy,

Physics

with an introduction to sedimentary processes. The major sedimentary sequences of North America will be examined, with origins interpreted from a plate tectonics perspective.

290 Research (1-3)

Prerequisite: Consent of instructor. Independent geology research projects arranged between student and instructor. Hours arranged.

Physics

1 Foundations of Modern Physical Theory I (4)

Prerequisite: Satisfactory score on math placement test. An introduction to some of the major ideas, principles, and basic laws directing the development of contemporary physics. The course work consists of two general lectures each week in which the material is introduced, one discussion session, and one two-hour multimedia laboratory.

11 Basic Physics (4)

Prerequisite: Math 80 or 101 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 requirement for physics, chemistry, and engineering majors. Three hours of lecture and two hours of laboratory.

12 Basic Physics (4)

Prerequisite: Physics 11. Continuation of Physics 11.

50 Introduction to Physics (4)

Prerequisite: Math 30. 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 Physics: Mechanics and Heat (5)

Prerequisite: Math 80 or 101. Physics 1, or Chem 12, 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 of lecture, one hour of discussion, and two hours of laboratory per week.

112 Physics: Electricity, Magnetism, and Optics (5)

Prerequisites: Physics 111, and Math 101 or 175. 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.

113 Physics: The Structure of Matter (3)

Prerequisite: Physics 112. A phenomenological introduction to selected concepts and laws of physics as they are applied to the structure of matter. Elements of atomic, nuclear, and molecular physics will be discussed. Three hours of lecture plus one hour of discussion per week.

200 Survey of Theoretical Physics (3)

Prerequisites: Physics 112 and Math 180. 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.

201 Elementary Electronics I (3)

(Same as Engineering 201.) Prerequisite: Physics 112. Primarily a laboratory study of characteristics of standard circuit elements, amplifier circuits, power supplies, operational amplifiers, digital and switching circuits, servo systems, shielding and noise problems, transducers, and oscilloscopes. Six hours of laboratory per week.

202 Elementary Electronics II (3)

(Same as Engineering 202.) Prerequisite: Physics 201. Continuation of Physics 201. Six hours of laboratory per week.

221 Mechanics (3)

Prerequisites: Physics 200 and Math 202. Math 202 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 Electricity and Magnetism (3)

Prerequisites: Physics 200 and Math 202 (Math 202 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 Introduction to Modern Physics I (3)

Prerequisite: Math 202 (may be taken concurrently). Physics 111, 112, and 200 strongly recommended. Photons and the wave nature of particles; wave mechanics, Schrodinger 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.

232 Introduction to Modern Physics II (3)

Prerequisite: Physics 231. Continuation of Physics 231.

280 The Curriculum and Methods of Teaching Physical Sciences (3)

(Same as SEC ED 240.) Prerequisites: SEC ED 213 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 concurrently with student teaching.

Physics

281 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.

282 History of Physics (3)

Prerequisite: Physics 1 or Astronomy 1. A study of the historical evolution of physics. Three hours of lecture per week.

283 Chemistry/Physics Teaching Intern Seminar (1)

(Same as Chemistry 283.) Prerequisite: Chem 280 or Physics 280. 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. One hour discussion per week.

289 Seminar (1)

Presentation of selected papers by students and faculty members at weekly meetings. May be taken twice for credit.

301 Introduction to Mathematical Physics (3)

Prerequisites: Sixteen hours of physics. A course covering mathematical techniques as applied to the 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.

311 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 Modern Optics (3)

Prerequisite: Physics 223. 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 Linear Analysis of Physical Systems (3)

Prerequisites: Physics 201 and Math 202. Signals and systems, Fourier and Laplace analysis, transform methods, amplitude phase and delay, transfer functions and filters. Three hours of lecture and one hour of discussion per week.

331 Introduction to Quantum Mechanics (3)

Prerequisites: Physics 200 and 231. Photons and the wave nature of particles; wave mechanics, Schrodinger 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.

333 Reflection Seismology (3)

Prerequisites: Physics 200 and Math 202. An introduction to the theory and application of seismic reflection

methods. The course will emphasize mathematical methods in elastic wave analysis.

335 Atomic and Nuclear Physics (3)

Prerequisite: Physics 331. Application of Schrodinger's equation to hydrogen-like atoms; atomic structure and spectra; nuclear masses, energy levels; alpha, beta, and gamma radiation, nuclear reactions, and models of the nucleus. Three hours of lecture and one hour of discussion per week.

341 Thermal and Statistical Physics (3)

Prerequisites: Math 180 and Physics 231. Introduction to statistical mechanics, laws of thermodynamics, kinetic theory. Three hours of lecture and one hour of discussion per week.

343 Selected Topics in Physics I (3)

Prerequisites: Physics 221, 223, 225, 231, 341, and Math 316 (Math 316 may be taken concurrently). Topics include special phenomena such as scattering of waves, thermal motion in gases, atmospheric disturbances treated by methods of advanced mechanics, electromagnetism, and quantum mechanics. Three hours of lecture and one hour of discussion per week.

344 Selected Topics in Physics II (3)

Prerequisite: Physics 343. Continuation of Physics 343. Three hours of lecture and one hour of discussion per week.

350 Computational Physics (3)

Prerequisites: Math 122, plus Physics 221, 223, and 231. Computer analysis in physics; solutions of eigenvalue problems; coupled differential equations; and writing of FORTRAN programs.

351 Elementary Solid State Physics (3)

Prerequisite: Physics 331. 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 Physics of Fluids (3)

Prerequisites: Physics 221, 223, and 341, 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 Atmospheric Physics (3)

Prerequisite: Physics 341. Topics from dynamic and physical meteorology including the ionosphere. Application of thermodynamics, optics, radiation, and mechanics to atmospheric phenomena.

356 Quantum Optics (3)

Prerequisites: Physics 200 and 231, and Math 202. Review of atomic theory and spectroscopy. Selected applications to modern optical phenomena such as optical pumping, lasers, masers, Mossbauer effect, and holography.

Physics

357 Subatomic Physics (3)

Prerequisites: Physics 223, 231 and 331, 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 Introduction to Plasma Physics (3)

Prerequisites: Physics 223 and 341. A study of the nonlinear collective interactions of ions, electrons, and neutral molecules with each other and with electric and magnetic fields. Topics include plasma confinement and stability, electrical discharges and ionization, kinetic theory of plasma transport, plasma waves and radiation, and controlled fusion. Solutions of the Boltzmann, Fokker-Planck, and Vlasov equations are discussed and methods of advanced electromagnetism and statistical physics are utilized. Three hours of lecture and one hour of discussion per week.

370 Relativity and Cosmology (3)

Prerequisites: Physics 221, 223, and 231. 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 Directed Readings in Physics (1-10)

Prerequisite: Consent of instructor. A study of special topics in physics for senior undergraduates or graduate students.

390 Research (1-10)

Prerequisite: Consent of department. Independent research projects arranged between student and instructor. Hours arranged.

395 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 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 Special Topics (1-4)

Prerequisite: Consent of instructor. This course is designed to give the department an opportunity to test a new course.

404 Experimental Research Techniques (3)

Prerequisite: Graduate standing. Experiments in various fields of physics designed to stress techniques and experimental approach.

405 Theoretical Physics I (3)

Prerequisites: Physics 221 and 223 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 Theoretical Physics II (3)

Prerequisites: Physics 231, 341, or equivalent, and Physics 405. 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 Modern Physics (3)

Prerequisite: Physics 331. A study of some of the more important concepts of modern physics.

409 Theoretical Mechanics I (3)

Prerequisite: Physics 221. Classical mechanics, methods of Newton, Lagrange, and Hamilton, applied to motion of particles and rigid bodies, elasticity, and hydrodynamics.

410 Seminar (variable hours)

Prerequisite: Approval of department chair. Discussion of current topics.

411 Electrodynamics I (3)

Prerequisite: Physics 223. 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 Statistical Mechanics (3)

Prerequisites: Physics 331 and 341. A study of statistical ensembles; Maxwell-Boltzmann, Fermi-Dirac, and Einstein-Bose distribution laws, application to some simple physical systems.

415 Theoretical Mechanics II (3)

Prerequisite: Physics 409. Transformation theory of mechanics, Lagrange and Poisson brackets, Hamilton-Jacobi theory, introduction to the classical theory of fields.

417 Advanced Statistical Mechanics (3)

Prerequisite: Physics 413. A continuation of Physics 413. Further applications as to such topics as the imperfect gas, condensation and the critical region, magnetism, liquid state, and transport phenomena.

423 Electrodynamics II (3)

Prerequisite: Physics 411. A continuation of Physics 411. 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.

Physics

425 Plasma Physics (3)

Prerequisites: Physics 341 and 411. Fundamentals of kinetic theory, fluid equations, MHD equations, and applications; wave propagation, shielding effect, diffusion stability, and charged particle trajectories.

435 Cloud Physics (3)

Prerequisites: Physics 223 and 341. 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 Theoretical Nuclear Physics (3)

Prerequisite: Physics 461. A study of the basic properties of nuclei, nuclear scattering and forces, nuclear reactions, and models.

461 Quantum Mechanics I (3)

Prerequisite: Physics 331. A study of the Schrodinger wave equation, operators and matrices, perturbation theory, collision, and scattering problems.

463 Quantum Mechanics II (3)

Prerequisite: Physics 461. Continuation of Physics 461 to include such topics as Pauli spin-operator theory, classification of atomic states, introduction to field quantization. Dirac electron theory.

465 Quantum Mechanics III (3)

Prerequisites: Physics 461 and 463. Topics chosen from such fields as: relativistic quantum mechanics, potential scattering, formal collision theory, group theoretical methods in quantum mechanics, electrodynamics.

467 Quantum Statistical Mechanics (3)

Prerequisites: Physics 413 and 463. Techniques for calculation of the partition function with examples drawn from interacting Fermi gas, interacting Bose gas, superconductors, and similar sources.

471 Atomic and Molecular Structure (3)

Prerequisite: Physics 461. 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 Atomic Collision Theory (3)

Prerequisite: Physics 471 or 463. 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 Molecular Spectroscopy (3)

Prerequisite: Physics 461. 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 Physics of the Solid State (3)

Prerequisite: Physics 461. 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 Selected Topics of the Solid State (3)

Prerequisite: Physics 481. 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 Advanced Quantum Mechanics (3)

Prerequisite: Physics 465. Selected topics such as many-body problems field theory, S matrix theory and symmetries.

490 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 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 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 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.

Political Science

Faculty

Lyman T. Sargent, Professor*, Chairperson
Ph.D., University of Minnesota

Edwin H. Fedder, Professor Emeritus
Ph.D., American University

Werner F. Grunbaum, Professor Emeritus
Ph.D., University of Chicago

Kenneth F. Johnson, Professor Emeritus
Ph.D., University of California-Los Angeles

Eugene J. Meehan, Curators' Professor Emeritus
Ph.D., London School of Economics

E. Terrence Jones, Professor*; Dean, College of Arts and Sciences
Ph.D., Georgetown University

Dennis R. Judd, Professor*
Ph.D., University of Illinois

Carol W. Kohfeld, Professor*; Director of MPPA Program
Ph.D., Washington University

Michael B. MacKuen, Professor*
Ph.D., University of Michigan

Timothy G. O'Rourke, Theresa M. Fischer Professor in Citizenship Education and Political Science*
Ph.D., Duke University

J. Martin Rochester, Professor*
Ph.D., Syracuse University

J. Fred Springer, Professor*
Ph.D., University of California-Davis

Andrew Glassberg, Associate Professor*
Ph.D., Yale University

Joel N. Glassman, Associate Professor*; Director, Center for International Studies
Ph.D., University of Michigan

Barbara L. Graham, Associate Professor*
Ph.D., Washington University

Michele M. Hoyman, Associate Professor*
Ph.D., University of Michigan

Joyce M. Mushaben, Associate Professor*
Ph.D., Indiana University

David B. Robertson, Associate Professor*
Ph.D., Indiana University

Lana Stein, Associate Professor*
Ph.D., Michigan State University

Jean-Germain Gros, Assistant Professor
Ph.D., University of California-Berkeley

Ruth Iyob, Assistant Professor
Ph.D., University of California-Santa Barbara

Linda Kowalcky, Assistant Professor*
Ph.D., The Johns Hopkins University

Richard L. Pacelle, Jr., Assistant Professor*
Ph.D., The Ohio State University

G. Eduardo Silva, Assistant Professor*
Ph.D., University of California-San Diego

Kenneth P. Thomas, Assistant Professor*
Ph.D., University of Chicago

*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 Chancellor's Award for Excellence in Teaching, AMOCO Good Teaching Awards, the Burlington Northern Faculty Achievement Award, and

the Emerson 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 70 books and 350 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 and the potential for the department to achieve even greater national and international recognition in the 1990s.

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 coursework 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 following 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 administration, and, in cooperation with the School of Education, the B.S. in education with an emphasis in social studies. (See School 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, and politics.

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, 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.

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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 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, many of which are interdisciplinary. Internships, when appropriate, may be a component of many programs. As a research-oriented Ph.D., all successful doctoral candidates must complete a dissertation which makes a significant contribution to knowledge in the field.

Most graduate classes are scheduled so that those employed outside the University can participate in the programs on a part-time basis.

Special Interdisciplinary Degree

The Department of Political Science also cooperates with the Department of Economics in the College of Arts and Sciences and the School 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, 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 Inter-University 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.

Course Designations

The department has designated the following instructional areas for the political science student:

- Public Law
- American Politics
- Public Policy and Administration
- Comparative Politics
- Theory and Methodology
- International Relations

In addition to these areas, the department offers several ungrouped courses.

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

Students must take at least 36 hours, but no more than 45, of political science. Candidates must complete the following required courses in the core curriculum:

- PolSci 11**, Introduction to American Politics
- PolSci 12**, Introduction to Comparative Politics
- PolSci 201**, Fundamentals of Thinking About, Analyzing, and Discussing Politics
- PolSci 202**, Research Methods in Political Science
- PolSci 395**, Senior Seminar In Political Science

Majors are urged to take PS 11,12, 201 and 202 as early as possible since these courses are designed to provide a substantive foundation as well as conceptual and analytical tools for subsequent coursework. PS 395 is intended as a capstone, integrative experience at the end of the program.

Students also must take at least one course in four of the following political science areas:

- Public Law
- American Politics
- Public Policy and Administration
- Theory and Methodology
- Comparative Politics
- International Relations

The courses that fall within each of these groups are listed below with course descriptions.

Students must take at least 18 hours of their political science course work in courses at the 200 or 300 level, not including Political Science 201 and 202. B.A. degree students may take a maximum of three 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 advisers regarding a plan of study. Depending on career and other interests, students may wish to concentrate their course work in one or two of the above-mentioned fields. (See Political Science Minors, which is suggestive of the tracks of courses that majors might wish to pursue in some

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depth.) The plan of study should include recommended electives in other departments to complement a student's political science course work. Students are encouraged to take at least one course in statistics or accounting.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. in Political Science 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, and interdisciplinary. The political science department will require students not satisfying course prerequisites to receive permission of the instructor prior to enrollment.

Bachelor of Science in Public Administration

Majors must take at least 33, but no more than 45, hours in political science. The following political science core courses are required:

11, Introduction to American Politics
12, Introduction to Comparative Politics
140, Public Administration
242, Introduction to Public Policy
295, Public Affairs Internship
342, Public Personnel Management
344, Public Budgeting
395, Senior Seminar in Political Science

The following courses from other departments are required:

BA 140, Fundamentals of Financial Accounting
Econ 51, Principles of Microeconomics
Econ 52, Principles of Macroeconomics

plus one of the following statistics courses:

BA 131, Elementary Statistics
CCJ 220, Statistical Analysis in Criminology and Criminal Justice
Econ 265, Economic Statistics
Sociology 220, Sociological Statistics

plus one of the following research methods courses:

PolSci 202, Research Methods in Political Science
PolSci 308, Program Evaluation
CCJ 210, Research Methods in Criminology and Criminal Justice
Sociology 230, Research Methods

(Completion of one of the statistics courses listed above is a prerequisite for any research methods course.)

plus establishment of computer literacy through one of the following:

BA 103, Computers and Information Systems
Extension Courses (Data Base, Lotus, Spreadsheet)
Independent study supervised by a faculty member

Two of the following ten political science courses are required:

130, State Politics
135, Introduction to Urban Politics
228, The Federal Judicial System: Politics, Process, and Behavior
230, The American Presidency
231, Congressional Politics
236, The Federal Budget: Politics and Policy
245, Urban Administration
248, Environmental Politics
340, Organizational Politics, or **Sociology 336**, Organizations and Environments
351, Comparative Public Policy and Administration
(A comparative politics area course may be used for this requirement by permission of BSPA coordinator.)

Satisfactory/Unsatisfactory Option

From the list of courses above, BSPA students may take a maximum of three hours on a satisfactory/unsatisfactory basis, except for the following (which may not be taken on a satisfactory/unsatisfactory basis): PS 11, 12, 140, 242, 295, 342, 344, and 395.

Area of Specialization: 12 hours required

Each major must specialize in some substantive or topical area within public administration. Possible areas of specialization include, but are not limited to, planning, budgeting, personnel, management, and evaluation/analysis. Courses designed to fulfill the specialization requirement must be selected in conjunction with the B.S. in Public Administration coordinator. These hours may be used in partial satisfaction of the general education requirement in social science.

Note: Students considering the B.S. in Public Administration should see a political science adviser as early as possible to plan their program.

After fulfilling the general education and specific major degree requirements, students are to take the remaining hours required to complete the B.S. in Public Administration 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, and interdisciplinary. The political science department will require students not satisfying course prerequisites to receive permission of the instructor prior to enrollment.

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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 three hours in political science taken on a satisfactory/unsatisfactory basis toward the minor. Students taking an internship (Political Science 295) 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, Introduction to American Politics
 130, State Politics
 135, Introduction to Urban Politics
 165, American Political Thought
 228, The Federal Judicial System: Politics, Process, and Behavior
 230, The American Presidency
 231, Congressional Politics
 232, African Americans and the Political System
 233, Introduction to Political Behavior
 234, Politics and the Media
 235, Political Parties and Elections
 236, The Federal Budget: Politics and Policy
 238, Women in U.S. Politics
 240, Bureaucratic Politics
 241, The Politics of Business Regulation
 242, Introduction to Public Policy
 282, United States Foreign Policy
 295, Public Affairs Internship (when appropriate)
 332, Studies in American Politics
 333, Mock Constitutional Convention
 390, Special Readings (when appropriate)

Minor in Comparative Politics

Political Science 12, Introduction to Comparative Politics, plus 12 hours from the following political science courses:

155, East Asian Politics
 251, Comparative Politics of Europe
 253, Political Systems of South America
 254, Political Systems of Mexico, Central America, and the Caribbean
 256, Russia and the New Republics
 257, Women, Power and Public Policy
 258, African Politics
 351, Comparative Public Policy and Administration
 355, Democratization in Comparative Perspective
 359, Studies in Comparative Politics
 390, Special Readings (when appropriate)

Minor in International Relations

Fifteen hours, chosen from the following political science courses:

80, Global Issues
 85, Global Ecology
 180, World Politics
 282, United States Foreign Policy
 283, International Political Economy
 284, European International Relations
 285, International Organizations and Global Problem-Solving
 289, Middle Eastern Politics
 295, Public Affairs Internship (when appropriate)
 385, International Law
 386, Studies in War and Peace
 388, Studies in International Relations
 390, Special Readings (when appropriate)

Minor in Political Theory

Fifteen hours, chosen from the following political science courses:

160, Contemporary Political Ideologies
 165, American Political Thought
 261, Ancient and Medieval Political Thought
 262, Modern Political Thought
 268, Feminist Political Theory
 269, The Marxist Heritage
 368, Studies in Political Theory
 390, Special Readings (when appropriate)

Minor in Public Administration

Political Science 140, Public Administration, plus 12 hours chosen from the following political science courses:

240, Bureaucratic Politics
 241, Politics of Business Regulation
 242, Introduction to Public Policy
 245, Urban Administration
 295, Public Affairs Internship (when appropriate)
 308, Program Evaluation
 340, Organizational Politics
 342, Public Personnel Management
 343, Studies in Policy Formation
 344, Public Budgeting
 346, Urban Planning and Politics
 349, Studies in Public Administration
 351, Comparative Public Policy and Administration
 390, Special Readings (when appropriate)

Minor in Public Law

Fifteen hours, chosen from the following political science courses:

20, Foundations of Law: An Introduction to Legal Studies
 129, Women and the Law
 226, Law and the Individual
 228, The Federal Judicial System: Politics, Process, and Behavior
 320, Constitutional Law
 321, Civil Liberties
 326, Judicial Decision-Making

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329, Studies in Public Law
385, International Law
390, Special Readings (when appropriate)

Minor in Public Policy

Political Science 242, Introduction to Public Policy, plus 12 hours chosen from the following political science courses:

130, State Politics
135, Introduction to Urban Politics
140, Public Administration
230, The American Presidency
236, The Federal Budget: Politics and Policy
241, The Politics of Business Regulation
245, Urban Administration
246, The Politics of Poverty and Welfare
248, Environmental Politics
257, Women, Power, and Public Policy
295, Public Affairs Internship (when appropriate)
308, Program Evaluation
344, Public Budgeting
346, Urban Planning and Politics
351, Comparative Public Policy and Administration
390, Special Readings (when appropriate)

Minor in Urban Politics

Political Science 135, Introduction to Urban Politics, plus 12 hours chosen from the following political science courses:

232, African-Americans and the Political System
245, Urban Administration
246, The Politics of Poverty and Welfare
295, Public Affairs Internship (when appropriate)
346, Urban Planning and Politics
390, Special Readings (when appropriate)

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 Graduate Record Examination 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, Introduction to Policy Research

and three of the following political science courses:

410, Introduction to Policy Analysis
420, Proseminar in Public Law
430, Proseminar in American Politics
440, Proseminar in Public Policy Administration
450, Proseminar in Comparative Politics
460, Proseminar in Political Theory
470, Proseminar in Urban Politics
480, 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 midprogram 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 precareer and midcareer 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 baccalaureate or graduate 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 Graduate Record Examination 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

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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)

Twenty-one 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
- Public Budgeting and Finance
- Labor and Employment
- Criminal Justice
- Social Welfare

Internship (six 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 prelaw students. Many other majors pursue graduate education in business, education, public administration, public policy administration, journalism, 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, St. Louis, MO 63121-4499.

Political Science

Course Descriptions

Courses in this section are grouped as follows: Ungrouped Courses; Public Law; American Politics; Public Policy and Administration; Comparative Politics; Theory and Methodology; International Relations; and Graduate Courses.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: UNGROUPED COURSES: 11, 12, 80, 99, 190, 201, 202, 280, 295, 390, 395. PUBLIC LAW: 20, 129, 226, 228, 320, 321, 326, 329. AMERICAN POLITICS: 130, 135, 230, 231, 232, 233, 234, 235, 236, 238, 318, 332, 333. PUBLIC POLICY AND ADMINISTRATION: 140, 240, 241, 242, 245, 246, 248, 340, 342, 343, 344, 346, 349. COMPARATIVE POLITICS: 155, 251, 253, 254, 256, 257, 258, 351, 355, 359. THEORY AND METHODOLOGY: 160, 165, 261, 262, 268, 269*, 304, 308, 368. INTERNATIONAL RELATIONS: 85, 180, 282, 283, 284, 285, 289, 385, 386, 388.

* Course may fulfill the Humanities [H] or Social Sciences [SS] breadth of study requirement.

Ungrouped Courses

11 Introduction to American Politics (3)

Introduction to basic concepts of government and politics with special reference to the United States, but including comparative material from other systems. Course fulfills the state requirement.

12 Introduction to Comparative Politics (3)

An introduction to basic political structures and processes with an emphasis on foreign political systems and comparative political analysis. The course will deal with democratic and nondemocratic political systems in developed and underdeveloped nations.

80 Global Issues (3)

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.

99 The City (3)

(Same as Criminology and Criminal Justice 99, Sociology 99, and Interdisciplinary 99.) 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.

190 Studies in Political Science (3)

Selected topics in political science.

201 Fundamentals of Thinking About, Analyzing, and Discussing Politics (3)

Prerequisites: PolSci 11 or 12, or consent of the instructor.

This course is designed to introduce students to the range of questions and issues that define the political science discipline, and to help students develop the analytical, research, writing and other skills essential to becoming a knowledgeable observer of politics and engaging in political discourse. Among the topics addressed are: alternative perspectives and major controversies in studying political phenomena; the scope of the discipline and how it relates to other disciplines; key information and data sources and how to use them; principles and techniques of written argumentation and professional writing style; various methodological approaches (e.g., qualitative field research, quantitative or statistical analysis, historical research); and elements of research design.

202 Research Methods in Political Science (3)

Prerequisite: PolSci 11 or 12. An introduction to the use of quantitative techniques in the study of politics. Topics include research design and data measurement, collection, and statistical analysis. The course emphasizes hands-on skills and practical knowledge. It is recommended that students take PolSci 201 prior to 202.

280 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.

295 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 six credit hours may be earned.

390 Special Readings (1-10)

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. May be repeated.

395 Senior Seminar in Political Science (3)

Prerequisites: Senior standing and consent of instructor. Required for all political science majors in their last year of coursework, as an integrative, capstone experience. This course will revisit themes and questions central to the discipline of political science, including such concerns as the nature of power in society, the relationship between authority and legitimacy, the meaning of citizenship, and the definition of justice. A course project based on a critique of selected literature will require students to utilize the methodological, research, writing, and critical thinking skills acquired in previous political science coursework. This course is not available for graduate student credit.

Political Science

Group I: Public Law

20 Foundations of Law: An Introduction to Legal Studies (3)

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.

129 Women and the Law (3)

Legal position of women in the United States, emphasizing constitutional law, criminal law, domestic relations, and fair employment practice laws.

226 Law and the Individual

(Same as CCJ 226.) Prerequisite: PolSci 11, or 20, 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. Course fulfills the state requirement.

228 The Federal Judicial System: Politics, Process, and Behavior (3)

Prerequisite: PolSci 11, or 20, or consent of instructor. The study of the federal courts as a political system. Analysis of organization, procedures, and norms of the Supreme Court and lower federal courts. Consideration of judicial recruitment, attitudes, and decision making as well as the impacts and limitations of judicial policy making.

320 Constitutional Law (3)

Prerequisite: PolSci 11, or 20, 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. Course fulfills the state requirement.

321 Civil Liberties (3)

Prerequisite: PolSci 11, or 20, or 320, 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. Course fulfills the state requirement.

326 Judicial Decision-Making (3)

Prerequisite: PolSci 11, or 20, 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. Course fulfills the state requirement.

329 Studies in Public Law (3)

Prerequisite: PolSci 11, or 20, or consent of instructor. Selected topics in public law. May be repeated.

Group II: American Politics

130 State Politics (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

135 Introduction to Urban Politics (3)

Prerequisite: PolSci 11 or consent of instructor. Examination of structure and process of politics in the urban community, with emphasis on their relationships to community power structures. Course fulfills the state requirement.

230 The American Presidency (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

231 Congressional Politics (3)

Prerequisite: PolSci 11 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 policymaking 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. Course satisfies the state requirement.

232 African Americans and the Political System (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

233 Introduction to Political Behavior (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

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234 Politics and the Media (3)

Prerequisite: PolSci 11 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 Political Parties and Elections (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

236 The Federal Budget: Politics and Policy (3)

Prerequisite: PolSci 11 or consent of instructor. Study of the politics of the federal budget, including the role of the president, executive agencies, Congress and interest groups, as well as major policy issues including deficits, revenues, entitlements, domestic and defense spending. Course fulfills the state requirement.

238 Women in U.S. Politics (3)

Prerequisite: PolSci 11 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.

318 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.

332 Studies in American Politics (3)

Prerequisite: PolSci 11 or consent of instructor. Selected topics in American politics. May be repeated.

333 Mock Constitutional Convention (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

Group III: Public Policy and Administration

140 Public Administration (3)

Prerequisite: PolSci 11 or consent of instructor. Survey of public administration, with reference to organization, financial administration, personnel management, and judicial control of the administrative process. Course fulfills the state requirement.

240 Bureaucratic Politics (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

241 Politics of Business Regulation (3)

Prerequisite: PolSci 11 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 societywide 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 Introduction to Public Policy (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

245 Urban Administration (3)

Prerequisite: PolSci 11 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. Course fulfills the state requirement.

246 The Politics of Poverty and Welfare (3)

Prerequisite: PolSci 11 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.

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248 Environmental Politics (3)

Prerequisite: PolSci 11 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.

340 Organizational Politics (3)

Prerequisite: PolSci 11, or 140, 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.

342 Public Personnel Management (3)

Prerequisite: PolSci 11, or 140, 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 Studies in Policy Formation (3)

Prerequisite: Consent of instructor. Selected topics in policy formation. May be repeated.

344 Public Budgeting (3)

Prerequisite: PolSci 11 or consent of instructor. Examination of the techniques used in the public sector for preparing and administering financial controls.

346 Urban Planning and Politics (3)

Prerequisite: PolSci 11, or 140, or consent of instructor. Examination of the political processes of urban areas as they relate to the planning of services and facilities. Course fulfills the state requirement.

349 Studies in Public Administration (3)

Prerequisite: PolSci 11, or 140, or consent of instructor. Selected topics in public administration. May be repeated.

394 Leadership and Management in Nonprofit Organizations (3)

(Same as Public Policy Administration 394, Social Work 308, and Sociology 308.) Prerequisite: Junior standing.

This course 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:

- 1) the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations;
- 2) governance and management of NPOs;
- 3) resource mobilization and
- 4) program development management and evaluation.

Group IV: Comparative Politics

155 East Asian Politics (3)

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. This course fulfills the Cultural Diversity requirement.

251 Comparative Politics of Europe (3)

Prerequisite: PolSci 12 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 Political Systems of South America (3)

Prerequisite: PolSci 12 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. This course fulfills the Cultural Diversity requirement.

254 Political Systems of Mexico, Central America, and the Caribbean (3)

Prerequisite: PolSci 12 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. This course fulfills the Cultural Diversity requirement.

256 Russia and the New Republics (3)

Prerequisite: PolSci 12 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 Women, Power, and Public Policy (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. This course explores differences in the political roles assigned to women in both advanced industrial and underdeveloped states as a function of economic development and cultural factors. It focuses on the differences between policies made for women and policies made by women, assesses the importance of "empowerment" in redefining women's social-political rights, and compares the nature of "gender gaps" that exist in Europe and the U.S.

258 African Politics (3)

Prerequisite: PolSci 12 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. Fulfills the Cultural Diversity requirement.

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351 Comparative Public Policy and Administration (3)

Prerequisite: PolSci 12 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 Democratization in Comparative Perspective (3)

Prerequisite: PolSci 12 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 Studies in Comparative Politics (3)

Prerequisite: PolSci 12 or consent of instructor. Selected topics in comparative politics. May be repeated.
Group V: Theory and Methodology

Group V: Theory and Methodology

160 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 American Political Thought (3)

History of political thought in the United States from colonial times to the present.

261 Ancient and Medieval Political Thought (3)

Study of political thought from Plato to Machiavelli.

262 Modern Political Thought (3)

Study of political thought from Machiavelli to the present.

268 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 The Marxist Heritage (3)

(Same as Philosophy 269 and Interdisciplinary 269.) Study of Marx and leading Marxists. Designed to evaluate their influence on recent political, economic, and social thought and institutions.

304 Survey Research Practicum (3)

(Same as Econ 304 and Sociology 304.) 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 Theory of Decisions and Games (3)

Prerequisite: Six hours of Philosophy and junior standing, PolSci 401 (or the equivalent) or consent of instructor. (Same as Philosophy 365). 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 Program Evaluation (3)

Prerequisites: PolSci 11, or 140, and one of the following: PolSci 102, BA 131, Sociology 220, Criminology and Criminal Justice 220, or consent of instructor. Study of techniques and applications for evaluating the impact of public programs.

368 Studies in Political Theory (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. Selected topics in political theory. May be repeated.

Group VI: International Relations

85 Global Ecology (3)

Prerequisite: Biology 001. Must be taken concurrently with Biology 130 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.

180 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.

282 United States Foreign Policy (3)

Prerequisite: PolSci 11, or 12, 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 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 European International Relations (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. European international relations since World War II. Emphasis upon developments from the Cold War to Detente, emphasizing such concepts as containment,

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Truman Doctrine, Marshall Plan, NATO, WTO, community building, force structures, and security.

285 International Organizations and Global Problem Solving (3)

Prerequisite: PolSci 11, or 12, 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 Middle Eastern Politics (3)

Prerequisite: PolSci 11, or 12, 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. Course fulfills the Cultural Diversity requirement.

385 International Law (3)

Prerequisite: PolSci 11, or 12, 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 Studies in War and Peace (3)

Prerequisites: Junior standing and PolSci 11, or 12, 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 Studies in International Relations (3)

Prerequisite: PolSci 11, or 12, or consent of instructor. Selected topics in international relations. May be repeated.

Graduate Courses

400 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 Introduction to Policy Research (3)

(Same as Public Policy Administration 401.) Procedures for testing explanations, including research design, principles of measurement, probability sampling, methods of data collection, and techniques for analyzing data.

402 Intermediate Techniques in Policy Research (3)

Prerequisites: Graduate standing and PolSci 401. Elementary distribution theory, statistical inference, and an introduction to multiple regression. Emphasis on practical applications.

403 Advanced Techniques in Policy Research (3)

Prerequisites: Graduate standing and PolSci 402. Selected topics in policy research emphasizing forecasting, modeling, and estimation.

404 Multi-Method Research Design (3)

Prerequisites: PolSci 403 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 Directed Readings in Research Methods (1-10)

Independent study through readings, reports, research projects, and conferences.

410 Introduction to Policy Analysis (3)

(Same as Public Policy Administration 410.) Systematic development of a critical/analytic base for dealing with public policy.

411 Seminar in Policy Analysis (3)

Prerequisite: PolSci 410. Evaluation and criticism of contemporary public policies in selected areas.

414 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 Directed Readings and Research in Public Policy (1-10)

(Same as Public Policy Administration 415.) Prerequisite: Consent of instructor. Independent study through readings, reports, research projects, and conferences. May be repeated for credit, provided the subject matter is different.

417 Income and Pension Policy for the Aged (3)

Prerequisite: Graduate standing or consent of instructor. (Same as GER 417 and PPA 417.) 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.

419 Cases in Public Policy Analysis (3)

(Same as Public Policy Administration 419.) 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 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).

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421 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 Law, Courts, and Public Policy (3)

(Same as CCJ 435.) 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 Directed Readings and Research in Public Law (1-10)

Independent study through readings, reports, research projects, and conferences.

430 Proseminar in American Politics (3)

Study of individual and group political behavior, including socialization, participation, consensus formation, representation, and legislative and judicial behavior.

431 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 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 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 Directed Readings and Research in American Politics (1-10)

Independent study through readings, reports, research projects, and conferences.

440 Proseminar in Public Administration (3)

(Same as Public Policy Administration 440.) 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 Seminar in Public Administration (3)

Research problems and design in public administration. May be repeated for credit when the subject matter is different.

442 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 Health Care Policy (3)

(Same as Public Policy Administration 443 and Gerontology 443.) Prerequisite: Graduate standing and consent of instructor. 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 Seminar in Public Policy and Aging (3)

(Same as Public Policy Administration 444 and Gerontology 444.) 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 Directed Readings and Research in Public Administration (1-10)

Independent study through readings, reports, research projects, and conferences.

446 Selected Topics in Health Care Policy (3)

(Same as Public Policy Administration 446 and Sociology 446.) 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 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

Political Science

programs, social legislation or regulation. May be repeated for credit when the subject matter is different.

448 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 Human Resources in the Public Sector (3)

(Same as Public Policy Administration 449.) Prerequisite: Public Policy Administration 460 or consent of instructor. This course presents an overview of personnel and labor relations in the public sector. The course has particular emphasis 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 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 Seminar in Comparative Politics (3)

Research problems and design in comparative politics. May be repeated for credit when the subject matter is different.

452 Public Policy of Conservation and Sustainable Development (3)

(Same as Biology 445.) 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 Directed Readings and Research in Comparative Politics (1-10)

Independent study through readings, reports, research projects, and conferences.

457 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 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 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 Proseminar in Political Theory (3)

Study of concepts and problems in normative political theory.

461 Seminar in Political Theory (3)

Research problems and design in political theory. May be repeated for credit when the subject matter is different.

462 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 Directed Readings and Research in Political Theory (1-10)

Independent study through readings, reports, research projects, and conferences.

470 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 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 Directed Readings and Research in Urban Politics (1-10)

Independent study through readings, reports, and conferences.

480 Proseminar in International Relations (3)

Examination of various approaches to the study of international politics and foreign policy, focusing on

Political Science

studies of conflict, decision making, international political economy, and related topics. Included are realist, idealist, and Marxist perspectives.

481 Seminar in International Relations (3)

Research problems and design in international politics. May be repeated for credit when the subject matter is different.

482 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 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.

494 Thesis Research (1-10)

Arranged.

495 Internship (1-6)

(Same as Public Policy Administration 495.) Independent study involving work with an appropriate public or private agency.

Psychology

Faculty

Gary K. Burger, Professor*; Chairperson
Ph.D., Loyola University

Robert J. Calsyn, Professor*; Director of Gerontology
Ph.D., Northwestern University

Edmund S. Howe, Professor Emeritus
Ph.D., University of London

Arthur L. Irion, Professor Emeritus
Ph.D., University of Iowa

Alan G. Krasnoff, Professor Emeritus
Ph.D., University of Texas

Therese M. Macan, Professor*
Ph.D., Rice University

Miles L. Patterson, Professor*; Director, Doctoral Program
in Experimental Psychology Emphasis Area
Ph.D., Northwestern University

Patricia A. Resick, Professor*
Ph.D., University of Georgia

Suzanna M. Rose, Professor*
Ph.D., University of Pittsburgh

Jayne E. Stake, Professor*; Director, Doctoral Program in
Clinical Psychology Emphasis Area
Ph.D., Arizona State University

George T. Taylor, Professor*
Ph.D., University of New Mexico

Fred J. Thumin, Professor*+
Ph.D., Washington University

Brian Vandenberg, Professor*
Ph.D., University of Rochester

James T. Walker, Professor Emeritus
Ph.D., University of Colorado

Dominic J. Zerbolio, Jr., Professor*
Ph.D., Michigan State University

James A. Breough, Professor*+
Ph.D., Ohio State University

Dennis L. Dossett, Associate Professor*+
Ph.D., University of Washington

Michael Harris, Associate Professor*+
Ph.D., University of Illinois-Chicago

Robert N. Harris, Clinical Associate Professor*
Ph.D., University of Kansas

Samuel J. Marwit, Associate Professor*
Ph.D., State University of New York at Buffalo

Paul W. Paese, Associate Professor*;
Director, Doctoral Program in Industrial/Organizational
Psychology Emphasis Area
Ph.D., University of Illinois

Vetta L. Sanders Thompson, Associate Professor*
Ph.D., Duke University

Mark E. Tubbs, Associate Professor*
Ph.D., University of Houston

John J. Boswell, Assistant Professor*
Ph.D., Tulane University

Donald D. Lisenby, Assistant Professor*;
Associate Chairperson
Ph.D., Washington University

Ann M. Steffen, Assistant Professor*
Ph.D., Indiana University

Kenneth Bohm, Adjunct Professor
Ph.D., St. Louis University

Carl Greenberg, Adjunct Professor
Ph.D., Wayne State University

Larry O'Leary, Adjunct Associate Professor
Ph.D., Saint Louis University

David E. Smith, Adjunct Associate Professor
Ph.D., Colorado State University

Marsha J. Avedon, Adjunct Assistant Professor
Ph.D., George Washington University

Alene S. Becker, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Ruth Davies, Adjunct Assistant Professor
Ph.D., Washington University

Daryl Hartke, Adjunct Assistant Professor
Ph.D., Southern Illinois University-Carbondale

Timothy J. Jovick, Adjunct Assistant Professor
Ph.D., St. Louis University

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

Dean L. Rosen, Adjunct Assistant Professor
Ph.D., University of Illinois-Champaign-Urbana

Michael J. Schneider, Adjunct Assistant Professor
Ph.D., University of Missouri-St. Louis

Sandra K. Seigel, Adjunct Assistant Professor
Ph.D., St. Louis University

James H. Wallhermfachtel, Adjunct Assistant Professor
Ph.D., St. Louis University

Audrey T. F. Wiener, Adjunct Assistant Professor
Ph.D., St. Louis University

* members of Graduate Faculty

+ Primary appointment in the School of Business
Administration

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 wide variety of areas, including animal and human learning, physiological, industrial-organizational, cognitive processes, 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 child care and development, community mental health, and applied (industrial/organizational) psychology.

The department also offers a terminal M.A., as well as a Ph.D. in psychology. The emphasis areas within the Ph.D. program are clinical psychology, experimental psychology, and industrial/organizational psychology.

Facilities Among the department's physical facilities are an environmental chamber; comparative, social, 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 with a special interest in this field but who wish to major in another discipline.

Psychology

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 (Room 108 Stadler Hall; 516-6676) are available to answer questions regarding career options in psychology, as well as provide specific information on degree requirements. The advisers can process all necessary materials for registration and graduation.

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, General Psychology

Psych 201, Psychological Statistics

Psych 219, Research Methods

Note Students must take Mathematics 30, College Algebra, or the equivalent, before taking Psychology 201, Psychological Statistics. Psychology 201 is a prerequisite for Psychology 219.

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 nine hours must be at the 300 level. Multiple enrollments in Psychology 390, Directed Studies, count as no more than one 300-level course. No more than six hours of independent study courses (Psychology 295, Selected Projects in Field Placement, and Psychology 390, Directed Studies) may be counted toward the 32-hour minimum needed for graduation.

Majors must meet the University general education requirements and the requirements of the School or College from which they expect to receive their degree. After fulfilling general education and specific major degree requirements, students are to take the remaining hours required to complete the B.A. in Psychology 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), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literatures, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, social work, sociology, business, education, engineering, astronomy, geology and interdisciplinary.

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, 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, Social Psychology
- 211, Physiological Psychology
- 212, Principles of Learning
- 216, Personality Theory
- 245, Abnormal Psychology
- 270, Child Psychology
- 271, Adolescent Psychology
- 272, Adult Development and Aging

Students are also encouraged to become involved in independent research (**Psych 390**, Directed Studies).

Child Care and Development This focus area is ideal for double majors in education and psychology or for students interested in working with children in a variety of career fields. 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:

- 150, The Psychology of Individual Differences
- 216, Personality Theory
- 269, Infancy
- 270, Child Psychology
- 271, Adolescent Psychology
- 272, Adult Development and Aging
- 295, Selected Projects in Field Placement
- 305, Cognitive Development
- 306, Social Development
- 340, Clinical Problems of Childhood
- 349, Human Learning and Memory
- 356, Thinking and Cognition

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, Social Psychology
- 161, Helping Relationships
- 162, Applied Skills
- 225, Behavior Modification
- 232, Psychology of Victims
- 235, Community Psychology
- 245, Abnormal Psychology
- 256, Environmental Psychology
- 295, Selected Projects in Field Placement
- 340, Clinical Problems of Childhood
- 346, Introduction to Clinical Psychology
- 365, Psychological Tests and Measurements