

2000/2001 Undergraduate, Graduate and Professional Catalog

**B  
U  
I  
L  
E  
T  
I  
N**

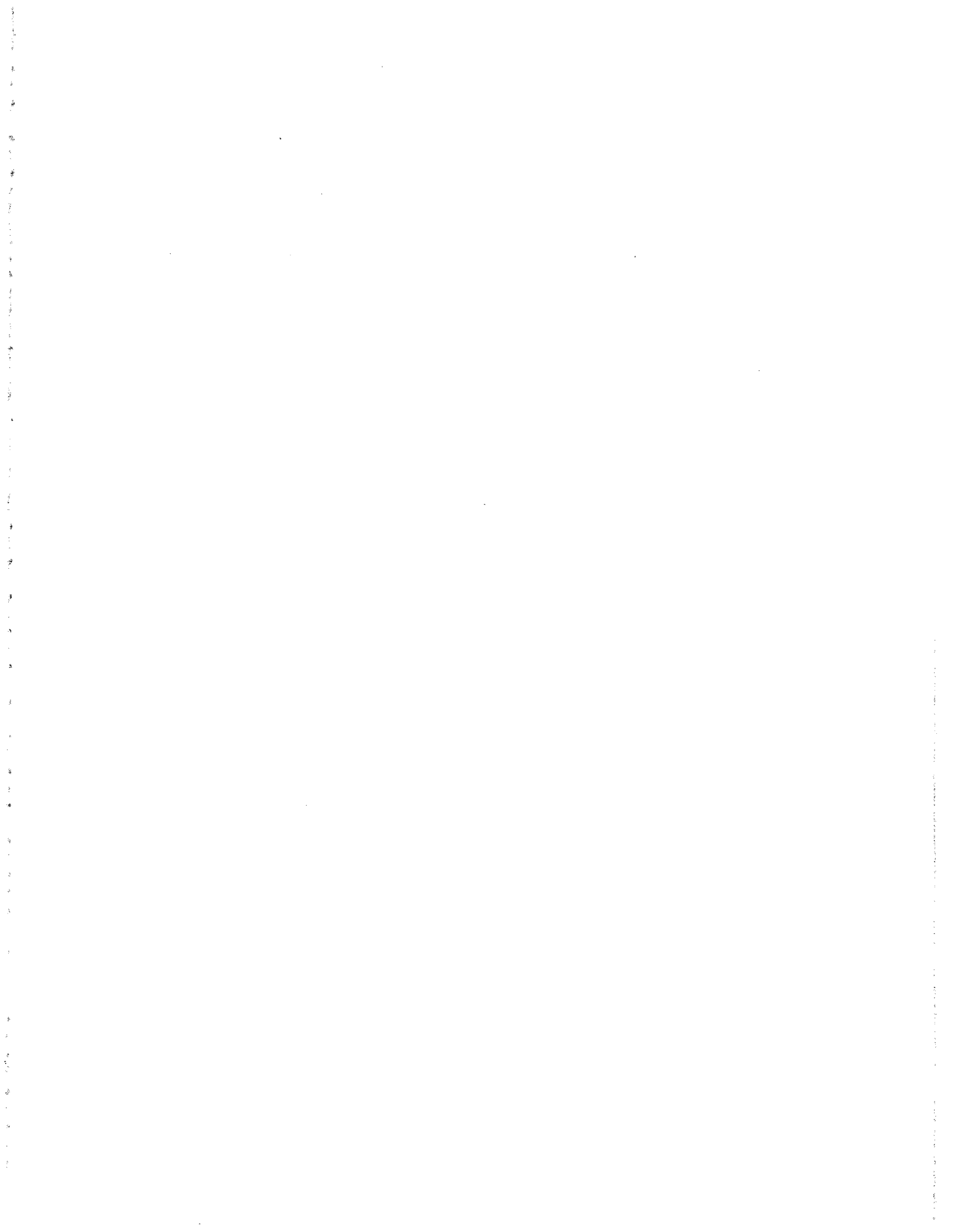
**University of Missouri-St. Louis  
Volume 29 July 2000**

**published by the University of Missouri-St. Louis  
Publications Office, 8001 Natural Bridge Road  
St. Louis, Missouri 63121-4499**

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



**UM-St. Louis  
A SMART INVESTMENT  
IN YOUR FUTURE**



<b>Table of Contents</b>			
Instructional Areas	4	Division of Student Affairs	45
Preface	5	Vice Chancellor for Student Affairs	45
Campus Map	6	Disability Access Services	45
University Programs and Offices	7	Admissions	45
Administration	9	Registrar/Registration/Records	45
Introduction to UM-St. Louis	11	Degree Audit	45
Undergraduate Study	15	Student Financial Aid	45
Admission and Application Procedure	15	Residential Life	45
Registration	19	Women's Center	46
Enrollment and Academic Advising	19	Career Services	46
General Education Requirements	21	Student Activities Organizations	47
Enrollment Policies	23	Housing Referral	47
Transcripts and Commencement	25	University Health Services	47
Fees for Undergraduate Study	27	Student Government	48
Graduate Study	30	Senate	49
Admission and Application Procedure	30	Sports	50
Enrollment	32	Other Services	50
Academic Policy	33	Specialized Centers and Facilities for Research, Teaching, and Public Service	52
Certificate Programs	34	Research	52
Master's Degree Requirements	34	Public Service	54
Doctoral Degree Requirements	35	Teaching	55
Fees	37	Video Instructional Program	56
Financial Assistance	39	Career Experience and Employment	57
Confidentiality Policy	40	Continuing Education and Outreach	59
Provisions for Auxiliary Aids	42	Degree Programs	
Financial Aid	42	Undergraduate	63
Library Services	43	Graduate	64
Western Historical Manuscript Collection	43	College of Arts and Sciences	67
Millennium Student Center	44	Anthropology	70
		Art and Art History	79
		Biology	93
		Chemistry	119
		Communication	130
		Criminology and Criminal Justice	139
		Economics	147
		English	156
		Foreign Languages and Literatures	169
		History	181
		Mathematics and Computer Science	196
		Music	214
		Philosophy	229
		Physics and Astronomy	237
		Political Science	246
		Psychology	266
		Social Work	277
		Sociology	285
		Interdisciplinary Studies	296
		Certificate Programs	304
		Preprofessional Programs	316
		College of Business Administration	323
		College of Education	361
		Counseling	369
		Educational Leadership and Policy Studies	376
		Educational Psychology, Research and Evaluation	381
		Teaching and Learning	386
		Evening College	419
		Interschool Studies	423
		Gerontology	425
		Managerial Decision-Making and Health Informatics	431
		Public Policy Administration	
		Graduate Degree Program	436
		College of Nursing	445
		School of Optometry	461
		Pierre Laclède Honors College	479
		Other Programs	485
		UM-St. Louis/Washington University Joint Undergraduate Engineering Program	487
		UM-Rolla Engineering Education Center	503
		ROTC	504
		Programs at Other Universities	510
		Study Abroad Programs	510
		International Studies	512
		CBHE Articulation Agreement	520
		Appendix	523
		Index	542

## Instructional Areas

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

accounting  
adult education  
Africana studies  
American studies  
anthropology  
applied mathematics  
archaeology  
art  
art history  
astrophysics  
astronomy  
athletic coaching  
biochemistry  
biology  
biotechnology  
black studies  
business administration  
chemistry  
Chinese  
classical studies  
clinical laboratory science  
communication  
communication theory and rhetoric  
comparative politics  
computer science  
conservation biology  
counselor education  
creative writing  
criminology and criminal justice  
cytotechnology  
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  
English as a second language  
European studies  
fine arts  
finance  
foreign languages  
French  
German  
gerontology  
graphic design  
Greek  
Hebrew  
history  
interdisciplinary studies

international business  
international relations  
Italian  
Japanese  
jazz studies  
Korean  
Latin American studies  
Latin  
legal studies  
logistics and operations management  
management and organizational behavior  
management information systems  
management science  
marketing  
mass communication  
mathematics  
medical physics  
middle school  
music  
music education  
museum studies  
nonprofit organization management and leadership  
nursing  
optometry  
painting  
philosophy  
photographic studies  
physical education  
physics  
physiological optics  
political science  
pre-architecture  
pre-engineering  
pre-journalism  
pre-law  
pre-medicine  
pre-optometry  
pre-pharmacy  
printmaking  
probability and statistics  
psychology  
public administration  
public affairs journalism  
public law  
radio and television  
religions  
Reserve Officer Training Corps  
secondary education  
social work  
sociology  
Spanish  
special education  
statistics  
studio art  
trauma studies  
tropical ecology  
urban politics  
urban studies  
women's and gender studies  
writing

## Preface

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

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

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

Demographic data 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.

Information regarding the provision of auxiliary aids and services to qualified students with disabilities can be found in Admissions and Academic Policies of this *Bulletin*. Students considering such assistance should contact the Director of Disability Access Services at 516-5211 voice or 516-5212 TT for further details.

Address inquiries regarding admission to all divisions of the university to the Director of Admissions, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, Missouri 63121-4499.

For information concerning the University of Missouri-Columbia, the University of Missouri-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 Description Guide

**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

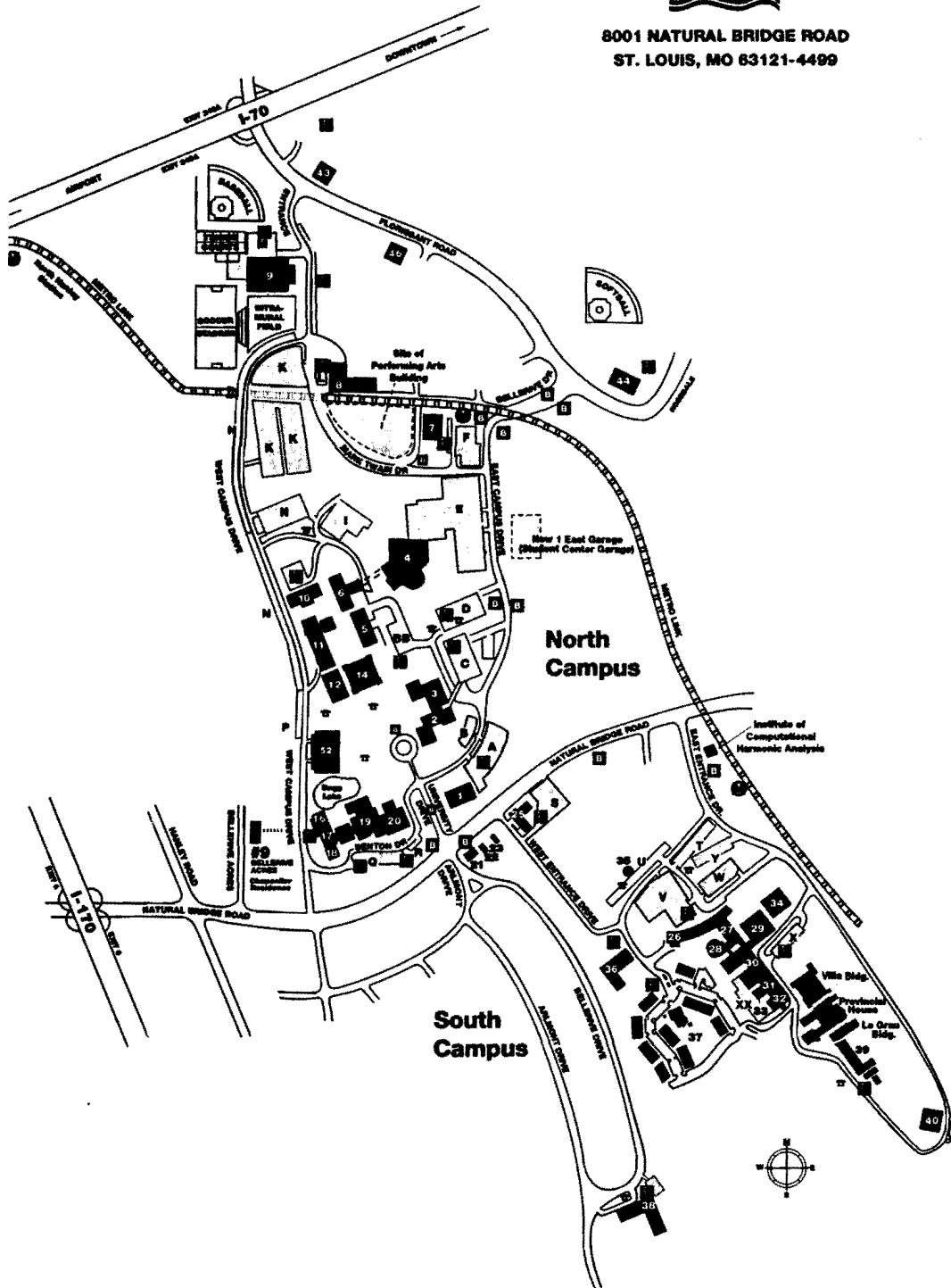
It is now a law in the state of Missouri that every student, teacher, and visitor must wear approved eye protection devices when participating in or observing certain university courses. Definitely included in this act, which is posted along with University policy in selected buildings on this campus, 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.

### Acronyms used

ACT	American College Testing Program
C-BASE	College Base Academic Subjects Evaluations
CBHE	Coordinating Board for Higher Education
CLEP	College Level Examination Program
DARS	Degree Audit Reporting System
GED	General Educational Development
GMAT	Graduate Management Admission Test
GPA	Grade Point Average
GRE	Graduate Record Examination
LSAT	Law School Admission Test
OAT	Optometry Admission Test
SAT	Scholastic Aptitude Test
STARS	Students Taking Advantage of Resource Services
STARUMSL	Student Terminal Access and Registration
TOEFL	Test of English as a Foreign Language
TRAIN	Touch-tone Registration and Inquiry Network



8001 NATURAL BRIDGE ROAD  
ST. LOUIS, MO 63121-4499



**Buildings**

- 1 Woods Hall
- 2 J.C. Penney / Conference Center
- 3 University Center
- 4 The Millennium Student Center/Admissions
- 5 Clark Hall (CH)
- 6 Luces Hall (LH)
- 7 Southwestern Bell TeleCommunity Center (TCC) / Police Station
- 8 General Services Building
- 9 Mark Twain/Athletic & Fitness Center (MT)
- 10 Computer Center Building (CCB)
- 11 Social Sciences & Business Building/Tower (SSB)
- 12 St. Louis Mercantile Library
- 14 Thomas Jefferson Library
- 16 Center for Molecular Electronics:
- 17 Benton Hall (BH)
- 18 Anheuser-Busch Ecology and Conservation Complex
- 19 Research Building (RB)
- 20 Stadler Hall (SH)
- 21 Alumni Center
- 22 Alumni & Constituent Relations:
- 23 International House
- 25 Music Building (MB)
- 26 Marillac Hall/Optometry Clinic (MH)
- 27 Des Lee Technology & Learning Center
- 28 Education Administration Building (EAB)
- 29 Barnes Library
- 30 South Campus Classrooms (SCC)
- 31 South Campus Computer Building (SCB)
- 32 Boiler House
- 33 Surplus Property Center
- 34 Kathy J. Weinman Advocacy Centre
- 35 Observatory
- 36 South Campus Residence Hall
- 37 University Meadow Apartments
- 38 Honors College / Residence Hall / Conference Center (HC)
- 39 Seton Hall
- 40 Nursing Administration Building
- 43 St. Louis Regional Educator Park
- 44 Fine Arts Building/Expansion
- 46 Surplus Storage Center
- 52 West Drive Parking Structure South

**Parking Facilities**

Designation	Let
Students	C D E F J K M N S T U V Y
Faculty/Staff	A C F M P Q R S W X X X
Visitors	A B C F L M P S W X
Accessible	A C E F L M P Q S V X
Service Vehicles	A L M P R
Cycles	C D N P U
Car Pool/Cont. Ed.	C

**Key**

- ☎ Emergency Telephone
- ♿ Accessible Parking
- B Bi-State Bus Stop
- M MetroLink Station

\*TDD is available in 144 Millennium Student Center, 201 J.C. Penney and 44 TeleCommunity Center. For more information on accessibility, contact the Director of Disability Access Services, 144 Millennium Student Center, (314) 516-5554.

Note: Missing numbers allow for future growth.

**University Programs and Offices****Academic Advising Center**

225 Millennium Student Center, 516-5300

**Academic Affairs, Vice Chancellor**

401 Woods, 516-5371

**Administrative Services, Vice Chancellor**

243 General Services Bldg., 516-6100

**Admissions**

351 Millennium Student Center, 516-5451

**Alumni Relations**

7592 Natural Bridge, 516-5833

**Alumni Center**

7956 Natural Bridge, 516-5722

**Anthropology Department**

507 Clark, 516-6020

**Art and Art History Department**

590 Lucas, 516-5975

**Arts and Sciences, College of**

305 Lucas, 516-5501

**Athletics Office**

225 Mark Twain, 516-5661

**Biology Department**

223 Research Bldg., 516-6200

**Bookstore**

209 Millennium Student Center, 516-5763

**Bridge Program**

201 WEB Education Library, 516-5196

**Business Administration, School of**

487 SSB, 516-5888

**Cable TV Studio (ITC Control Room)**

113 Lucas, 516-6171

**Cafeteria,**

Millennium Student Center

**Career Services**

371 Millennium Student Center, 516-5111

**Cashier's Office**

284B Millennium Student Center, 516-5151

**Center for Academic Development (CAD)**

507 Tower, 516-5194

**Center for Business and Industrial Studies**

461 SSB, 516-5857 or 6108

**Center for Entrepreneurship and Economic Education**

306 Tower, 516-5248

**Center for Humanities**

406 Lucas, 516-5699

**Center for International Studies**

366 SSB Bldg., 516-5753

**Center for Metropolitan Studies**

362 SSB Bldg., 516-5273

**Center for Molecular Electronics**

229 CME, 516-5019

**Center for Neurodynamics**

333 Benton, 516-6150

**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**

451 CCB, 516-6000

**Continuing Education and Outreach, Office of**

201 J.C. Penney; Credit and Non-credit Courses, 516-5969

**Counseling, Division of**

469 Marillac Hall, 516-5782

**Counseling Services**

427 SSB Bldg., 516-5711

**Criminology and Criminal Justice Department**

494 Lucas, 516-5031

**Degree Audit**

261A Millennium Student Center, 516-6814

**Development Office**

426 Woods, 516-5664

**Disability Access Services**

146 Millennium Student Center, 516-6554

**Dispute Resolution Program**

362 SSB Bldg., 516-6040

**Economics Department**

408 SSB, 516-5351

**Education, School of**

201 Education Administration Bldg., 516-5109;

**Graduate Studies in Education**

201 WEB Library, 516-5483

**Educational Leadership and Policy Studies, Division of**

269 Marillac, 516-5944

**Educational Psychology, Research, and Evaluation, Division of**

469 Marillac Hall, 516-5783

**English Department**

484 Lucas, 516-5541

**Engineering**

228 Benton, 516-6800

**Environmental Health and Safety**

108 Mt. Providence, 524-7311

**Evening College**

217 Millennium Student Center, 516-5161

**Facilities Management**

243 GSB, 516-6375

**Financial Aid**

278 Millennium Student Center, 516-5526

**Fine Arts**

204 Fine Arts, 516-6967

**Foreign Languages and Literatures Department**

554 Clark, 516-6240

**Gallery 210**

210 Lucas, 516-5976

**Gerontology**

406 SSB Bldg., 516-5280

**Graduate School**

341 Woods, 516-5900

**Graphics**

252 General Services, 516-5167

## University Programs and Offices

### Health Services

141 Millennium Student Center, 516-5671

### History Department

484 Lucas, 516-5681

### Horizons Peer Counseling

427 SSB, 516-5730

### Human Resources

222 GSB, 516-5804

### Instructional Technology Center

113 Lucas, 516-6171

### KWMU 90.7 FM Radio

104 Lucas, 516-5968

### Libraries

Thomas Jefferson, 516-5050;

St. Louis Mercantile, 516-7242

Ward E. Barnes Library, South Campus Complex,  
516-5576;

### Mathematics and Computer Science Department

307 CCB 516-5741

### Multicultural Relations

110 Clark, 516-6807

### Music Department

211 Music Bldg., 516-5980

### Nursing, Barnes College of

235 Administration Building-South Campus, 516-6066

### Office of Equal Opportunity/Affirmative Action

414 Woods, 516-5695

### Optometry, School of

325 Marillac, 516-5606

Academic Advising,

343 Marillac, 516-5708

### Optometry, Clinic

152 Marillac, 516-5131

### Payroll

222 GSB, 516-5237

### Philosophy Department

590 Lucas, 516-5631

### Physical Education Program

234 Mark Twain, 516-5226

### Physics and Astronomy Department

503J Benton, 516-5931

### Pierre Laclede Honors College

516-6870

### Police

44 Telecommunity Center, 516-5155

### Political Science Department

347 SSB, 516-5521

### Printing Services

261 General Services Bldg., 516-5233

### Psychology Department

325 Stadler, 516-5391

### Public Policy Administration

406 Tower, 516-5145

### Public Policy Research Centers

362 SSB Bldg., 516-5273;

The James T. Bush Sr. Center; Metropolitan Studies; Public Policy, Extension/Survey, and Applied Research 362 SSB, 516-5273

### Purchasing

201 General Services Bldg., 516-5366

### Records and Transcripts

273 Millennium Student Center, 516-5676

### Registrar's Office

273 Millennium Student Center, 516-5545

### Registration

273 Millennium Student Center, 516-5545

### Research Administration, Office of

338 Woods, 516-5897

### Residential Life

123 South Campus Residence Hall, 516-6877

### ROTC

Washington University, 935-5546

### Social Work Department

590 Lucas, 516-6385

### Sociology Department

707 Tower, 516-6364

### Sports Information

225 Mark Twain, 516-5660

### Student Activities Office

366 Millennium Student Center, 516-5291

### Student Affairs, Vice Chancellor

301 Woods, 516-5211

### Student Employment Program: Career Services

371 Millennium Student Center, 516-5111

### Student Government Office

375 Millennium Student Center, 516-5105

### Telecommunity Center

1 Mark Twain Drive, 679-1400

### Tutorial Referral Services

507 Tower, 516-5194

### UM-Rolla Engineering Education Center

34 Telecommunity Center, 516-5431

### UM-St. Louis/Washington University Joint Undergraduate

### Engineering Program

228 Benton, 516-6800

### University Communications

421 Woods, 516-5493

### University Meadows

516-7500

### University Relations

426 Woods, 516-5778

### Urban Information Center

516-6011

### Veteran Affairs, Office of

269 Millennium Student Center, 516-5679

### Video Instructional Program

119 Lucas 516-5370

### Women's Center

126 Millennium Student Center, 516-5380

### Women's and Gender Studies

607 Tower, 516-5581



**Administration****University of Missouri****Board of Curators****Terms Expire January 1, 2001**

Theodore C. Beckett, Kansas City  
 Paul T. Combs (President), Kennett  
 Dr. Hugh E. Stephenson, Jr. (Vice President), Columbia

**Terms Expire January 1, 2003**

Malaika B. Horne, St. Louis  
 John A. Mathes, Sunset Hills  
 Paul W. Steele, Chillicothe

**Terms Expire January 1, 2005**

Mary L. James, Harrisonville  
 M. Sean McGinnis, Springfield  
 Connie Hager Silverstein, St. Louis

**Student Representative**

Stephen T. Sugg, UM- Columbia

**Central Administration**

Manuel Pacheco, President  
 George Russell, President Emeritus  
 James C. Olson, President Emeritus  
 Steve Lehmkuhle, Vice President for Academic Affairs  
 James T. McGill, Executive Vice President  
 Ronald J. Turner, Vice President for University Outreach  
 Ralph Caruso, Vice President for Information Systems

**Chancellors**

Blanche M. Touhill, University of Missouri-St. Louis  
 John T. Park, University of Missouri-Rolla  
 Richard Wallace, University of Missouri-Columbia  
 Gordon Lamb, Interim, University of Missouri-Kansas City

**University of Missouri-St. Louis****Chancellor**

Blanche M. Touhill

**Vice Chancellors**

Vacant, Academic Affairs  
 Reinhard Schuster, Administrative Services  
 James M. Krueger, Managerial and Technological Services  
 G. Gary Grace, Vice Chancellor for Student Affairs  
 Vacant, University Relations

**Chancellor Emeritus**

Arnold B. Grobman

**Deans**

David Young, College of Arts and Science  
 Doug Durand, College of Business Administration  
 Charles Schmitz, College of Education  
 John Russell, Joint Engineering Program  
 Everette Ellis Nance, Evening College  
 Douglas Wartzok, Graduate School  
 Jerry Durham, Barnes College of Nursing  
 Larry Davis, School of Optometry (Acting)  
 Robert M. Bliss, Honors College  
 Dave Klostermann, Continuing Education and Outreach (Acting)

**Deans Emeriti**

Shirley A. Martin  
 William L. Franzen  
 Virgil N. Sapp  
 Joy E. Whitener

**UM-St. Louis Administrative Officers**

Blanche M. Touhill, Ph.D., Chancellor  
 Donald H. Driemeier, D.B.A., Deputy to the Chancellor  
 Vacant, Director, Office of Equal Opportunity  
 Elizabeth Van Uum, M.A., Assistant to the Chancellor for Public Affairs

**Academic Affairs**

Vacant, Vice Chancellor  
 Mary FitzGerald, Ph.D., Associate Vice Chancellor for Academic Affairs  
 Dave Klosterman, M.S., Acting Associate Vice Chancellor and Dean of Continuing Education and Outreach  
 Douglas Wartzok, Ph.D., Associate Vice Chancellor and Dean of the Graduate School  
 Donald Mertz, Ph.D., Director, Center for Academic Development  
 Joel Glassman, Ph.D., Director, Center for International Studies  
 Alan F. J. Artibise, Public Policy Research Centers

**College of Arts and Sciences**

David Young, Ph.D., Dean  
 Deborah Baldini, M.A., Acting Associate Dean for Continuing Education-Extension  
 Sharon D. Clark, M.A., Associate Dean for Undergraduate Student Affairs  
 Frances Hoffman, Ph.D., Associate Dean  
 Costa G. Haddad, B.A., Assistant to the Dean

**College of Business Administration**

Doug Durand, Ph.D., Dean  
 John J. Anderson, Ph.D., C.P.A., C.M.A., Associate Dean  
 David R. Ganz, M.S., Associate Dean  
 Charles R. Kuehl, Ph.D., Interim Director for Continuing Education and Outreach  
 Jane D. Ferrell, M.B.A., Assistant to the Dean

## Administration

### Continuing Education and Outreach

David N. Klostermann, M.S., Acting Dean and Acting Associate Vice Chancellor for Academic Affairs  
Angeline Antonopoulos, M.A., M.B.A., Manager, Marketing and Information

### College of Education

Charles Schmitz, Ph.D., Dean  
Kathleen Haywood, Ph.D., Associate Dean for Academic Affairs  
Thomas R. Schnell, Ph.D., Associate Dean for Administrative Affairs  
Clark Hickman, Ed.D., Interim Associate Dean for Continuing Education and Outreach  
Bob Proffer, Business and Fiscal Operations Specialist

### Evening College

Everette Ellis Nance, Ed.D., Dean  
Larry Friedman, Ph.D., Associate Dean

### Graduate School and Office of Research Administration

Douglas Wartzok, Ph.D., Dean and Associate Vice Chancellor for Academic Affairs  
Patricia Barton, Ph.D., Associate Dean  
Andrew Glassberg, Ph.D., Director, Public Policy Administration Program  
Robert J. Calsyn, Ph.D., Director, Gerontology

### Barnes College of Nursing

Jerry Durham, R.N., F.A.A.N., Dean  
Connie Koch, R.N., Ed.D., Associate Dean

### School of Optometry

Larry Davis, Acting Dean  
David W. Davidson, M.S., O.D., Associate Dean for Academic and Student Affairs  
Gerald A. Franzel, O.D., Associate Dean for Clinical Affairs and Continuing Education and Outreach  
Timothy A. Wingert, O.D., Chief, Primary Care Services  
Edward S. Bennett, M.S.Ed., O.D., Chief, Co-Contact Lens Service  
Alexander D. Harris, M.A., O.D., Chief, External Rotations  
Jane Shea, O.D., Coordinator, Optometric Center  
Carol Merritt, O.D., Coordinator, East St. Louis Eye Center  
W. Howard McAlister, M.A., MPH., O.D., Director of Residencies  
Carol K. Peck, Ph.D., Director of Graduate Programs  
Aaron Franzel, O.D., Chief, Pediatric/Binocular Vision Service

### Pierre Laclede Honors College

Robert Bliss, Ph.D., Dean

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

John Russell, Dean  
Nancy Shields, Ph.D., Associate Dean  
Gloria Gardner, B.S., Academic Adviser

### Administrative Services

Reinhard Schuster, M.S., Vice Chancellor  
Peter Heithaus, Director, Human Resources  
Bob Roeseler, Director, Institutional Safety  
Gloria L. Schultz, M.Ed., Director, Auxiliary and Management Services; Manager, Bookstore  
James L. Hickerson, Ph.D., Coordinator for Environmental Health and Safety

### Managerial and Technological Services

James M. Krueger, D.B.A., C.P.A., Vice Chancellor  
Ernest A. Cornford, B.A., Director, Finance  
Gloria J. Leonard, M.Ed., Director, Business Services  
Jerrold Siegel, Ph.D., Coordinator of Campus Computing  
Lawrence W. Westermeyer, M.S., Director, Office of Computing and Network Services  
Joann Wilkinson, B.A., Planning and Budgeting Specialist

### Student Affairs

G. Gary Grace, Ph.D., Vice Chancellor  
Joanne Bocci, Interim Associate Vice Chancellor  
Deborah A. Kettler, B.S., Director, Career Services  
M. Sharon Biegen, Ph.D., Director, Counseling Services  
Vacant, Director, Student Activities  
Mimi J. LaMarca, M.Ed., Registrar  
Anthony Georges, Ph.D., Director, Student Financial Aid  
Curtis Coonrod, M.A., Director, Admissions

### University Relations

Vacant, Vice Chancellor  
Robert Samples, M.S., Director, University Communications  
Mark O'Reilly, Director, Graphics and Printing  
Phillury Platte, Associate Director, Development  
Robyn Wahby, Manager, Alumni Relations  
Lucinda R. Vantine, B.A., Manager, Special Events  
Maureen Zegel, B.A., Manager, Media Relations

## 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 30 years ago, UM-St. Louis has become the largest university serving St. Louisans and the third largest university in the state.

The university faculty has grown from 30 in 1963 to more than 900 members, committed to the future of the St. Louis area through teaching, research, and service.

One of the keys to this university's development as an outstanding institution has been the careful selection of faculty over the years. UM-St. Louis has attracted some of the top authorities in many fields. More than 90 percent of the full-time 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 1996-97 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, 26 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, pre-law, pre-medicine, pre-pharmacy, pre-engineering, or pre-journalism courses and of students interested in urban careers. There are also many 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's faculty contribute significantly to the theoretical and applied research in their fields. The campus's 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 mission 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

## Introduction to UM-St. Louis (continued)

to fulfill the university's land-grant mandate to serve the working people of the state. Because most of the campus's graduates remain in the metropolitan area, they enhance the economic development and quality of life of the metropolitan area and the state.

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's 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, College of Business Administration, College 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 **College 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 College 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 **College of Education** provides undergraduate and graduate programs to prepare and sustain educational leaders for a variety of school and nonschool settings. The school is consistently one of the top three institutions in the state in the production of educators. Consistent with the school's theme of "Creating the 21st Century College of Education," programs emphasize state-of-the-art technological applications to enhance teaching and learning as well as collaboration among university, school, agency, and corporate partners to

prepare and revitalize educators. The faculty, including a number of nationally recognized endowed professors, is committed to a continuous exchange between research and practice that improves the learning environment for diverse learners.

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. A bachelor of health studies (BHS) degree in cytotechnology or clinical laboratories is also offered through the Evening College. 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 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**, 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.

## Introduction to UM-St. Louis (continued)

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 study 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 (Adult, Family, Neonatal, Pediatric, and Women) as part of the MSN program. The Ph.D. in Nursing offers studies focused on Health Promotion and Protection, Health Restoration and Support, and Health Care Systems. 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 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 course work - 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 non-credit courses, both on and off campus. It also sponsors programs in the community, such as the annual St. Louis Storytelling Festival. In 1998-99, there was a record setting enrollment of 112,569 in 3,481 credit and non-credit programs.

The **Office of International Student Services of the Center for International Studies** assists international students and scholars to excel at UM-St. Louis and in the U.S. Services include undergraduate and graduate admission, credential and transfer credit evaluations, visa and immigration advising, pre-arrival and cultural adaptation assistance, new international student and scholar orientation, prospective student information requests, and personal advising.

The Office also coordinates activities for the successful integration of students and scholars into the community by facilitating cultural events and activities, coordinating the annual International Student Speaker's Bureau, and working

closely with other campus and community organizations. For additional information about international student applications, see the section on Students from Other Countries, page 19.

### The University: Student Life

UM-St. Louis is an educational institution that 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 50,000 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 College of Education is the largest educator of teachers in the St. Louis metropolitan area.

**Introduction to UM-St. Louis (continued)**

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.

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

- **Undergraduate Application for Admission form:** You may request one by calling the Office of Admissions at (314) 516-5451. The application is also available via the Internet. Applicants may apply by visiting the UM-St. Louis home page <http://www.umsl.edu>
- **Application Fee:** A \$25 (\$40 for international Students) check or money order made payable to the University of Missouri-St. Louis.
- **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. Submit a final high school transcript upon graduation.
- **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 the University of Missouri-St. Louis and at

many other 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. You may request a test packet by calling the Office of Admission at 516-5451.

**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** Any 1997 or later 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:

- **At least 17 units of credit** (1 unit = 1 year in class) as follows:
  - English:** 4 units Two units emphasizing composition or writing skills are required. One of the remaining two units may be in speech or debate
  - Mathematics:** 4 units (Algebra 1 and higher)
  - Science:** 3 units Not including general science, one of 3 units which must be a laboratory course
  - Social Studies:** 3 units
  - Fine Arts:** 1 unit
  - Foreign Language:** 2 units. Must be 2 units of a single foreign language.
- **In addition to the above unit requirement,** each student will be evaluated on the basis of their high school rank and college admission test score (ACT or SAT). Students with a composite ACT score of 24 or SAT of 1100 will be admitted without regard to class rank. The student's class rank will be used to determine eligibility for admission when the student's ACT score is from 17 and 23 (SAT 800 to 1090).
- **Required minimum combinations of percentile rank in graduating high school class and admissions test score (ACT or SAT are as follows:**
  - If the ACT Composite score is **24** or higher or the total of SAT Verbal and Math scores is **1100** or higher, then the applicant meets the minimum requirement for admission.

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

**Undergraduate Study, (continued)**

ACT	SAT Total (V + M)	High School Class Percentile Rank
23	1050 - 1090	48
22	1010 - 1040	54
21	970 - 1000	62
20	930 - 960	69
19	890 - 920	78
18	840 - 880	86
17	800 - 830	94

If the ACT Composite score is less than 17 or the total of SAT Verbal and Math scores is less than 800, then the applicant does not meet the regular admission standards. However, the applicant may still be admitted to the campus of their choice depending upon other evidence of likely success and campus enrollment objectives. For additional information regarding admission requirements, students are encouraged to contact the admissions office at 516-5451.

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).
- Recommendations by persons knowledgeable of their potential for success in university-level education.

**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 residence hall facilities as well as University Meadows apartments. Nonresident students must pay nonresident educational fees in addition to regular educational fees except when awarded National Access Awards.

**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. UMSL has rolling admission however for the best selection of classes and other amenities, it is suggested that you apply as quickly as possible.

**Acceptance:** Upon graduation, students must submit a final high school transcript indicating their class rank and graduation date. First-time freshmen may be required to take a placement examination in mathematics. Arrangements for this exam are made with students through the Office of Admissions after notification of acceptance.

**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 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 during their junior or senior years 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 counselor's or principal's recommendation. Students are admitted on an individual basis on the evidence 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. Students should contact the College of Arts and Sciences at 516-5300 for more information.

**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 50<sup>th</sup> 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 50<sup>th</sup> percentile must be earned to receive credit. Consultation with an adviser is recommended. CLEP tests are given the third week of every



## Undergraduate Study, (continued)

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. Usually enrollment is for 9 hours plus an orientation and study skills course, and if grades of C or better are earned, the student will be allowed to continue for the following 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 such as the ACT. A minimum score of 250 is required for consideration.

**Veterans and Mature Adults:** Applicant may be admitted as special or non-degree-seeking students if they are veterans of the military service or over age 21 and have not previously earned college credit, have not been in school for several years, have not earned a high school diploma or passed the GED; or if they have a diploma but do not meet regular admission requirements from high school. 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.

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

- Undergraduate Application for Admission
- A \$25 application fee
- High school transcript (if one of the following applies):
  - a) applicant has less than 24 hours of college-level course work.
  - b) Applicant is pursuing a degree or certification in Education.
  - c) Applicant is a non-resident of Missouri.
- 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.

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

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

**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 catalog.

**Advanced Standing:** According to the 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.

**Undergraduate Study, (continued)**

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, students must make claims for advanced standing 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, students should contact the advising office of their academic unit.

The University of Missouri-St. Louis *Bulletin* 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 the student has not maintained full-time continuous enrollment, or if the student changes programs, the catalog in effect at the time of the 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, students should contact the advising office of their academic unit.

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

Any course that leads to an undergraduate degree on any campus of the University of Missouri shall be accepted in transfer toward the same degree on any campus of the university offering that degree. Grades, including D and F grades, and honor points earned in such courses will also transfer and will be included in the cumulative grade point averages 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 to the Office of International Student Services at the address below at least one year before the date of desired admission for information about application to the university. Students will be expected to supply official original secondary and college/university transcripts from all schools attended as well as other official original documents. International students must also pay a \$40 application fee. All students should make arrangements to take the TOEFL well in advance of their admission date.

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

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

**Former Students:** Former students not currently enrolled should file a reenrollment application with the director of Admissions.

**Visiting Students:** Students who do not wish to earn a degree from the University of Missouri-St. Louis may register as visiting college students. Registration forms can be obtained from the Office of Admissions or the office of the Registrar. At the end of

## Undergraduate Study, (continued)

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.

### Registration

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

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

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

After the close of the preregistration-by-appointment period, all students are eligible to register. 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. For the refund schedule for cancellation of registration after class work begins, see the Fees: Refund of Fees section of this *Bulletin*.

### Enrollment and Academic Advising

Undergraduate students that have met the admission requirements of the University of Missouri - St. Louis are admitted to the college, school or professional school which offers the degree program which was declared on the student's application. Undeclared students, visiting students, and non-degree seeking students that have met the University admission requirements are admitted to the College of Arts and Sciences. Students indicating a desire to pursue a degree in the evening hours are admitted to the Evening College, regardless of major.

The University Advising Center, located in 225 Millennium Student Center, (314) 516-5300, provides advising for all undergraduate students, regardless of major. The University

Advising Center encourages undeclared students to declare a major as soon as possible since it is important to determine what specific requirements must be satisfied to complete the baccalaureate program. Declared students are assigned a faculty advisor or may go to the advising office in their major area or continue to be advised in the Advising Center.

Advisors in the Advising Center offer the following services to all undergraduate students: setting and planning academic goals, planning or changing a course schedule, evaluating transfer credit, withdrawing from school, placing a course on s/u status, petition for grade modification, applying for graduation, and making referrals as needed.

### College of Arts and Sciences

All incoming undergraduate students are encouraged to seek professional academic advice in the University Advising Center, located in the Millennium Student Center

The 18 departments in the College of Arts and Sciences offer majors, minors and certificates in the humanities, social sciences, mathematics and computer science, and the biological and physical sciences. In addition, interdisciplinary programs are available in women and gender studies, gerontology, labor studies, conservation biology, trauma studies and more.

The College also serves students with interests in the health sciences, pre-law, pre-journalism and pre-architecture. Information on these areas may be obtained in the office of undergraduate student affairs in the College of Arts and Sciences, 303 Lucas Hall.

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

<u>Department</u>	<u>Location</u>	<u>516-</u>
Anthropology	507 Clark Hall	6020
Art and Art History	590 Lucas Hall	5975
Art (Studio Art)	201 Fine Arts Bldg.	6967
Biology	223 Research Bldg.	6200
Chemistry	315 Benton Hall	5311
Communication	590 Lucas Hall	5485
Criminology	494 Lucas Hall	5031
Economics	408 SSB	5351
English	484 Lucas Hall	5541
Foreign Languages	554 Clark Hall	6240
History	484 Lucas Hall	5681
Math/Computer Science	307 CCB	5741
Music	211 Music Bldg.	5980

**Undergraduate Study, (continued)**

Philosophy	599 Lucas Hall	5631
Physics and Astronomy	503J Benton Hall	5931
Political Science	347 SSB	5521
Psychology	325 Stadler Hall	5391
Social Work	590 Lucas Hall	6385
Sociology	707 Tower	6364

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

Questions regarding transfer credit as they relate to a specific degree may be directed to either the academic departments or the University advising center.

Students may contact the office of undergraduate student affairs in the College of Arts and Sciences by phone at 516-5501.

**College of Business Administration**

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

appropriate course selection, College of Business Administration requirements, general education requirements, evaluation of transfer credit, course prerequisites, school policy and regulations, and graduation requirements.

Other matters related to a student's academic matriculation should also be directed to this office.

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

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

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

**College of Education**

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

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

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

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

**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. track (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 assure appropriate course sequencing. Students are strongly encouraged to develop a plan of study in conjunction with a nursing academic adviser to avoid extending the program of study.

Faculty maintain the right to make appropriate curriculum changes to comply with standards for accreditation as stipulated by the 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

## Undergraduate Study, (continued)

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 a minimum of 120 semester hours. At least 45 of these hours must be courses numbered 100 or above (or comparable courses transferred). Students must maintain a minimum 2.0 grade point average overall, as well as in their area of specialization.

Students seeking two degrees must meet all degree and residency requirements of each degree.

**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):

- All students are required to complete a Freshman English Composition course with a grade of C- or better (English 10 - Freshman Composition at UM-St. Louis).
- Effective since the fall semester, 1985, students must also 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:

- A grade of C- or better in a college-credit mathematics course having at least intermediate

algebra as a prerequisite, or

- A satisfactory score on the university's Mathematics Proficiency Test. 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 Courses*.

**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.)

- **Humanities:** art history or art appreciation; selected communication courses; literature; music history, literature, theory, or appreciation; philosophy and logic; theater appreciation, theory, and history. (applied art/music courses do not count.) (Symbol H)
- **Natural sciences and mathematics:** applied mathematics; astronomy; atmospheric science; biology; chemistry; computer science; geology; mathematics; physics; statistics. (Symbol SM)
- **Social sciences:** anthropology; communication (select courses only); 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
- CCJ 226, Law and the Individual
- Hist 3, American Civilization I
- Hist 4, American Civilization II
- Hist 5, American Biography
- Hist 6, African-American History
- Hist 7, The History of Women 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 129, Women and the Law
- PolSci 130, State Politics
- PolSci 135, Introduction to Urban Politics
- PolSci 140, Public Administration
- PolSci 226, Law and the Individual
- PolSci 228, The Federal Judicial System: Politics, Process and Behavior

**Undergraduate Study, (continued)**

**PolSci 230**, The American Presidency  
**PolSci 231**, Congressional Politics  
**PolSci 232**, African-Americans and the Political System  
**PolSci 233**, Introduction to Political Behavior  
**PolSci 235**, Political Parties and Elections  
**PolSci 236**, The Federal Budget: Politics and Policy  
**PolSci 238**, Women in U. S. Politics  
**PolSci 240**, Bureaucratic Politics  
**PolSci 242**, Introduction to Public Policy  
**PolSci 245**, Urban Administration  
**PolSci 320**, Introduction to American Constitutional Law  
**PolSci 321**, Civil Liberties  
**PolSci 326**, Judicial Decision Making  
**PolSci 333**, Mock Constitutional Convention  
**PolSci 346**, Urban Planning and Politics

**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 subsequent 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 *Schedule* is also on the UM-St. Louis Web site: <http://www.umsl.edu>. The university reserves the right to cancel without notice any course listed in the *Bulletin* or the course *Schedule*s for any semester or to withdraw any course which does 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 3 semester hours meets for three periods weekly for one semester, a 2-credit course two periods a week for a semester, and so on. Normally, the lecture or recitation period is 50 minutes long and the laboratory period one hour and 50 minutes.

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

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

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

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).

## Undergraduate Study, (continued)

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.

### 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, or C-, and has no numerical value in computing one's cumulative grade point average; however, it does satisfy credit-hour graduation requirements. An unsatisfactory grade—U—is recorded when an instructor assigns the grades of D+, D, D-, or F, and has

no numerical value in computing one's cumulative grade point average, nor does it satisfy any credit-hour graduation requirements. Grades will be recorded on transcripts as S or U.

**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 be counted only once in calculating hours towards one's degree. (See Grade Modification.)

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

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

### 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.

**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.

**Undergraduate Study, (continued)**

Students should tell their divisional dean's office of an extended absence. An absence known in advance should be reported to the instructors of courses that will be missed.

Makeup of examinations or work missed is allowed at the instructor's discretion.

Students excused from class for valid reasons by their deans shall be permitted, if possible, to make up work missed; the dean must have notified the instructor in writing.

**Dropping/Adding Courses:** To add courses to their original enrollment, students must get approval from their advisers. Students may not enter courses after the first week of a regular semester or the first three days of the summer session. Effective Winter 2000, students may not enter courses after the first week of a regular semester or the first three days of the summer session. Courses may be dropped, without approval, through the fourth week of a regular semester and the second week of a summer session. Students may withdraw from courses without a grade up to the end of the fourth week of a regular semester and the second week of the summer session.

From the fifth through the twelfth weeks of the fall or Winter semesters (for summer session, the third through the sixth weeks), students may withdraw from a course with an "Excused" grade, providing they are passing the course and receive the approval of their instructor, adviser, and dean's office representative. Otherwise, a failing grade is given. Students not attending classes who fail to drop officially receive F or Y grades.

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

**Change of Major:** To change academic majors, students should consult their adviser and the dean's office. Students admitted to one college or school may pursue work in others

under the conditions set forth by the other division's faculty. The chairperson of a student's major department shall determine which courses in other colleges or schools, or even other institutions, shall apply as credit toward the degree.

**Withdrawal after Classes Begin:** After classes begin, students may withdraw from the university by completing the withdrawal form, available in the dean's office. During the first four weeks of a regular semester and the first two weeks of a summer session, students may withdraw from the university without receiving grades. After this period, grades of F or "Excused" are issued, based on whether the student is passing or failing. After the regular semester's twelfth week (or the sixth week in the summer session), "Excused" grades are given only in exceptional instances with the instructor's and 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 once been suspended may be dismissed if they again become subject to suspension. Students placed on probation because of poor scholastic records at other institutions are regarded as having been once suspended under these rules.

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

Students admitted on probation to the summer session 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 reenroll. Students enrolled in the summer session whose grade point averages are below 1.5 may have their work reviewed. Students suspended or dismissed from one school or college



## Undergraduate Study, (continued)

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* (College of Business Administration, Accounting Majors)  
*Beta Gamma Sigma* (College of Business Administration)  
*Beta Sigma Kappa* (School of Optometry)  
*Financial Management Association National Honor Society* (Finance)  
*Kappa Delta Pi* (College of Education)  
*Omicron Delta Epsilon* (Economics)  
*Phi Alpha Theta* (History)  
*Phi Epsilon Kappa* (Physical Education)  
*Phi Kappa Phi* (Campuswide)  
*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, College of Business Administration, College of Education, Evening College, and 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.

**Who's Who Among Students in American Universities and Colleges:** Eligible students may be nominated to Who's Who Among Students in American Universities and Colleges by students (themselves or others), faculty members, or administrators. Nominees are selected on the basis of scholastic ability (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 366 Millennium Student Center or by visiting the Who's Who Web site at <http://www.umsl.edu/services/stuactv>.

**Latin Honors:** To graduate with Latin honors, students must have attended 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 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.

## Undergraduate Study, (continued)

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

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

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

## Fees for Undergraduate Study

**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.

### General Fee Information

**Educational Fees:** All students registered at the university are required to pay as follows:

Educational Fee - Academic year 2000- 2001		
Undergraduate Educational Fee Per Credit Hour		
Missouri Residents		\$136.80
Nonresidents		\$409.10
Additional Required Fees - Academic year 2000 - 2001		
Description	Per Credit Hour	Maximum Per Semester
Instructional Computing Fee	\$8.60	No Maximum
Student Facility, Activity and Health Fee	\$24.10	\$289.20 (12 or more credit hours)
Additional Required Fees, Course Specific - Academic year 2000-2001		
Description	Per Credit Hour	Maximum Per Semester
Barnes College at UM-St. Louis Course Fee	\$150.00	No Maximum
Clinical Nursing Course Fee (MS Level)	\$113.10	No Maximum
Engineering Course Fee	\$38.00	No Maximum
Studio Art Course Fee	\$17.00	No Maximum
Optional Fees - Academic year 2000 - 2001		
Description	Per Credit Hour	Maximum Per Semester
Parking Fee -Motor Vehicle	\$16.00	\$256.00 (16 or more credit hours)
Parking Fee - Motorcycle	\$8.00	\$128.00 (16 or more credit hours)
Daily Rate	\$7.50 Per Day	

**Fees for Undergraduate Study**

**Quick and Easy Ways To Pay Your Fees:**

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

**Payment of Fees**

All fees are due and payable on August 21, 2000. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. A finance charge will be assessed on the unpaid balance of all students at the rate of 1% per month. All accounts will be billed using this method; therefore, it is NOT necessary that a student choose the minimum payment plan at the time the charges are incurred. Students with delinquent accounts will NOT be allowed to register in subsequent semesters.

**Credit Cards**

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

**Personal Checks**

Personal checks in payment of fees 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. Any checks payable to the University, which are returned unpaid, will be assessed a \$20.00 return check charge.

**Nonresident Students**

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

**Fee Reassessment for Dropping Classes or Withdrawal From School**

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

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

Fees included in the reassessment are the Educational Fee, Student Activity Fee, Instructional Computing Fee, Special Course Fee (if applicable) and Parking Fee (if applicable). Such fees are reassessed and reduced according to the following schedule:

<b>Fall Semester, 2000</b>		
<b>Withdraw/Drop Dates</b>	<b>Fee % Reassessed</b>	<b>Fee % Due University</b>
Through August 25, 2000	100%	Zero
August 28, 2000 Through August 30, 2000	90%	*10%
August 31, 2000 Through September 18, 2000	50%	*50%
September 19, 2000 Through October 17, 2000	25%	*75%
October 18, 2000 And Thereafter	No Reassessment	*100%

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

For winter assessment see the *Schedule of Courses*.

## **Fees for Undergraduate Study**

### **Refund of Fees:**

All refunds are made by mail or direct transfer to your bank and require two (2) to four (4) weeks processing time after withdrawal or dropped classes. Deductions will be made for any financial obligation due the University of Missouri.

### **Delinquent Indebtedness:**

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

### **Other Fees:**

#### **Laboratory Breakage Fee:**

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

#### **Room and Board:**

The university offers many different room and board plans. A typical plan will cost \$2,345 per semester. For more information please contact the Office of Residential Life at 314-516-6877.

#### **Student Insurance: International Students (required)**

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

#### **Student Insurance: (optional):**

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

#### **Web Address:**

<http://www.umsl.edu/services/financial/feeinfo.htm>

**The university reserves the right to change fees and other charges at any time without prior notification.**

## Graduate Study

### Admission and Application Procedure

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

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

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

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

Different departments have different application deadlines, the earliest being Clinical Psychology, which has a January 1 deadline for the fall semester. In general, completed applications should be filed with the Office of Graduate Admissions by July 1 for the fall semester; December 1 for the winter semester; and May 1 for the summer session. Applicants requesting financial aid should submit the application by March 15. Some graduate programs 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 GRE General Test. It is also required for the M.A. in Economics, English, History, Philosophy, Political Science, Psychology, and Sociology, the M.S. in Physics and Physiological Optics, and the M.F.A. in Creative Writing.

Advanced GRE examinations in the subject area are required for the Ph.D. program in applied mathematics, and psychology and the M.A. in psychology. GMAT is required for applicants to the M.B.A., M.I.S., and M.Acc. and all

graduate business certificate programs. Students who have not taken these examinations should do so at the earliest possible test date.

### Application Fee

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

### Admission of International Students

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

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

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

### Admission Categories

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

#### Matriculated Student

- Regular
- Restricted
- Provisional

#### Nonmatriculated Student

- Nondegree
- Education certification
- Inter-campus exchange
- Postdoctoral

### Matriculated Students

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

### Regular Students

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

## Graduate Study (continued)

### Restricted Students

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

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

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

### Provisional Students

A provisional student is one who seems qualified for admission to the Graduate School but who has not submitted all materials required for admission (official transcripts, test scores, etc.). The courses in which such a student enrolls will apply to a degree or certificate program. A student may enroll provisionally for one semester or summer term only. When all admission materials have been received, the graduate program will review the additional material before finally recommending regular or restricted admission, or denial.

Because admission to doctoral-level studies is limited to people of demonstrably superior academic ability, the doctoral admission categories do not include restricted status. Only two categories of admission to the doctoral level exist: regular and provisional.

### Nonmatriculated Students

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

### Nondegree Students

Students may be admitted as nondegree students if they are visiting students, they do not intend to pursue a degree, they intend to enter a program not yet established, or they are

participants of graduate workshops or institutes. They must be accepted by the appropriate graduate program or a department without an established graduate program.

A nondegree student must maintain at least a 3.00 GPA. A nondegree student wishing to take more than 9 credit hours may be allowed to do so, contingent upon departmental recommendation. However, course work completed by a nondegree student is not regarded as completed within a degree program. If such work is later to be transferred into a program, it must be approved by the department and may not exceed 9 credit hours. It may not be counted as part of the residence requirement for a degree.

### Education Certification Students

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

### Intercampus Exchange Students

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

### Postdoctoral Students

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

### Traveling Scholars and Interuniversity Graduate Exchange Students

There are two categories of students who may take graduate courses at UM-St. Louis without applying for admission to UM-St. Louis. Traveling Scholars are graduate students at one of the other UM campuses. Traveling Scholars register on their own UM campus to take courses at UM-St. Louis, using a special form to register for each course, and they report to the UM-St. Louis campus when classes begin. Interuniversity graduate exchange students are Washington University or Saint Louis University students who enroll by special arrangement through the registrar on the home campus for courses not offered on their own campus. Students are usually restricted to one exchange program course during their academic program.

### Unclassified Students

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

**Graduate Study (continued)**

student cannot later become graduate credits should the student subsequently be admitted to the Graduate School.

**Enrollment****Enrollment in Off-Campus and Continuing Education Courses**

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

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

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

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

**Undergraduate Enrollment in 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. In order to obtain graduate credit for such approved courses, students must pay the undergraduate-graduate credit fee differential and have written approval from the instructor.

**Enrollment in Relation to Admission**

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

effect at the time of readmission. Doctoral students are required to register each semester after they achieve candidacy.

**Leave of Absence**

Graduate students who are forced to interrupt their studies for a period of one or more years should request a leave of absence from the university. In consultation with their department and 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.

**Maximum Course Load**

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

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

**Petitioning Into or Out of a Course**

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

**Entering a Course in Progress**

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

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

**Dropping a Course**

Students may drop courses before the end of the fourth week of a regular semester or the second week of the summer session without receiving grades.



## Graduate Study (continued)

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

### Transcripts

The registrar will furnish transcripts of credits to a student upon written request. Transcripts are furnished to students' parents or guardians or other parties or institutions only if students have filed written consent with the registrar. There is a charge per transcript.

Students transferring to another University of Missouri campus may ask the UM-St. Louis Director of Admissions to furnish a transcript to the Office of Graduate Admissions at the other UM campus.

Requests for transcripts by organizations either financially supporting a student or with fee compensation programs are not honored unless the student has filed a consent form with the registrar, authorizing the release of such records. Transcripts are not issued to or for students who have financial obligations to the university until those obligations are paid in full.

### Academic Policy

#### Course Level

All UM-St. Louis 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 graduate programs 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 adviser and the instructor. In every such case, the student's adviser must consult with the instructor to ensure that the instructor is aware that the course is being taken for graduate credit. The instructor may assign the additional work to the student commensurate with the student's graduate status. Courses numbered from 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. 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 graduate programs establish required levels of competence in one or more foreign languages, that competence shall be shown in one of the following ways, as determined by the graduate programs:

- 1) An examination given by the graduate program.
- 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 have complete discretion in assigning grades in their courses. Point assignments for grades are as follows:

	A = 4.0	A- = 3.7
B+ = 3.3	B = 3.0	B- = 2.7
C+ = 2.3	C = 2.0	C = 1.7
F = 0		
EX = Excused	DL = Delayed	

The 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 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

## Graduate Study (continued)

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. Delayed grades recorded for courses in thesis or dissertation research are left as delayed grades until the final regular grades are reported by the instructor.

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

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

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

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

### Dismissal

A graduate student can be dismissed from the Graduate School on the recommendation of the graduate program and concurrence of the Graduate School. Dismissal letters will be sent out by the Graduate School, with copies sent to the

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

## Certificate Programs

### Credit Requirements

A minimum of 18 hours of course work is required for a graduate certificate. At least 12 of these credit hours must consist of courses drawn from the list of core courses for the particular certificate program. At least 12 credit hours must be completed in residence at UM-St. Louis. At least 9 credit hours must be at the 400 level. No more than 6 credit hours may be independent study.

### Filing the Degree Program

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

## Master's Degree Requirements

### Credit Requirements

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

### Filing for Degree Program

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

### Thesis and Comprehensive Examinations

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

Microfilming of master's theses by UMI is required by the Graduate School as a condition of degree conferral. Information on requirements, costs, and optional copyrighting can be obtained from the Graduate School or the library representative.

Comprehensive examinations—oral, written, or both—are required in most master's degree programs. Examinations are administered by a committee of no fewer than three graduate faculty members appointed by the dean of the Graduate School on the recommendation of the graduate program.

## Graduate Study (continued)

### Dual Master's Degrees

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

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

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

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

### Credit From a Certificate Program

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

### Time Limitation

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

### Residence Requirement

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

### Continuous Enrollment

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

### Degree Conferral

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

### Doctoral Degree Requirements

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

### Credit Requirements

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

### Residence Requirement

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

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

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

When doctoral students have earned a master's degree, appropriate credits may be applied toward meeting the requirement for the doctoral degree, subject to graduate program approval. Such credits must constitute less than half of the total credits required for the doctorate.

For example, for a doctoral degree requiring 90 credit hours of work beyond the bachelor's degree, no more than 44 credit hours from a master's degree may apply to the doctoral degree. Credit for courses taken for a master's degree is exempt from the eight-year time limitation.

### Time Limitation

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

## Graduate Study (continued)

### Comprehensive Examinations

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

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

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

### Application for Candidacy

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

### Dissertation Proposal

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

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

### Continuous Enrollment

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

### Dissertation Committee

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

The majority of members of the committee must be from the department in which the student is obtaining the degree.

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

### Dissertation and Final Examination

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

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

Candidates must submit an oral defense announcement, including an abstract of the dissertation, at least three weeks before the oral examination.

The Defense of Dissertation Committee certifies the final acceptability of the dissertation to the dean of the Graduate School on the basis of a final examination open to all Graduate Faculty members. The chairperson of the Dissertation Committee is responsible for verifying that all the changes suggested by the graduate dean and the Dissertation Committee have been incorporated in the final draft of the dissertation or have been discussed further with the graduate dean or the committee. This certification is made by signing the Final Approval of the Doctoral Dissertation form. Microfilming of doctoral dissertations by UMI is required by the Graduate School. Information on requirements, costs, and optional copyrighting can be obtained from the Graduate School or the library representative.

### Degree Conferral

Candidates for the doctoral degree are expected to attend Commencement.

## Fees for Graduate Study

### 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.

### Nonresident Students:

A student who is admitted to the university as a nonresident must pay the **Nonresident Educational Fee** as well as all other required fees. The **Tuition and Residence Rules and Petition** is available at the Cashier's Office.

### Final Semester Incidental Fee

Students must enroll in the semester in which they graduate.

### Thesis and Dissertation Fee

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

### Fees for Auditing Courses

Auditors are charged full fees and receive no academic credit.

### Laboratory Breakage Fee:

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

### Room and Board:

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

### Student Insurance: International Students (required)

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

### Student Insurance: (optional):

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

### Payment of Fees:

All fall semester fees are due and payable on August 21, 2000. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. A finance charge will be assessed on the unpaid balance of all students at the rate of 1 percent per month. All accounts will be billed using this method; therefore, it is NOT necessary that a student choose the minimum payment plan at the time the charges are incurred. Students with delinquent accounts will NOT be allowed to register in subsequent semesters.

### 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. Any checks payable to the university which are returned unpaid will be assessed a \$20 return check charge.

### Credit Cards:

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

## Fees for Graduate Study (continued)

## General Fee Information

**Educational Fees:** All students registered at the university are required to pay as follows:

Educational Fee - Academic Year 2000 - 2001		
Graduate Educational Fee Per Credit Hour		
Missouri Residents		\$173.20
Nonresidents		\$521.00
Additional Required Fees - Academic Year 2000-2001		
Description	Per Credit Hour	Maximum Per Semester
Instructional Computing Fee	\$8.60	No Maximum
Student Facility, Activity, and Health Fee	\$24.10	\$289.20 (12 or more credit hours)
Additional Required Fees, Course Specific - Academic Year 2000-2001		
Description	Per Credit Hour	Maximum Per Semester
Barnes College at UM-St. Louis Course Fee	\$150.00	No Maximum
Clinical Nursing Course Fee (M.S. Level)	\$113.10	No Maximum
Engineering Course Fee	\$38.00	No Maximum
Studio Art Course Fee	\$17.00	No Maximum
Optional Fees - Academic Year 2000-2001		
Description	Per Credit Hour	Maximum Per Semester
Parking Fee - Motor Vehicle	\$16.00	\$256.00 (16 or more credit hours)
Parking Fee - Motorcycle	\$8.00	\$128.00 (16 or more credit hours)
Daily Rate	\$7.50 Per Day	

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

**Quick and Easy Ways To Pay Your Fees**

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

**Payment of Fees**

All fees are due and payable on August 21, 2000. A minimum payment plan is available for students unable to complete their financial arrangements at the time of registration. A finance charge will be assessed on the unpaid balance of all students at the rate of 1% per month. All accounts will be billed using this method; therefore, it is

NOT necessary that a student choose the minimum payment plan at the time the charges are incurred. Students with delinquent accounts will NOT be allowed to register in subsequent semesters.

**Credit Cards**

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

**Personal Checks**

Personal checks in payment of fees 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. Any checks payable to the University, which are returned unpaid, will be assessed a \$20.00 return check charge.

## Fees for Graduate Study (continued)

### Nonresident Students

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

### Fee Reassessment for Dropping Classes or Withdrawal From School

Fees are reassessed for students who officially withdraw from the University or who drop classes. It is the student's responsibility to formally notify the registrar's office and to follow proper procedures when withdrawing from the university or dropping a class(es). Failure to receive financial

aid or refusing financial aid does not constitute an official withdrawal from the university. Likewise, failing to attend class does not, in and of itself, mean a student has dropped a class. Please refer to the appropriate sections in this publication for specific information about these procedures.

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

Fees included in the reassessment are the Educational Fee, Student Activity Fee, Instructional Computing Fee, Special Course Fee (if applicable) and Parking Fee (if applicable). Such fees are reassessed and reduced according to the following schedule:

Fall Semester, 2000		
Withdraw/Drop Dates	Fee % Reassessed	Fee % Due University
Through August 25, 2000	100%	Zero
August 28, 2000 through August 30, 2000	90%	*10%
August 31, 2000 through September 18, 2000	50%	*50%
September 19, 2000 through October 17, 2000	25%	*75%
October 18, 2000 and Thereafter	No Reassessment	*100%

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

For winter assessment, see the *Schedule of Courses*.

### Web Address:

<http://www.umsl.edu/services/financial/feeinfo.htm>

### Financial Assistance

#### Teaching and Research Assistantships

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

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

## Confidentiality Policy

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

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

1) "Education Records" are those records, files, documents, and other materials which contain information directly related to a student and are maintained by the university. Those records, made available under The Family Educational Rights and Privacy Act of 1974, are student financial aid, the student's cumulative advisement file, student health records, disciplinary records, 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:

- 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.
- The records of the University of Missouri Police Department which were created for a law enforcement purpose and are maintained by the police department.
- In the case of persons who are employed by the university but who are not in attendance at the university, records made and maintained in the normal course of business which related exclusively to such persons and that person's capacity as an employee where the records are not available for any other purpose.
- All records on any university student which are created and maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in his professional or paraprofessional capacity, or assisting in that capacity, and which are created, maintained, or used only in connection with the provision of treatment to the student, and are not available to anyone other

than persons providing such treatment, provided, however, that such records can be personally reviewed by a physician or other appropriate professional of the student's choice.

2) The University of Missouri-St. Louis recognizes "Directory Information/Public Information" to mean a student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. All students must inform the Office of 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 Public Law 93-380 as amended, the University of Missouri-St. Louis will not make available to students the following materials:

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

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

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



**Confidentiality Policy (continued)**

6) Students desiring to challenge the content of their record may request an opportunity for a hearing to challenge the content of the educational record in order to 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.

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 student in question has completed the necessary authorization in the registrar's office.

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

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

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

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

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

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

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

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

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

## **Student Financial Aid Programs**

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

The Student Financial Aid Office publishes a *Scholarship Directory* each year. Students can obtain a catalog by writing or stopping by the office located in 278 Millennium.

To be considered for all university scholarships offered through the Financial Aid Office, a student must be accepted for admission. Consideration for University Scholarships will be based on admission information. Currently enrolled students are considered automatically. Scholarships are awarded on a rolling basis for the upcoming new academic year, beginning November 1 of the preceding year.

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

## Library Services

### UM-St. Louis Libraries

#### Librarians

**Gregory Ames**, Curator, John W. Barriger National Railroad Library

M.L.S., State University of New York, Genesco

**Amy Arnott**, Head, Access Services

M.A.L.S., University of Missouri-Columbia

**Clinton Berry**, Reference Librarian

M.A., University of Missouri-Columbia

**Cheryle Cann**, Head, Ward E. Barnes Library

M.S.L.S., University of Missouri-Columbia

**Christopher Dames**, Reference Librarian

M.S., University of Missouri-St. Louis

M. L.S., Kent State University

**Mary Doran**, Reference Librarian

M.L.S., University of California-Los Angeles

**Judith Friedrich**, Technical Services Librarian

M.A.L.S., University of Missouri-Columbia

**Bette Gorden**, Curator, Herman T. Pott Inland Waterways Library

M.A., University of Oregon; M.A.L.S., University of Missouri-Columbia

**John H. Hoover**, Director, St. Louis Mercantile Library at UM-St. Louis and Associate Director of Libraries for Special Collections

M.A.L.S., University of Missouri-Columbia; M.A., Southern Illinois University-Edwardsville

**Peter Monat**, Reference Librarian

M.A., Saint Louis University; M.S., University of Illinois-Urbana-Champaign

**Raleigh Muns**, Reference Librarian

M.L.S., University of California-Los Angeles

**Christopher Niemeyer**, Reference Librarian

M.L.I.S., University of Texas at Austin

**David Owens**, Technical Services Librarian

M.A.L.S., University of Missouri-Columbia

**Frances Piesbergen**, Reference Librarian/Government Documents

M.A., University of Missouri-Columbia

**Marilyn Rodgers**, Reference Librarian

M.A., University of Missouri-Columbia

**John Mark Scheu**, Reference Librarian

M. Phil., University of Kansas; M.S., University of Illinois-Urbana-Champaign

**Sally Schneider**, Reference Librarian

M. S., University of Kentucky

**Helen Shaw**, Reference Librarian

M.Ed., University of Illinois-Champaign; M.A., University of Missouri-Columbia

**Sheila Young**, Reference Librarian

M.S., University of Arkansas; M.L.I.S., University of Oklahoma

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 and the St.

Louis Mercantile Library at UM-St. Louis (North Campus) and the Ward E. Barnes Library (South Campus)—the Libraries' collections consist of more than 950,000 volumes, 2,900 periodical subscriptions, one million U.S. government documents, over one million items in microform, and numerous special and manuscript collections.

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

## Western Historical Manuscript Collection and University Archives

### Archivists

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

The archives contain official records, campus publications, student newspapers, photographs, and other material on the history of the University of Missouri-St. Louis.

Located on Level II in the Thomas Jefferson Library, the office is open for reference service Monday through Friday, 8 a.m. to 4:45 p.m. and until 9 p.m. on Tuesday. Archival and manuscript material does not circulate.

## **Millennium Student Center**

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

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

### **Millennium Student 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 make their vision a reality. The effort to create this center began as a student referendum in 1993 when students voted overwhelmingly to assess themselves an additional fee for construction, maintaining, and managing the \$35 million facility.

### **Food Services**

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

### **Bookstore**

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

## Division of Student Affairs

### Office of the Vice Chancellor for Student Affairs

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

**Disability Access Services**, located in 146 Millennium Student Center, 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 516-6554 (voice) or 516-5212 (TDD). Additional information is available at the Web site <http://www.umsl.edu/services/disabled/>.

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

### Admissions

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

### Registrar/Registration/Records

The Office of the Registrar is located in 273 Millennium Student Center, 516-5545. This office is responsible for registration, academic records, grades, transcripts, enrollment verification, veterans certification, change of name and/or address, ordering diplomas, and many other enrollment-related services. No appointment is needed for service, and hours are convenient to both day and evening students.

**The Degree Audit office**, 261A Millennium Student Center, 516-6814, provides an automated record (DARS report) which reflects a student's progress toward degree completion. This report is very useful in planning a major, tracking graduation requirements, and investigating other

areas of study. DARS reports are available from a student's academic adviser, who will assist in the interpretation of the audit as well as online through the STARUMSL system.

### Student Financial Aid

The Office of Student Financial Aid is located in 278 Millennium Student Center, 516-5526. The staff in this office assist students with applying for financial aid, including scholarships, grants, loans, and work study. The office is open various hours to accommodate both day and evening students, and appointments for some services are strongly encouraged.

**Office of Residential Life** Located in 123 South Campus Residence Hall, 516-6877, offers on-campus housing to students year-round. The Office of Residential Life offers air-conditioned, furnished residence halls, in which 97 percent of rooms are singles. Contracts for 9 and 12 months are available. Residence Hall rates include all utilities, local phone service with six features, microfridges (combination refrigerator and microwave), data communications hook-ups in each room, and a tax-exempt declining-balance meal plan. The halls also offer a large swimming pool, as well as laundry facilities, kitchenettes, and common TV lounges. All residence halls are located on the free campus shuttle route.

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

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

The University Meadows Apartments is a privatized complex offering efficiencies, and one-, two-, and four-bedroom units. Nine- and 12- month leases are available. A variety of amenities are available, including swimming pool, laundry facilities, recreational facilities, and data communications hook-ups in each room. University Meadows is managed by its own external management staff. Information on leases and tours of University Meadows may be obtained by contacting the management office at 516-7500.

**Division of Student Affairs (continued)****Counseling Services**

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

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

Counseling Services supervises the undergraduate Horizons peer educators and the Helping Hand African-American student mentoring program. Horizons peer educators assist students looking for information about career options or academic majors in the Career Resource Center. They also present programs and workshops on topics such as alcohol awareness, time management, career exploration and stress management. The Helping Hand is a mentoring project in which junior- and senior-level African American students are matched with newly enrolled African American students to assist them in adjusting to the university. Mentors and proteges interact with faculty and staff and become familiar with campus resources. Our staff also provides 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 computer programs. Evening appointments are available for Evening College students. In an emergency, students can be seen almost immediately. For more information, call 516-5711 or visit Counseling Services office at 427 SSB. Web site: <http://www.umsl.edu/services/counselor>

**Women's Center**

The Women's Center serves as an educational resource center offering an information and referral service, advocacy, programs on women's issues, cultural events, a library of literature by and about women, topical resource files, and information on women's activities, networks, organizations, and services in St. Louis.

Located in 126 Millennium Student Center, the Women's Center 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 campuswide orientation program so that 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**

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

Job and career services are available to all UM-St. Louis students and alumni. Call 516-5111 for an appointment or visit us in 371 Millennium Student Center for career information.

**Computerized Registration**

A state-of-the-art system allows students to use our services quickly and easily. Web registration enables students to become members of the Candidate Database, display resumes in the WebResumeBook to hundreds of local and national employers, and produce professional targeted resumes.

**Candidate Database**

As a member, your qualifications and experience may be quickly matched with job vacancy listings. Resumes will be sent directly to the employer.

**<http://careerservices.umsl.edu>**

Check the WebHomePage frequently for general information about Career Services, upcoming job fairs, Career Days and other special events, the on-campus interviewing schedule, direct links to company information, job banks, career resource materials, and self-assessment exercises. The WebJobListings service has hundreds of current vacancies listed daily by employers.

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

**Steps to Career Success Program**

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

## Division of Student Affairs (continued)

### Career Experience and Employment Program

Students may explore these opportunities if they need a job to help with expenses, or would like a degree-related position to give a competitive edge in the job market. Jobs may be part-time, full-time or summer positions, and, if the work is related to an academic major, students will receive a transcript notation. This program may be used to "test drive" a career decision.

### Federal Financial Aid Work Study Program

Students may be eligible for a work study job if they are eligible for federal financial aid. These positions are designed for students to gain valuable experience and develop new skills. On-campus job opportunities allow for a flexible work schedule while attending classes. Off-campus community service positions provide a unique opportunity for students to make a valuable contribution to the St. Louis community.

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

Career Services hours are Monday and Tuesday, 8 a.m. to 7 p.m., and Wednesday, Thursday, and Friday, 8 a.m. to 5 p.m. For more information, call 516-5111, or visit us in 371 Millennium Student Center.

### Student Activities

Office of Student Activities: E-Mail: [studentactivities@umsl.edu](mailto:studentactivities@umsl.edu). Web Page: <http://www.umsl.edu/services/stuactv>

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

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

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

### Organizations

There are approximately 120 student organizations at UM-St. Louis ranging in size from 3 to 50 members. The scope of their activities addresses the educational, cultural, social, recreational, and spiritual cocurricular needs of the campus community.

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

Information regarding student organizations is available in 366 Millennium Student Center. Specific organizations may be contacted by mail through the same address.

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

### University Health Services (UHS)

University Health Services, an ambulatory care clinic, located in 141 Millennium Student Center, offers wellness through care and education. Some of the basic health services offered are treatment of minor injury and illness, screening exams, women's health care, strep throat testing, pregnancy testing, tuberculin skin testing, flu shots, immunizations, urinalysis, and allergy injections. Care is provided by nurse practitioners and registered nurses. Consultation is offered on a variety of issues and concerns, such as nutrition and diet management, sexually transmitted diseases, contraception, wellness assessment, and health promotion. Additionally, consultation is available to clients with chronic health problems (such as asthma, and diabetes) in assisting with health problem management. Educational materials on a variety of health-related topics are available in the UHS office. Educational outreach programs addressing current health issues and needs are also offered through UHS. Assistance with referral to medical facilities is provided upon request and when deemed necessary.

**Division of Student Affairs (continued)**

The university requests that students born after 1956 provide documented proof of immunity to measles and rubella, through current immunization records or disease documentation by a physician. Immunization records may be sent to University Health Services.

Information, application, and claim forms for the Student Accident and Sickness Insurance Plan are available at the UHS office. Validation for handicapped parking is handled through UHS upon presentation of signed medical documentation verifying a disability that impairs mobility. Automobile information and license plate number are also necessary to obtain verification for handicapped parking.

University Health Services is open Monday - Thursday 8 a.m. until 7 p.m. and Friday 8 a.m. until 5 p.m. Scheduled appointments begin at 8:30 a.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 that 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, and heart and liver damage.

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

**Cocaine:** Addiction, heart attack, seizures, lung damage, severe depression, paranoia, and 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, and coma.

**Narcotics** (heroin, Demerol, Morphine, Codeine, etc.): Addiction, accidental overdose, and 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, and 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, 125 Millennium Student Center, 516-5671; or the Office of Human Resources, 211 General Services Building, 516-5804.

**Smoke-Free Campus Policy of UM-St. Louis**

Effective June 1, 1991, smoking is prohibited throughout the University of Missouri-St. Louis campus.

**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.



## Division of Student Affairs (continued)

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 375 Millennium Student 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 disputes between individuals and organizations, or 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, 2<sup>nd</sup> floor Millennium Student Center, at 516-5162 or any council member for more information.

### 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 Sue English, the Senate's assistant, at 516-6769.

## 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.

The Rivermen and Riverwomen compete at the NCAA Division II level and are members of the Great Lakes Valley Conference.

The women's intercollegiate athletic program includes basketball, soccer, tennis, volleyball, golf, and softball. The men's intercollegiate athletic program includes basketball, soccer, golf, baseball, and tennis. Scholarships are available for both men and women in all sports.

Both 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 several sports.

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

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

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

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

## Other Services

### Alumni Relations Office

UM-St. Louis alumni, now numbering more than 56,000, help shape the future of not only the university but the entire St. Louis region. The Alumni Association and the Alumni Relations 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 several scholarship funds for UM-St. Louis undergraduate and graduate students, provides special funding of certain campus projects, and works as an organization to obtain increased public support for the university. For more information, call 516-5833.

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

**Gallery 210**, located in 210 Lucas Hall, 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. For more information, call 516-5952 or visit the Web page at <http://www.umsl.edu/~gallery/>.

### Police Department

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

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

The police department is located in the Tele Community Center and serves the students, faculty, and staff by providing year-round campus security. The police are trained to give emergency aid in the event of accident or illness. All

**Other Services (continued)**

incidents should be reported immediately to the police department, telephone 516-5155. A "911" phone number is available on all phones with a 516 prefix and should be used for emergencies only. These numbers are monitored 24 hours a day. Call for help or to report fire or any hazardous conditions. Emergency telephones on campus include the red "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 police department provides limited emergency vehicle service, at no charge, to vehicles on campus. Any person requiring such service (due to dead battery, empty fuel tank, flat tire, etc.) should phone the university police for assistance. An escort service is available 24 hours a day by calling 516-5155. All members of the campus community are strongly encouraged to call the police for an escort if they feel uncomfortable walking to their car at night.

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

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

## 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 College of Business Administration for studying managerial problems and performing applied research. The center operates on a not-for-profit basis, helping organizations nationwide to understand factors affecting their business environments and to enhance their productivity. University faculty, supported by powerful computer systems, statistical databases, and sophisticated software, provide multidisciplinary consultation in a wide variety of business applications. Studies are undertaken in computer systems, operations management, human resources management, planning and business development, facilities location, distribution, marketing, and financial analysis. Organizations contract with the center for studies tailored to their specific needs. A brochure outlining the center's services can be obtained by writing the Center for Business and Industrial Studies College 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 K-12 classrooms. Entrepreneurship education is another focus for center activities. The center also promotes the goals of entrepreneurship and economic education among business, professional, educational, labor, and other organizations and individuals in the St. Louis community.

**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, nonacademic advising, etc. In addition, the center administers the campus exchange and study abroad programs and disseminates information on study, work, and travel abroad. The center promotes the development of interdisciplinary and multidisciplinary courses, assists in staffing courses within individual departments, houses the Joint Center for East Asian Studies of UM-St. Louis and Washington University,

the E. Desmond Lee Global Ethnic Collaborative, the Karakas Family Foundation Alliance for the Advancement of Hellenic Studies, and the Endowed Professorships in African American Studies, Chinese Studies, Greek Studies, Irish Studies, Japanese Studies, and the German Culture Center. It conducts seminars that address specific faculty and student needs and interests, sponsors conferences for academic and community audiences, organizes international business development programs, sponsors an International Performing Arts series, issues occasional papers, administers undergraduate certificate programs in Africana studies, East Asian studies, European studies, international business international studies, and Latin American studies and the Graduate Certificate in International Studies. In addition, the center's Community Education Office serves precollegiate 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) electro chemistry of sensors; (f) gallium aluminum.

#### Center for Neurodynamics

This center sponsors basic research on the transmission and processing of information by the brain and the sensory nervous system. The research functions are performed largely by faculty, graduate students, and postdoctoral research associates, though exceptionally talented and motivated undergraduate students also make valuable research contributions. The center is interdisciplinary, being composed

## Specialized Centers and Facilities for Research, Teaching, and Public Service

of faculty from the Departments of Biology and Physics and the School of Optometry. It maintains a program of external associates with whom collaborative research projects are pursued. Current associates are in Baylor College of Medicine, Houston, Texas; the Department of Biomedical Engineering, Boston University, Boston, Mass.; and Viatech Imaging Inc. of Ivoryton, Conn. The research focus underlying all projects is on the role of random processes, or "noise," and chaos in the detection of weak environmental stimuli and the processing of information within small networks of neurons and within the brain. The center is host to frequent scientific visitors and maintains an active program of seminars on contemporary problems in neuroscience and in the physics underlying neural processes. The center was created by a University Research Initiative grant from the Department of Defense through the Office of Naval Research, which provides ongoing financial support for its research projects. For further information please consult the URL <http://neurodyan.umsl.edu>

### International Center for Tropical Ecology

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

### 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, interuniversity 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.

### Campus Computing

Students, faculty, and staff at the University of Missouri - St. Louis have access to powerful computing resources. The largest systems are a Sun Ultra Enterprise 4000 and a cluster of HP Netserver LX Pros. The student resources include free dial-up access to E-mail and the Internet, five student computing laboratories distributed across campus, nine smart classrooms, and eight media enhanced lecture halls/classrooms.

Smart classrooms are located in the Computer Center Building, South Campus Computer Building, and Music Building. These classrooms have computers at each student station as well as the instructor stations. High-resolution projectors and video/audio systems complete the facilities. Media-enhanced lecture halls/classrooms are located in Lucas Hall, Stadler Hall, Social Sciences Building, Clark Hall, and Marillac Hall. These classrooms have mobile instructor stations as well as projection systems and allow the faculty to demonstrate software applications, research the World Wide Web, and share information with students.

Student computer labs are located in the Social Sciences Building, Thomas Jefferson Library, Benton Hall, and South Campus Computer Building. Student stations include Windows NT, Macintosh, Sun Solaris, and Silicon Graphics workstations. Student consultants are available to assist students with general operation and troubleshooting needs.

Campus Computing also provides consultation, programming, error analysis, and operations services.

Noncredit short courses are taught during the fall and winter semesters on a wide variety of computer applications.

The Technology Support Center, located in 211 Lucas Hall, is available for students, faculty, and staff who have general computer questions regarding their accounts or the utilization of the campus resources. The Web Office is also located in 211 Lucas and provides assistance for faculty and staff in the development of World Wide Web pages.

The Urban Information Center is a specialized part of Campus Computing. It operates on a cost recovery basis and therefore charges for all products and services. It focuses on applications programming related to the U. S. Census and other public data. The primary UIC programming tool is the SAS. Using SAS, the UIC maintains a large data archive, primarily derived from the decennial census data. This archive is accessible at no charge via the WWW. To access the archive or learn more about UIC services visit the home page at [www.umsl.edu/services/ccomputing/uic/index.html](http://www.umsl.edu/services/ccomputing/uic/index.html).

## Specialized Centers and Facilities for Research, Teaching, and Public Service

The main office telephone number is 516-6000, and the Technology Support Center can be reached at 516-6034. More information can be found on the Campus Computing home page: <http://www.umsl.edu/~webdev/ccomputing/>.

### 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 with electronic submissions, 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>.

### Public Service

#### Child Development Center

The Child Development Center, located in 130 South Campus Classroom Building, provides high-quality day programs for children of students, 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.

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.

The **Center for Humanities** is the only center of its kind in the region and in the state. It has two central objectives: to provide visibility and focus for humanities activities at UM-St. Louis and to attract and channel resources for the support of interdisciplinary humanistic inquiry. To this end the center sponsors a variety of conferences, symposia, and lectures. Over the last several years, the center has sponsored a conference in the fall semester titled, *What is a City?*, which examines the structure and social environment of cities and their effects on social and cultural diversity. In the spring semester the center sponsors a second conference on an interdisciplinary humanistic theme. The center also sponsors the Monday Noon Cultural Series throughout the academic year, which features a variety of humanities lectures and musical performances. Affiliated with this series is the Monday Noon Cultural Seminar, a two-hour credit interdisciplinary course. The center also supports and coordinates the poetry and short story series, which offers contemporary authors reading their works. In addition the

center houses and funds the journal *Theory and Society*, a refereed, interdisciplinary journal of social theory and practices, published by Kluwer Academic in The Netherlands. The center disseminates information on the humanities on its Web site and promotes the development of interdisciplinary outreach programs.

### KWMU

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

### Public Policy Research Centers

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

The PPRC endeavors to achieve its mission by:

- undertaking objective basic and applied research
- serving as a regional information and data center
- sponsoring forums and seminars for debates and discussions
- publishing and disseminating policy briefs, issue papers, research reports and newsletters
- commenting on issues of public policy and identifying regional challenges and opportunities
- providing training and certificate programs for community and government leaders and professional organizations
- evaluating public and community programs.

The Center undertakes these tasks by developing partnerships with local, county, regional and state governments and agencies, nongovernmental organizations, and citizen's groups. The Center also promotes policy research through faculty fellows. Drawn from a variety of disciplines such as public policy administration, economics, political science, business, sociology, nursing, education, social work and history, fellows receive PPRC support to undertake and disseminate applied research. PPRC also serves as a policy laboratory for a number of graduate students participating in research and outreach activities.

## Specialized Centers and Facilities for Research, Teaching, and Public Service

PPRC is organized around five activity areas: research, community and neighborhood development, metropolitan information and data analysis services, local government training, and publications and communication. PPRC also mounts regularly changing photographic exhibits throughout the year.

### University Eye Center

Located on the South Campus, the center 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 opportunities. In addition to the University Eye Center, the school operates the Optometric Center, a comprehensive optometric eye care facility in the Central West End of the city of St. Louis, and the East St. Louis Eye Center, jointly owned and operated by the University of Missouri-St. Louis School of Optometry and Southern Illinois University at Edwardsville.

### Teaching

#### Center for Academic Development (CAD)

The center is an academic support and assessment unit which focuses attention on the needs of UM-St. Louis students seeking success in their coursework. The center is comprehensive in nature and offers 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 offers both IBM and 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 assessment and supplementary ESL courses 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:** The center provides assistance for students needing a review of precollege 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 covering Beginning and Intermediate Algebra are offered as a semester-long lecture class or as an independent study course with flexible beginning and ending options. Schedules for the reviews and workshops can be found in the current *Schedule of Courses*.

**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.

**Assessment Center (412 SSB):** The center provides a controlled environment for students to take make-up exams or to test under conditions where special accommodations are needed and authorized. Students unable to take campus level exams (Math Placement, Academic Profile) in regularly scheduled group sessions may take them in the center for a fee. All testing is by appointment. Call 516-6396.

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

## Specialized Centers and Facilities for Research, Teaching, and Public Service

### Multicultural Relations:

This office was designed to support the university's goal of academic success for all students. Cognizant of the unique challenges facing its minority population, Multicultural Relations works to enhance and promote the academic success of these students. While there are a variety of services available to students, this office provides and directly links students to such services as new student orientation, scholar retention, tutoring, academic counseling, career exploration, and leadership development. Throughout the school year, workshops and discussion groups are held to foster a larger awareness of the university and its resources.

Students meet with counselors to work on individual academic plans and are assigned tutors if necessary. Student Support Services Program and African American Scholars Retention Program are a part of Multicultural Relations and assist in ensuring that the mission of this office is accomplished. Additionally, Multicultural Relations was designed to foster effective communication among students, faculty, staff, and alumni.

### 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 engineering management and engineering mechanics, as well as aerospace, civil, computer, 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, learning for students who are far from campus or whose schedules make it difficult to attend regular classes.

**Course Listing.** A catalog listing all Video Instructional Program courses and offering complete information on the program is available by calling 516-6171. New courses are currently being developed. The following courses from the UM-St. Louis curriculum are offered:

**Anthro 19**, Archaeology  
**Anthro 25**, World Cultures  
**Anthro 124**, Cultures of Africa  
**Anthro 350**, Special Studies  
**Biology 01**, General Biology for Non-Science Majors  
**Biology 120**, Environmental Biology  
**Comm 70**, Introduction to Cinema  
**Comm 232**, Effective Communication in the Organization: Tool for Leadership  
**Education 308**, Foundations of Adult Basic Education  
**History 31**, Topics in European Civilization: Emergence of Western Europe to 1715  
**History 32**, Topics in European Civilization: 1715-present  
**History 150**, The Peoples Century, Part I  
**History 350**, The People's Century, Part I, Special Studies  
**Philosophy 210**, Significant Figures in Philosophy  
**Philosophy 290**, Philosophical Issues in Other Disciplines: Humanities in the Arts  
**Psych 03**, General Psychology  
**Psych 245**, Abnormal Psychology  
**Psych 268**, Human Growth & Behavior  
**Psych 280**, The Psychology of Death & Dying  
**Social Work 280**, Human Behavior in the Social Environment  
**Social Work 312**, Women's Social Issues  
**Sociology 10**, Introduction to Sociology  
**Sociology 108**, Diversity of People and Places

Courses are available on the Higher Education Channel (HEC) on St. Louis area cable stations. For complete information, call 516-6171

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



## Career Experience and Employment

### Internships and Other Career-Related Work Arrangements

Students have many decisions to make about what programs of study to follow, how to help with the cost of college, and where to find jobs when finished. UM-St. Louis offers career experience positions in a broad range of academic majors. A career-related job can give students the edge in college studies and career choices for today and for the future.

### Career Experience and Employment Program

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

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

The following is an overview of work arrangements available to UM-St. Louis undergraduate students. Refer to the academic department or Career Services for details on each program, requirements for participation, the opportunities available to graduate students, and the opportunities for students pursuing certificate programs or minors.

### College of Arts and Sciences

#### Anthropology

**315**, Senior Seminar - required, for credit

**325 - 329**, Internship in Cultural Anthropology, Archaeology, Folklore, Museum Studies, Physical Anthropology - elective, for credit; placement with outside organizations; junior standing required.

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

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

#### Art

**287**, Professional Internship for Art History majors only - elective, for credit.

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

#### Biology

**231**, Undergraduate Internship in Biotechnology - optional as part of certificate program, for credit or noncredit, enrollment in certificate program required.

**347** Practicum in Conservation - required as part of certificate program, for credit, enrollment in certificate program required.

#### Chemistry

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

#### Communication

**193, 194, 196, 197**, Practicum in Applied Communication, Debate/Forensics, Radio, and Television/Film - required, for credit. On-campus positions, as available.

**393, 394, 396, 397**, Internship in Applied Communication, Journalism, Radio, and Television/Film - elective, for credit, Senior standing, 3.0 GPA, and faculty recommendation required; off-campus positions.

#### Criminology and Criminal Justice

**280** Internship in Criminology and Criminal Justice - elective, for credit.

#### Economics

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

Occasionally credit may be earned for selected assignments with departmental approval.

#### English

**320**, Independent Writing Project - internships offered in areas such as journalism, public relations, advertising, publishing, and technical writing; for credit, enrollment in Writing Certificate Program required.

**198** Practicum in Theater - optional, credit

**398**, Internship in Theater - optional, credit.

#### Foreign Languages and Literatures

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

**Career Experience and Employment (continued)****History**

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

**Mathematics and Computer Science**

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

**Music**

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

**Physics and Astronomy**

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

**Political Science**

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

**Psychology**

**295**, Selected Projects in Field Placement - elective, for credit.

**Social Work**

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

**Sociology**

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

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

**College of Business Administration**

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

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

**College of Education**

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

**Engineering**

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

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

**Barnes College of Nursing**

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

**Pierre Laclède Honors College**

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

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

## Continuing Education and Outreach

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

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

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

The Microcomputer Program, which develops and teaches applied computer courses and awards the Chancellor's Certificate on the Computer, is also a unit of Arts and Sciences Continuing Education and 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 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 and Outreach in the College of Arts and Sciences.

Continuing Education and Outreach in the College of Arts and Sciences partners with area cultural institutions to offer credit and noncredit programs for symphony, opera, and theater fans.

### Business Administration

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

### Education

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

### Graduate School and Public Policy Administration

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

### Nursing

Barnes College of Nursing at UM-St. Louis offers a variety of continuing education programs for nurses and other health care professionals. Undergraduate Nursing and Arts and Sciences credit courses are offered for those wishing to complete their B.S.N. or finish prerequisites to begin work on a master's degree. Selected graduate courses are also offered.

### Optometry

The University of Missouri-St. Louis offers Continuing Education and Outreach programs for optometrists through the UM-St. Louis 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 and Outreach (continued)

### Video Instructional Program

The Video Instructional Program offers an alternative for the student who is unable because of work schedules, family commitments, or other reasons, to take traditional credit courses. Highly motivated students can also choose to complete VIP courses at an accelerated pace. Video lessons for various cable companies within St. Louis County (American, AT&T, and Charter) or checked out from the UM-St. Louis libraries.

### Outreach Sites

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

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

### In-house Training

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

### J.C. Penney Conference Center

This large conference facility at UM-St. Louis houses a 435-seat auditorium, as well as six large conference rooms, designed to provide an excellent academic environment and maximum convenience for course participants. A complete conference staff provides administrative support for seminars and conferences, as well as coordination for hundreds of hosted programs each year.

For more information on programs and services offered by Continuing Education and Outreach, call (314) 516-5958.

# **Degree Programs**

**College of Arts and Sciences**

**College of Business Administration**

**College of Education**

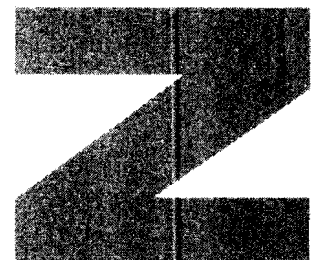
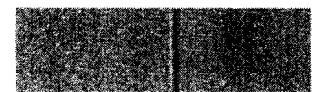
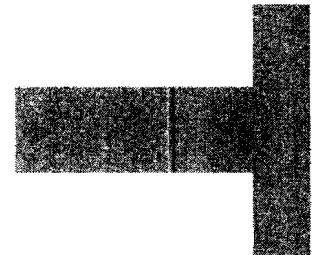
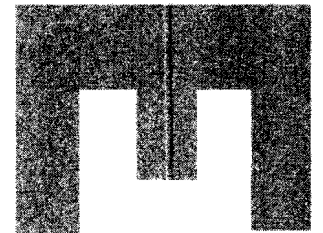
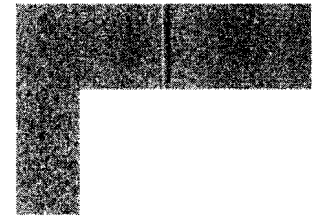
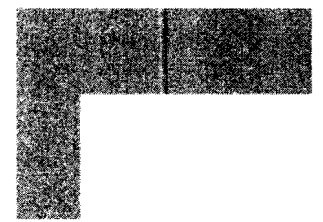
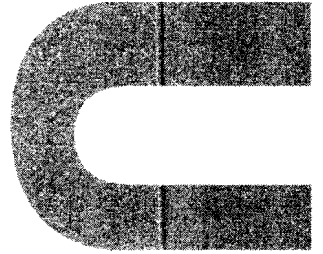
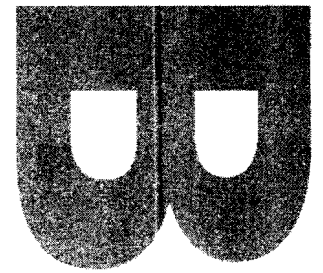
**Evening College**

**Inter-School Studies**

**Barnes College of Nursing**

**School of Optometry**

**Pierre Laclède Honors College**





## Degree Programs

### Undergraduate Studies

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

### Bachelor of Arts (B.A.)

anthropology  
art history  
biology  
chemistry  
communication  
economics  
English  
French  
German  
history  
mathematics  
music  
philosophy  
physics  
political science  
psychology  
sociology  
Spanish

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

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

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

### Bachelor of Music (B.M.)

music  
music education

### Bachelor of Science (B.S.)

accounting  
applied mathematics  
biology  
chemistry  
civil engineering (joint program with Washington University)  
computer science  
criminology and criminal justice  
economics  
electrical engineering (joint program with Washington University)  
management information systems  
mathematics  
mechanical engineering (joint program with Washington University)  
nursing  
physics  
sociology

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

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

early childhood education  
elementary education  
physical education  
secondary education  
special education

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

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

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

## Degree Programs (continued)

### Graduate Studies

The Graduate School administers all degrees and certificates 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.

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

#### Master of Accounting (M. Acc.)

#### Master of Arts (M.A.)

communication  
criminology and criminal justice  
economics  
English  
history  
mathematics  
philosophy  
political science  
psychology  
sociology

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

creative writing

#### Master of Health Science (MHS)

managerial decision-making and health informatics

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

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

#### Master of Education (M.Ed.)

counseling  
educational administration  
elementary education  
secondary education  
special education

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

#### Master of Science (M.S.)

biology  
chemistry  
computer science  
gerontology  
management information systems  
physics  
physiological optics

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

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

#### Doctor of Education (Ed.D.)

#### Doctor of Optometry (O.D.)

#### Doctor of Philosophy (Ph.D.)

applied mathematics  
biology  
chemistry  
criminology and criminal justice  
education  
nursing  
physics  
physiological optics  
political science  
psychology



20

19

18

17

16

15

14

13

**College of  
Arts and Sciences**



## College of Arts and Sciences

### 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 history and fine arts, 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, philosophy, political science, psychology, social work, and sociology. An interdisciplinary master's degree in public policy administration is offered in cooperation with the College of Business Administration. Specific degree requirements for both undergraduate and graduate degree programs are described in the departmental sections which follow this general information on the college.

### Requirements 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:

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

**Anth 11**, Introduction to Cultural Anthropology  
**Anth 19**, Introduction to Archaeology  
**Anth 21**, The Body in Culture  
**Anth 25**, World Cultures  
**Anth 29**, Cultural Diversity through Literature  
**Anth 33**, World Archaeology  
**Anth 41**, Sex and Gender Across Cultures  
**Anth 71**, Native American Literature  
**Anth 91**, Introductory Topics in Anthropology  
**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**, Native Peoples 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**, Archaeology of the Inca, Aztec, and Maya  
**Anth 135**, Old World Archeology  
**Anth 136**, Archaeology of East Asia  
**Anth 137**, Archaeology of Africa  
**Anth 138**, African-American Archaeology  
**Anth 140**, Cultures of Mexico and Central America  
**Anth 145**, Indians of South America  
**Anth 191**, Special Topics in Non-Western Cultures  
**Anth 201**, Comparative Economic Behavior  
**Anth 225**, Topics in Tribal Arts  
**Anth 235**, Women in Sub-Saharan Africa: A Contemporary Perspective  
**Anth 238**, Culture and Business in East Asia  
**Anth 273**, Archeology and Cultures of the Biblical World  
**Anth 428**, 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  
**Art 217**, Topics in African Art  
**English 71**, Native American Literature  
**English 128**, The Contemporary World in 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 84**, 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 358**, Central Asia, Nationalism and the Contemporary World  
**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 to 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

**College of Arts and Sciences (continued)**

- Phil 120**, Asian Philosophy  
**PolSci 155**, East Asian 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  
**Soc 245**, Sociology of South Africa

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

- 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.
- The requirements of the department for their selected major or interdisciplinary program.

**Academic Policies****Grade Requirements**

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

- Earn 120 graded hours with a C grade or better, which constitutes a complete degree program and does not include a satisfactory/unsatisfactory basis. A C- does not meet this requirement.
- 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.

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

**Specific Baccalaureate Degree Requirements****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. Foreign

language guidelines are as follows:

- 1) Students entering with no high school language units must enroll in Language 1 or may enroll in the 115 series (see section 4).
- 2) Students with the degree of proficiency equivalent to 13 hours of college-level work may obtain exemption 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) Language 115 a, b, and c (Intensive) will satisfy the foreign language requirement.
- 5) Students may not repeat, for either credit or quality points, an elementary course if they have already completed a higher-level course for which the elementary course, or its equivalent, is a prerequisite.

**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 applied physics, astrophysics, engineering physics, or medical physics), and sociology. The requirements are generally the same as for the B.A. degree with the following exceptions:

- 1) More credit hours in the major discipline may be counted toward satisfying the 120 hours needed for graduation. See departmental degree requirements for information.
- 2) Not all departments require foreign language proficiency. See departmental degree requirements for information.

**Bachelor of Science in Public 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.

## College of Arts and Sciences (continued)

### 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 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

#### Certificate Programs

Certificate programs are offered in Africana Studies, Biochemistry, Biotechnology, Gerontology, Photographic Studies, Studies in Religions, Trauma Studies, Tropical and Conservation Biology, Nonprofit Organization Management and Leadership, Women's and Gender Studies, and Writing.

#### International Studies Certificate

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

**Sheilah Clarke-Ekong**, Associate Professor\*, Chairperson  
Ph.D., University of California-Los Angeles

**Jay Rounds**, Des Lee Professor of Museum Studies\*  
Ph.D., University of California-Los Angeles

**Manuel Dominguez-Rodrigo**, Visiting International Professor  
Ph.D., Complutense University, Madrid

**Susan E. Brownell**, Associate Professor\*  
Ph.D., University of California-Santa Barbara

**Margo-Lea Hurwicz**, Associate Professor\*  
Ph.D., University of California-Los Angeles

**Mridula Durbin**, Adjunct Associate Professor  
Ph.D., SUNY-Buffalo

**John Kelly**, Adjunct Associate Professor  
Ph.D., University of Wisconsin-Madison

**Van A. Reidhead**, Associate Professor\*  
Ph.D., Indiana University

**Pamela Ashmore**, Assistant Professor of Anthropology and Education  
Ph.D., Washington University

**John Wolford**, Assistant Museum Professor\*  
Ph.D., Indiana University

**Patti Wright**, Assistant Museum Professor\*  
Ph.D., Washington University

**Paul Schoomer**, Senior Lecturer  
B.A. Washington University

**Timothy E. Baumann**, Lecturer  
A.B.D., University of Tennessee-Knoxville

**Elizabeth Dinan**, Lecturer  
A.B.D., University of Illinois at Urbana-Champaign

**Jackie Lewis-Harris**, Lecturer of Education and Anthropology  
M.A., 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 environments and to improve our lot in the face of perpetual change. Anthropologists teach how cultures evolve and the role of individuals and groups in the invention and perpetuation of cultural beliefs, behaviors, symbols, and systems. Anthropologists have accumulated in-depth knowledge of thousands of cultures and use this to understand better our own cultural beliefs, actions, and institutions, as well as those of people from other cultures. As the science of cultures,

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

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

- 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 world.
- Mastery of the academic skills of theoretical conceptualization and critical evaluation, applied to multi-cultural contexts and understanding.
- Individual and community skills for material and emotional survival in the global high technology age.
- 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.
- Use of academic and personal skills to make oneself valuable in diverse local, national and global employment settings.
- 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 are actively involved in cultural, archaeological, folkloric, and biological anthropology research at home and abroad.

**Cultural Anthropology:** Faculty are involved in research in St. Louis, 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, educational anthropology, evolution of consciousness and more. With a large core of cultural anthropology faculty, opportunities abound for students to pursue diverse research experiences on a vast range of topics on human actions, beliefs and organization. Through its partnership with the College of Education, selected students are able to work with a team of anthropology and education faculty and students in the design and teaching of human origin and cultural diversity lessons for K-12th grade school children and their teachers.

## Anthropology (continued)

**Archaeology:** Faculty are involved in regional research in both prehistoric and historic archaeology. Current projects include excavations at Cahokia Mounds, Ill, an 800-year-old ceremonial and village site; and at Arrow Rock, Missouri, a late 19<sup>th</sup> and early 20<sup>th</sup> century African-American community. The Department of Anthropology has a summer field school where students learn excavation and artifact analysis techniques. 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 eastern Missouri.

**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 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 internships, providing an opportunity to practice newly acquired skills. As a capstone experience, all students, under faculty supervision, complete a significant independent research project for Senior Seminar, culminating in written and oral reports to student colleagues and the faculty. The department encourages study abroad and in other regions of the United States and has scholarship funds to assist. There is an active Anthropology Club that sponsors an intercultural film series, speakers, and social activities.

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

#### Degree Requirements

##### Bachelor of Arts in Anthropology

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

- Anth 5,** Human Origins
- Anth 11,** Introduction to Cultural Anthropology
- Anth 19,** Introduction to Archaeology
- Anth 202,** Culture, Politics, and Social Organization
- Soc 220,** Sociological Statistics, or any other college level statistics course
- Anth 301,** Ideas and Explanations in Anthropology
- Anth 308,** Practicum in Cultural Research Methods
- Anth 310,** Laboratory Methods in Archaeology
- Anth 315,** Senior Seminar

One archaeology area course in Anthropology numbered 100-199.

One culture area course in Anthropology numbered 100-199.  
Two 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 Department of Anthropology.

## **Anthropology (continued)**

All minor degree candidates must take:

**Anth 5**, Human Origins

**Anth 11**, Introduction to Cultural Anthropology

Candidates for the minor must also take:

**Anth 301**, Ideas and Explanations in Anthropology or

**Anth 308**, Practicum in Cultural Research Methods

One anthropology course at the 100-199 level.

One anthropology course at the 200-299 level.

One elective anthropology course at any level.

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

## **Career Outlook**

The B.A. in anthropology equips the student for employment in almost any area in which a bachelor's degree is sufficient and a sensitivity to cultural values and diversity is important. Graduates 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 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.



## Anthropology (continued)

### Course Descriptions

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 05, 05a, 11, 15, 19, 20, 21, 25, 29, 33, 41, 71, 91, 109, 110, 111, 112, 113, 114, 120, 121, 122, 124, 126, 131, 132, 134, 135, 136, 137, 138, 140, 145, 190, 191, 201, 202, 203, 204, 207, 208, 210, 212, 215, 220, 225, 230, 231, 232, 234, 235, 238, 242, 244, 250, 273, 286, 290, 291, 301, 308, 309, 310, 315, 350, 391.

#### 05 Human Origins (4)

An introduction to the discipline of biological anthropology, topics include evolutionary theory and its development, the evolution/creationist debate, Mendelian and population genetics, the evolutionary place of humans within the animal kingdom, anatomical and behavioral characteristics of primates, fossilization, primate evolution, the human evolutionary fossil record, biological variability in modern humans, race as a biological concept, and applied biological anthropology. In addition to 3 hours of lecture, 1 hour per week is spent in lab classifying ancient human fossils, observing monkeys and apes at the zoo, and doing other projects. Satisfies the Natural Sciences and Mathematics (SM) breadth of study requirement.

#### 05a Human Origins (3)

Same as Anthro 05, minus laboratory activities. This course does not meet the requirements for the Anthropology major. Satisfies the Natural Sciences and Mathematics (SM) breadth of study requirement.

#### 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. This course satisfies the Cultural Diversity Requirement.

#### 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 Introduction to Archaeology (3)

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

#### 20 Introduction to Historical Archaeology (3)

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

#### 21 The Body in Culture (3)

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

#### 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.

**Anthropology (continued)****33 World Archaeology (3)**

Discusses some of the greatest discoveries in archaeology from prehistoric cultures to ancient civilizations of Africa, Asia, Australia, Europe, and the Americas. Archaeological examples may include early human origins at Olduvai Gorge in Tanzania, the pyramids of ancient Egypt, the Maya and Aztec of Mexico, the rise of civilization in Mesopotamia, England's Stonehenge, the Roman city of Pompeii, upper Paleolithic cave paintings in France and Spain, and American Indian pueblos of the Southwest. This introductory course is designed for non-anthropology majors, or for those who are considering the major. 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.

**91 Introductory Topics in Anthropology (3)**

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

**109 Archaeological Field School (3-6)**

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

**110 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.

**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.

**123 Cultures of Oceania (3)**

An introduction to the original cultures and peoples of the South and Western Pacific: New Guinea, Australia, New Zealand, Samoa, Hawaii, Easter Island, etc. Focus is on art, religion, language, relationships to the environment, economics, politics, social groupings, and how these intertwine to form distinctly adaptive cultures in one of the least understood regions of the world. Satisfies the cultural diversity 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 Greater St. Louis (3)**

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

## Anthropology (continued)

### 131 Archaeology of Missouri (3)

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

### 132 Archaeology of North America (3)

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

### 134 Archaeology of the Inca, Aztec, and Maya (3)

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

### 135 Old World Archaeology (3)

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

### 136 Archaeology of East Asia (3)

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

### 137 Archaeology of Africa (3)

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

### 138 African-American Archaeology (3)

This course examines people of African descent in the New World through archaeology. Class lectures will outline the development, research strategies and goals of African-

American archaeology using examples from the colonial slave trade to the 20<sup>th</sup> Century. Specific topics include foodways, architecture, spirituality, health, ethnicity, acculturation/creolization, status, racism and gender. This course satisfies the Cultural Diversity requirement.

### 173 Archaeology and Cultures of the Biblical World (3)

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

### 190 Special Topics in Archaeology (3)

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

### 191 Special Topics in Non-Western Cultures (3)

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

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

Prerequisite: Anth 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.

### 210 Applied Anthropology (3)

Prerequisite: Anth 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: Anth 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.

**Anthropology (continued)****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.

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

Prerequisites: Anth 19 or consent of instructor. An advanced course emphasizing the various theories and methods employed in prehistoric archaeological research.

Archaeological theories and methods will cover diffusion, cultural ecology, seasonality, plant and animal domestication, subsistence, settlement patterns, spatial analysis, ethnoarchaeology, artifact analysis, seriation, dating techniques, remote sensing, and others. Requires substantial reading and writing.

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

Prerequisites: Anth 19, 20, or consent of instructor. An advanced class in archaeological method and theory concerning historical period sites. Requires substantial reading and writing and covers a broad range of theoretical and methodological approaches. Theoretical paradigms will include functionalism, middle range theory, evolutionary theory, and public archaeology. Methodological topics will include pattern analysis, architectural archaeology, urban archaeology, subsistence studies, and others.

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

Prerequisite: Anth 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 Sub-Saharan Africa: A Contemporary Perspective (3)**

Prerequisite: Anth 11, or introductory course in another social science, or consent of the instructor. Examines important traditional concerns of anthropologists such as the nature of kinship obligation and privilege; gender as a basis for the division of labor; social organization for formal and informal networks; and ritual and ceremony. In addition we look closely at the changing role of African women, as related by African women testing the very limits of what is "socially and culturally acceptable". The roles women

continue to play in politics, comprehensive development (i.e. cultural and economic) and evolving social structures are reviewed to gain an understanding of the historical and contemporary mandates for their social action. This course fulfills the Cultural Diversity requirement.

**238 Culture and Business in East Asia (3)**

Prerequisite: Anth 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.

**242 The Culture of Cities (3)**

Prerequisite: Anth 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: Anth 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: Anth 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 Anth 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.

**Anthropology (continued)****290 Advanced Topics in Archaeology (3)**

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

**291 Current Issues in Anthropology (3)**

Prerequisite: Anth 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: Anth 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 and Anth 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 Archaeological Field School (3-6)**

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

**310 Laboratory Methods in Archaeology (4)**

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

**315 Senior Seminar in Anthropology (3)**

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

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

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

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

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

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

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

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

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

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

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

**Anthropology (continued)****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: Anth 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.)

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

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

**435 Foundations of Museology I (3)**

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

**436 Foundations of Museology II (3)**

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

**437 Effective Action in Museums (3)**

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

by a variety of museum professionals.

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

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

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

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

**440 Cultural Aspects of Aging (3)**

(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.

## Art and Art History

### Faculty

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

**E. Louis Lankford**, Professor, Des Lee Foundation Endowed Professorship in Art Education\*  
Ph.D., Florida State University

**Jay Rounds**, Associate Professor, Des Lee Foundation Endowed Professorship in Museum Studies and Community History\*  
Ph.D., University of California, Los Angeles

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

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

**Jeanne Morgan Zarucchi**, Professor\*  
Ph.D., Harvard University

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

**Dan Younger**, Associate Professor,\* B.F.A. Coordinator  
M.F.A., University of Iowa

**Marian Amies**, Assistant Professor\*  
M.F.A., Southern Illinois University, Edwardsville

**Scott R. Lindsten**, Assistant Professor  
M.F.A., Colorado State University

**Phillip E. Robinson**, Assistant Professor\*  
M.F.A. University of Illinois, Chicago

**Jeffrey L. Sippel**, Assistant Professor\*  
M.F.A., Arizona State University

**Terry L. Suhre**, Assistant Professor, Gallery Director\*  
M.F.A., Southern Illinois University, Carbondale

**Kathleen M Lynch**, Visiting Assistant Professor  
Ph.D., University of Virginia

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

**Dennis Henson**, Lecturer/Assistant Slide Curator  
M.A., University of New Mexico

**Luci Mauricio-McMichael**, Lecturer  
M.A., Webster University

\*members of Graduate Faculty

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

has been accorded various show awards and received 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 St. 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 St. 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

Three scholarships are available on a competitive basis within the department: the Art Department/Barbara St. Cyr Scholarship, the William T. Isbell Jr. Scholarship, and the Aronson's Scholarship. The department also sponsors a variety of internships with local arts institutions, including the St. Louis Art Museum, the Missouri Historical Society, the Forum for Contemporary Arts, Laumeier Sculpture Park, and various private art galleries.

**Art and Art History (continued)****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:

- 8, Introduction to Asian Art
- 15, 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
- 217, Topics in African Art

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

**Degree Requirements****Bachelor of Arts in Art History**

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

- 5, 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, European Art and Architecture 1300-1800
- 137, Early Renaissance Art and Architecture
- 138, High Renaissance Art and Mannerism
- 140, French Art and Architecture 1400-1715
- 145, Baroque Art

**Modern and American**

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

**Non-European**

- 8, 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 Art**

- 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
- 217, Topics in African 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
- 285, Studies in Architectural History
- 294, Art Criticism
- 295, The Artist and the City
- 296, The Nude in Art



**Art and Art History (continued)**

- 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  
287, Professional Internship  
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 30 hours in the foundation art program) and 15 hours in Art History. Art 134, Art Activities for Elementary Schools, cannot be applied toward this degree. The final 24 hours must be completed in residence at UM-St. Louis. Graduating students must also pass a faculty portfolio review.

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  
\*Those planning an emphasis in drawing or painting must take Art 142.

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 or Studio Art Elective  
221, Computer Art II or Studio Art Elective  
310, Graphic Design III  
311, Graphic Design IV  
312, Special Techniques in Illustration and Graphic Design or Studio Art Elective  
383, Advanced Problems in Graphic Design I  
384, Advanced Problems in Graphic Design II  
389, Graphic Design Studio or Studio Art Elective  
397, Senior Seminar in Graphic Design I  
398, Senior Seminar in Graphic Design II  
9 hours of Studio Art Electives

**Painting**

- 180, Painting I  
280, 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

**Art and Art History (continued)**

340, Drawing IV

342, Figure Drawing IV

12 hours of Studio Art Electives

**Photography**

260, Digital Photography II

261, Color Photography 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

6 hours of Photography 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**

30 hours of studio art electives must be taken at the 200 level or above.

The following courses are required:

350, Design III

396, Senior Studio Seminar (6 hours)

Select 6 hours from the following:

387, Advanced Problems in Drawing I and

388, Advanced Problems in Drawing II or,

385, Advanced Problems in Painting I and

386, Advanced Problems in Painting II or,

391, Advanced Problems in Photography I and

392, Advanced Problems in Photography II or,

393, Advanced Problems in Printmaking I and

394, Advanced Problems in Printmaking II

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

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 at least 18 hours of art history courses. Students must take Art 5, Art 8, or Art 15. In addition, students are required to take at least one course in Western art, one course in non-Western art and one course at the 200 level. A maximum of 3 hours of internship can be applied toward a minor in art history. The GPA for the courses for the minor must be 2.0 or better. Nine of the 18 hours must be taken in residence at UM-St. Louis.

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

40, Drawing I

140, Drawing II

50, 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.

**Photographic Studies Certificate**

UM-St. Louis students, graduates, and post-baccalaureate candidates may obtain a certificate in photographic studies by coordinating courses in and related to photography.

To be eligible for the certificate, undergraduates must complete a degree in a chosen major field. A faculty member of the Interdisciplinary Photographic Studies Committee will act as adviser to all students and will consult with the faculty adviser in the student's major to plan appropriate credits.

## Art and Art History (continued)

The Photographic Studies Certificate is the only such program in the country and should be of special interest to those considering a career in the arts, communications, history, science, business, or advertising, or in photography itself. The program should also interest professional photographers, teachers, interested lay people, and graduates who are returning to school. This certificate is designed for all who have an intense interest in the myriad aesthetic and practical aspects of the medium.

### Requirements

The following courses are required:

**Art 60**, Photography I  
**Art 160**, Photography II  
**Art 165**, History of Photography, or  
**History 168**, Photohistory  
**Interdisciplinary 65/Art 65**, Photography and Society  
**Art 360**, Photography III, or  
**Interdisciplinary 390**, Independent Studies in Photographic Studies

Students must also take at least one three-hour course selected from the following departmental offerings. New courses will be reviewed periodically for inclusion:

**Art 5**, Introduction to Art  
**Art 161**, Introduction to Digital Photography  
**Art 261**, Color Photography I  
**Art 262**, Non-Silver Photography  
**Art 263**, Photography Since 1945  
**Art 264**, Video Art I  
**Art 274/Philosophy 274**, Philosophy of Art  
**Art 277**, Printmaking: Photolithography  
**Art 360**, Photography III  
**Art 361**, Color Photography II  
**Art 364**, Video Art II  
**Art 390**, Special Studies  
**Art 391**, Advanced Problems in Photography I  
**Art 392**, Advanced Problems in Photography II  
**Biology 360**, Techniques in Electron Microscopy  
**Comm 50**, Introduction to Mass Media  
**Comm 70**, Introduction to Cinema  
**Comm 210**, Television Production  
**English 214/Comm 214**, News Writing  
**English 215**, Feature Writing  
**History 168**, Photohistory  
**Interdisciplinary 40**, The Black World  
**Interdisciplinary 365**, Seminar in Photographic Studies  
**Interdisciplinary 390**, Independent Studies in Photographic Studies  
**Psych 213**, Principles of Perception  
**Psych 355**, Psychology of Perception  
 Extension course, Professional Photography Seminar

## 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, and historic preservation, and as travel guides, art administrators, and editors and in art restoration.

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

**Art and Art History (continued)****Course Descriptions**

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

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, 137, 138, 140, 145, 155, 158, 159, 165, 179, 191, 195, 203, 205, 208, 212, 215, 217, 225, 235, 245, 255, 258, 263, 265, 274, 275, 276, 285, 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.

**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.

**111 Art and Archaeology of the Ancient World (3)**

Prerequisite: Art 5. A survey of art in Egypt, the Ancient Near East, Greece, and Rome, beginning in the Neolithic era (8000-4000 BC) and ending with the Barbarian invasions of Italy in the fifth century A.D. The major highlights of architecture and city planning, sculpture, painting, pottery, and the minor arts will be covered.

**112 Greek Art and Archaeology (3)**

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

**113 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 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.

**Art and Art History (continued)****135 European Art and Architecture 1300-1800 (3)**

Prerequisite: Art 5. Between 1300 and 1800, European art changed from primarily a vehicle for the church and the princely court to an art that incorporated a wider spectrum of society. This course examines some of the artistic styles (Renaissance, Baroque, Rococo) and the social, political, and economic forces that contributed to these changes.

**137 Early Renaissance Art and Architecture (3)**

Prerequisite: Art 5. An exploration of the painting, sculpture, and architecture of the fourteenth and fifteenth centuries in Italy, the Netherlands, and Germany. Special attention given to public and private patronage, the interrelationships among regional schools, workshop procedures and images of women.

**138 High Renaissance Art and Mannerism (3)**

Prerequisite: Art 5. A survey of Italian art from the time of Leonardo da Vinci through the late phase of Venetian art. Artists to be examined include Leonardo, Michelangelo, Raphael, Sofonisba Anguissola, and Titian.

**140 French Art and Architecture 1400-1715 (3)**

A survey of art and architecture in France from the late medieval period to the late baroque. Topics will include the development of French chateaux and gardens, the rise of the Academy, and the influence of royal patronage on the arts.

**145 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. An overview of the major developments of painting, sculpture and the decorative arts in the United States since 1600. Emphasis on the contributions of individual artists and the changing cultural contexts in which they worked.

**159 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)**

Prerequisite: Art 5 or consent of instructor. 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 nine additional hours in art history. An introduction to the methods of art historical analysis. Emphasis on research techniques and writing. This course must be taken before a student's senior year.

**203 Media and Technique in Art History (3)**

Prerequisite: 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 history, or permission of the instructor. Seminar format. Intensive study of a few objects or issues in the history of art, focusing on issues which crosscut periods or geographic regions.

**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.

**Art and Art History (continued)****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, 137 or 138 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 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.

**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.

**276 Women and the Visual Arts (3)**

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.

**285 Studies in Architectural History (3)**

Prerequisite: Art 5 or consent of instructor. A study of selected topics in architectural history. The content of the course will vary, and the course may be repeated for credit with permission of the instructor and departmental adviser. Possible topics include the history of the castle, factory architecture, the evolution of the Gothic cathedral, and domestic and vernacular architecture.

**287 Professional Internship (1-6)**

Prerequisites: Art 5 and 6 hours in Art History or Studio Art. The internship provides experience in museums, historical societies, galleries, design firms, or visual resource collections. Students will assist in the diverse duties associated with the day-to-day functions of the institution, under the joint direction of a faculty adviser and a supervisor at the institution. Course requirements may include readings, research assignments, and/or a paper. This course may be counted for art history or studio art credit with the department's consent.

**288 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's slide library will consist of the daily operation and management of, as well as technological and theoretical approaches to visual resource collections. The course content relies upon the Art Department's slide library of over 80,000 slides, videotapes, and other visual materials.

**290 Special Study (1-10)**

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

**Art and Art History (continued)****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 6 credit hours in other art history courses. This course is intended as an introduction to the function and operation of the art museum. Sessions will include the history of art museums and collecting policies; the organization of art museums; the tasks of the curator; the registration practices; art conservation; the museum as an educational institution; the organization and planning of permanent galleries; and the planning and installation of temporary exhibitions.

**293 Art Gallery Management (3)**

Prerequisites: Art 5 and 6 credit hours in other art history courses. This course will consider the practical application of professional training in art history as it applies to gallery management. Topics covered will include: grant writing in the arts, the development of art exhibits, the role of the art curator, and the operation of a gallery. All students will get hands-on experience in Gallery 210.

**294 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.

**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.

**435 Foundations of Museology I (3)**

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

**436 Foundations of Museology II (3)**

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

**437 Effective Action in Museums (3)**

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

**Art and Art History (continued)****438 Museum Studies Master's Project (4)**

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

**458 Topics in American Art (3)**

Prerequisite: Graduate standing and consent of instructor. This course examines a discrete aspect of the history of American art within the changing social, cultural and historical contexts of Euro-American and/or Native American experiences and traditions.

**488 Museum Education and Visitor Research (3)**

Prerequisite: Consent of director of Museum Studies Program. Development and operation of museum educational programs: learning theory; program design; relationships with exhibit development; programming for children and adults. Visitor research: theoretical foundations; research design; field experience; impact on programming and strategic planning.

**492 The History of the Visual Arts in American Museums (3)**

Prerequisite: Graduate standing and consent of instructor. This course is an introduction to selected topics in the history of museology, focusing on art and anthropology museums as sites for the interpretations of art and culture, and as contested meeting grounds for various views of history and culture.

**Studio Art****2 Introduction to Studio Art (3)**

An introduction to drawing, painting, and design in a beginning studio environment. This course is designed to provide basic skills and understanding of studio experience for the non-art major. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**30 Ceramics I (3)**

An introduction to basic methods and theory of ceramics including work with hand-built construction, wheel techniques, and glazing. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**40 Drawing I (3)**

An introduction to drawing through the study of figure, object, and environment. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**42 Figure Drawing I (3)**

Basic studies of the human form and anatomy from the model in a variety of drawing media. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**50 Design I (3)**

Studio problems in the creative use and integration of the elements of two-dimensional design: line, form, space texture. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**60 Photography I (3)**

An introduction to the techniques and aesthetics of black and white photography, the camera and the darkroom. Students must provide a camera with adjustable speeds and aperture. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**74 Special Topics in Studio Art (1-3)**

Selected topics in studio studies. This course may be repeated for credit. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**80 Comics and Cartoon Illustration (3)**

A course in creating and appreciating the world of comics and cartoons. This course will investigate the tools and techniques for creating cartoons, cartoon illustrations and the world of comics. Students will create their own cartoons with traditional media and also with computers. While designed for beginners, experienced artists will be encouraged to perfect their personal styles. The class will create and print its own comic book. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**130 Ceramics II (3)**

Prerequisite: Art 30. A continuation of Art 30. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**132 Sculpture I (3)**

An introduction to traditional and contemporary materials, aesthetics, and theories of three-dimensional art. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.



**Art and Art History (continued)****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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**142 Figure Drawing II (3)**

Prerequisite: Art 42. Continuation of Figure Drawing I. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**150 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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**160 Photography II (3)**

Prerequisite: Art 60. Continuation of Photography I at the intermediate level. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**161 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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**180 Painting I (3)**

Prerequisite: Art 40, Art 50 or consent of instructor. An introduction to the use of oil and/or acrylic painting media. Studio problems to develop technical and expressive skills on various surfaces. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**210 Graphic Design I (3)**

Prerequisite: Art 50 and Art 140 or consent of instructor. Introductory studio problems in layout, lettering, and design with typographic elements. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**211 Graphic Design II (3)**

Prerequisite: Art 210 or consent of instructor. Continuation of Graphic Design I. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**220 Computer Art I (3)**

Prerequisite: Art 50. An introduction to the use of computer graphics software for the creation of artwork applicable to the advertising and graphic design industry. No previous computer experience is necessary. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**232 Sculpture II (3)**

Prerequisite: Art 132. Continuation of Sculpture I. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**240 Drawing III (3)**

Prerequisites: Art 40 and Art 140. This course offers studio problems designed to further the development of drawing skills in various media. Limited color will also be introduced. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**242 Figure Drawing III (3)**

Prerequisites: Art 42 and Art 142. Advanced study of the human form and anatomy from the model in a variety of drawing media. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**260 Digital Photography II (3)**

Prerequisite: Art 161. Intermediate exploration of the aesthetics and techniques of digital photography. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**Art and Art History (continued)****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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**262 Non-Silver Photography (3)**

Prerequisites: Art 60 and Art 160. An introduction to the aesthetics and techniques of non-traditional photographic processes. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**271 Printmaking II (3)**

Prerequisite: Art 270 or consent of instructor. A continuation of Printmaking I. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**280 Painting II (3)**

Prerequisite: Art 180 or consent of instructor. Continuation of basic studio problems in painting media. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**283 Watercolor Painting (3)**

Prerequisites: Art 50 and Art 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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**290 Special Study (1-10)**

Prerequisites: Junior/Senior standing and consent of department and instructor. Independent study through readings, reports or field research. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**310 Graphic Design III (3)**

Prerequisites: Art 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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**311 Graphic Design IV (3)**

Prerequisite: Art 310. Further studio problems in the graphic arts. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**312 Special Topics in Illustration and Graphic Design (3)**

Prerequisite: Art 311 or consent of instructor. Illustration and graphic design techniques as diverse as cartooning, Web page design, multi-media animation, and interactive kiosk design (among others) are explored in this class. Each semester, one or more of these specialties are offered. Emphasis is placed on the practical applications of these approaches as well as the production of a strong student portfolio that will demonstrate the mastery of these skills.

**Art and Art History (continued)****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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**340 Drawing IV (3)**

Prerequisite: Art 240. Studio problems with emphasis on color and multi-material approach to drawing. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**342 Figure Drawing IV (3)**

Prerequisite: Art 242. Continuation of Figure Drawing III. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**350 Design III (3)**

Prerequisites: Art 50 and Art 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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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 processes. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**364 Video Art II (3)**

Prerequisite: Art 264. An advanced exploration of video as a visual art. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**370 Printmaking and Relief (3)**

Prerequisites: Art 271. Advanced problems in printmaking. Problems in relief printmaking. Work in wood and mixed materials. Development of skills and aesthetic judgments in

the media. May be repeated for credit with consent of instructor. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**372 Advanced Lithography (3)**

Prerequisites: Art 273. Continuing problems in lithography with problems in black and white, photolithography, and/or color. May be repeated for credit. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**380 Painting III (3)**

Prerequisite: Art 280 or consent of instructor. Advanced studio problems in painting media. Attention paid to individual development of theory, expression, and technique. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**381 Painting IV (3)**

Prerequisite: Art 380. A continuation of Painting III. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**383 Advanced Problems in Graphic Design I (3)**

Prerequisite: Art 311. This course is focused on professional-level art and portfolio production. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**384 Advanced Problems in Graphic Design II (3)**

Prerequisite: Art 383. A continuation of Art 383. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**385 Advanced Problems in Painting I (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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**386 Advanced Problems in Painting II (3)**

Prerequisite: Art 385. A continuation of portfolio production in Art 385. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**Art and Art History (continued)****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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**388 Advanced Problems in Drawing II (3)**

Prerequisite: Art 387. A continuation of Art 387. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**389 Graphic Design Studio (3)**

Prerequisite: Art 384 or consent of instructor. Students will work on actual client projects in a studio setting from creative concept through client presentation. Studies will include client interviews, project planning, studio operations, project budget and estimating, vendor selection, prepress preparation, working in creative groups and professional presentations.

**390 Special Study (1-10)**

Prerequisites: Junior/senior standing and consent of department chairperson and instructor. Independent study through readings, reports, or field research. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**392 Advanced Problems in Photography II (3)**

Prerequisite: Art 391. A continuation of Art 391. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**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. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**394 Advanced Problems in Printmaking II (3)**

Prerequisites: Art 393. A continuation of Art 393. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies.

**396a Senior Studio Seminar (3)**

Prerequisites: Senior standing and Art 386, 388, 392 or 394. Weekly critiques and discussions of technical and professional issues. Will instruct students in methods of portfolio display, documentation, gallery representation, grant writing, and professional preparation. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies. Offered only during Fall semester.

**396b Senior Studio Seminar (3)**

Prerequisites: Senior standing and Art 396a. Weekly critiques and discussions of technical and professional issues. Will instruct students in methods of portfolio display, documentation, gallery representation, grant writing, and professional preparation. Lab fee required. Basic studio equipment will be provided though students will need to supply some personal equipment and supplies. Offered only during Winter semester.

**397 Senior Seminar in Graphic Design I (3)**

Prerequisite: Senior standing and Art 384. Weekly critiques and discussions of technical and professional issues. Will instruct students in the methods of professional preparation. Lab fee required. Basic studio equipment will be provided, though students will need to supply some personal equipment and supplies.

**398 Senior Seminar in Graphic Design II (3)**

Prerequisite: Art 397. Continuation of Art 397. Will instruct students in the methods of professional preparation. Lab fee required. Basic studio equipment will be provided through students will need to supply some personal equipment and supplies.

**Biology****Faculty**

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

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

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

**Charles R. Granger**, 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

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

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

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

**Victoria Sork**, Professor\*  
Ph.D., University of Michigan

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

**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

**Shirley T. Bissen**, Associate Professor\*  
Ph.D., University of Michigan

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

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

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

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

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

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

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

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

**Carol A. Kelly**, Assistant Professor\*  
Ph.D., University of Illinois-Urbana-Champaign

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

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

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

**Peter H. Raven**, Research Professor\*; Director, Missouri  
Botanical Garden,

Ph.D., University of California-Los Angeles  
**Bruce Allen**, Research Associate Professor\*

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

Ph.D., University of Kansas  
**Peter Goldblatt**, Research Associate Professor\*

Ph. D., University of Cape Town, South Africa  
**Peter E. Hoch**, Research Associate Professor\*

Ph.D., Washington University  
**Peter M. Jorgensen**, Research Associate Professor

Ph.D., Aarhus Universitet  
**Timothy Killeen**, Research Associate Professor\*

Ph.D., Iowa State University  
**Brien A. Meilleur**, Research Associate Professor

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

Ph.D., Washington University  
**Charlotte Taylor**, Research Associate Professor\*, Ph.D.,

Duke University  
**Stanton Braude**, Research Assistant Professor\*

Ph.D., University of Michigan  
**James S. Miller**, Research Assistant Professor\*

Ph.D., Saint Louis University  
**Peter M. Richardson**, Research Assistant Professor\*

Ph.D., University of London  
**George E. Schatz**, Research Assistant Professor\*

Ph.D., University of Wisconsin-Madison  
**Maria Del Carmen Ulloa Ulloa**, Research Assistant Professor

Ph.D., Aarhus Universitet  
**Terry L. Erwin**, Adjunct Professor\*

Ph.D., University of Alberta, Edmonton  
**Steven P. Churchill**, Adjunct Associate Professor

Ph.D., City University of New York  
**Deborah A. Clark**, Adjunct Associate Professor\*

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

Ph.D., University of Wisconsin  
**Robert E. Magill**, Adjunct Associate Professor\*

Ph.D., Texas A&M  
**Patrick L. Osborne**, Adjunct Associate Professor, Associate

Director, ICTE,  
Ph.D., East Anglia

**Hendrik H. vanderWerff**, Adjunct Associate Professor\*  
Ph.D., State University of Utrecht, The Netherlands

**James L. Zarucchi**, Adjunct Associate Professor  
Ph.D., Harvard University

**Cheryl S. Asa**, Adjunct Assistant Professor\*  
Ph.D., University of Wisconsin-Madison

**Biology (continued)**

**Mary E. Yurlina**, Adjunct Assistant Professor

Ph.D., Rutgers University

**Terry Jo Gile**, Affiliate Assistant Professor; Jewish Hospital

College of Nursing and Allied Health

M.A., Central Michigan University

**Linda J. McCown**, Affiliate Assistant Professor; Jewish

Hospital College of Nursing and Allied Health

M.S., University of Pittsburgh

**David F. Russell**, Affiliate Assistant Professor

Ph.D., University of California-San Diego

**Michael D. Ward**, Affiliate Assistant Professor, Director,

Allied Health Programs, Jewish Hospital College of Nursing  
and Allied Health

Ph.D., Saint Louis University

**Donna Duberg**, Adjunct Lecturer; Chair CLS Program, Jewish

Hospital College of Nursing and Allied Health

M.S., Michigan State University

\*members of Graduate Faculty

**General Information**

**Degrees and Areas of Concentration** The Department of Biology provides academic programs leading to the B.A. or B.S. in biology. In cooperation with the College of Education, the 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 clinical laboratory science 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 3.2 overall GPA and a minimum 3.2 average in biology courses used to complete the major.
- 2) Complete a minimum of 2 credit hours of Biology 390, Research.
- 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. or Ph.D. degree in three broad areas of biology: a) cellular, molecular, and developmental biology, b) physiology and organismal biology, and c) ecology, evolution, and systematics. Students in the M.S. and Ph.D. programs also have the opportunity to do their graduate work in collaboration with scientists at the Missouri Botanical Garden or the Saint Louis Zoo through a cooperative graduate program.

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

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

**Graduate Assistantships**

Stipends for teaching and research assistantships are awarded on a competitive basis to qualified graduate students in master's or Ph.D. programs. Out-of-state educational fees are waived for graduate assistants. Applications for assistantships must be sent to the director of Graduate Studies in the Department of Biology and be received by February 1.

**Facilities**

Department facilities include research and teaching laboratories, environmental chambers, greenhouses, and a large array of supporting modern research instrumentation. Graduate research can be pursued using facilities of the Missouri Botanical Garden or the Saint Louis Zoo. Several sites within an hour of campus are suitable for regional field studies, including state parks, wildlife conservation areas, and Washington University's Tyson Research Center. U-M-St.

## Biology (continued)

Louis is a member of the St. Louis University Research Station Consortium that operates Lay and Reis Field Stations in Missouri and we are also members of the Organization for Tropical Studies, which operates three field stations in Costa Rica. CEIBA Biological Centre in Guyana has hosted several UM-St. Louis courses and student researchers. Student researchers work independently at research stations throughout the tropics.

### Cooperative Programs

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

### Undergraduate Studies

#### General Education Requirements

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

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

#### Satisfactory/Unsatisfactory Option

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

### Degree Requirements

#### Bachelor of Arts in Biology

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

#### Foundation Courses

- 11, Introductory Biology I
- 12, Introductory Biology II
- 224, Genetics
- 232, Cell Structure and Function
- 246, Introduction to Evolution

371, Biochemistry

389, Senior 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 327, 371, 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
- Statistics 31, Elementary Statistical Methods or
- Statistics 132, Applied Statistics I, or
- Educ 330, Educational Statistics, or
- Psyc 201, Psychological Statistics, or
- Biol 388, Biometry
- Math 100, Basic Calculus or
- Math 80, Analytical Geometry and Calculus
- Phys 11, Basic Physics
- Phys 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

**Biology (continued)**

experience, research, data processing, communication skills, and background in associated science areas are required.

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

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

**Foundation Courses**

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

**Lecture Course Requirements**

An additional four 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 327, 371, 389, and 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**

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

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

**Set A. Statistics**

**Statistics 31**, Elementary Statistical Methods, or  
**Statistics 132**, Applied Statistics I, or  
**Educ 330**, Educational Statistics, or

**Psych 201**, Psychological Statistics, or  
**Biol 388**, Biometry

**Set B. Computer Science**

**CompSci 125**, Introduction to Computer Science or  
**Bus 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 courses satisfy this requirement:

**Communication**

**Comm 40**, Introduction to Public Speaking

**Writing**

**Eng 213**, Technical Writing  
**Eng 216**, Writing in the Sciences\*

\*Preferred

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

**Phys 11**, Basic Physics

**Phys 2**, Basic Physics

**Chem 11**, Introduction 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

**Phil 156**, Medical Ethics, or

**Phil 280**, Philosophy of Science

**Math 30**, College Algebra, and

**Math 35**, Trigonometry

**Math 100**, Basic 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 2 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

**113**, Human Physiology and Anatomy I

**114**, Human Physiology and Anatomy II



**Biology (continued)**

- 115, Human Genetics
- 116, General Microbiology
- 118, General Microbiology Laboratory
- 120, Environmental Biology
- 130, Global Ecology
- 140, Female Sexuality
- 150, Plants and Civilization

These courses **do not count** toward the credit hours required for a major, but they may be included in the 120 hours required for graduation as elective credit.

**Bachelor of Science in Education with Emphasis in Biology**

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

**Bachelor of Arts in Biology with Teacher Certification**

Biology majors interested in teaching biology in secondary schools may obtain teacher certification in cooperation with the College of Education by fulfilling the B.A. or B.S. with certain prescribed courses in biology, with the exception of Biology 389, Senior 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
- Theater 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 and Field Experience
- Spec Ed 313, The Psychology and Education of Exceptional Individuals
- Sec Ed 386, Teaching Reading in Secondary School Content Areas
- Biology 285, Curriculum and Methods of Teaching Life Sciences
- Biology 286, Laboratory in Teaching Life Sciences

**Sec Ed 290, Secondary School Student Teaching  
Biology 399, Science Teaching Intern Seminar**

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

**Minor in Biology**

Students may minor in biology by 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.

**Requirements are:**

- 1) Biology 11 and 12, Introductory Biology I and II.
- 2) 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 exhibit a coherent area of specialization to coordinate with a unique career objective. Such a candidate must receive prior approval by the biology department to pursue this program.

Candidates must have a cumulative grade point average of 2.0 or better in the minor, and **none of the courses may be taken on a satisfactory/ unsatisfactory (s/u) basis.**

**Biochemistry Certificate**

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

**Biology**

- 11, Introductory Biology I
- 12, Introductory Biology II
- 224, Genetics
- 232, Cell Structure and Function
- 371, Biochemistry, or
- Chem 371, Biochemistry
- 375, Techniques in Biochemistry (lab)
- 376, Topics in Biochemistry, or
- Chem 372, Advanced Biochemistry
- 378, Protein Biochemistry Lab, or
- Chem 373, Biochemical Techniques
- 389, Senior Seminar

**Biology (continued)****Chemistry**

- 11, Introductory Chemistry I
- 12, Introductory Chemistry II
- 122, Quantitative Analysis
- 261, Structural Organic Chemistry
- 262, Organic Reactions
- 263 Techniques of Organic Chemistry

and three of the following biology courses:

- 216, Microbiology
- 218, Microbiology Laboratory
- 235, Development
- 310, Cell Physiology
- 317, Immunobiology
- 326, Gene Expression in Eukaryotes
- 327, Introduction to Biotechnology
- 335, Molecular Cell Biology
- 338, Gene Expression in Prokaryotes

**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 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
- 218, Microbiology Laboratory
- 226, Genetics Laboratory
- 327, Introduction to Biotechnology
- 375, Techniques in Biochemistry

One of the following two courses:

**Biology**

- 326, Gene Expression in Eukaryotes
- 338, Gene Expression in Prokaryotes

One of the following five courses:

**Biology**

- 317, Immunobiology
- 328, Techniques in Molecular Biology
- 334, Virology
- 335, Molecular Cell Biology
- 376, Topics in Biochemistry, or
- Chemistry 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 offered by the Department of Biology in cooperation with the departments of Anthropology, Economics, History, Political Science, Social Work, and Sociology. Building on a core curriculum, students can elect courses from these departments to complete their requirements. Regularly enrolled undergraduates at UM-St. Louis or individuals with baccalaureate degrees who wish to receive a Certificate in Conservation Biology are eligible to participate in the conservation certificate program. To participate, students must apply to the certificate program. Application forms are available from the biology department. Guidelines for admission to the certificate program are also available. Individuals with baccalaureate degrees who are interested in this certificate must apply to the university as unclassified undergraduates. The certificate requires completion of 21 credit hours, outlined below. Students should consult the *Bulletin* with regard to prerequisites for any of the courses listed here.

**Core Courses****Biology**

- 220, General Ecology
- 240, Conservation Biology
- 241, Conservation Biology Laboratory
- 347, Practicum in Conservation

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

**Anthropology**

- 120, Native Peoples of North America
- 131, Archaeology of Missouri
- 132, Archaeology of North America

**Biology**

- 341, Population Biology
- 323, Tropical Resource Ecology
- 324, Tropical Resource Ecology Field Studies
- 325, Tropical Vertebrate Ecology
- 348, Evolution of Animal Sociality
- 351, Flowering Plant Families: Phylogeny and Diversification
- 359, Evolutionary Ecology of Animals
- 364, Ornithology
- 366, Ornithology Laboratory
- 367, Entomology
- 368, Entomology laboratory
- 380, Behavioral ecology
- 385, Wildlife Ecology and Conservation
- 386, Wildlife Ecology and Conservation Laboratory
- 395, Field Biology
- 396, Introduction to Marine Science

**Biology (continued)****Economics**

- 230, International Economic Analysis  
 251, Intermediate Economic Theory: Microeconomics  
 360, Natural Resource Economics

**History**

- 300, Selected Topics when relevant

**Political Science**

- 248, Environmental Politics  
 285, International Organizations and Global Problem Solving  
 351, Comparative Public Policy and Administration  
 359, Studies in Comparative Politics when relevant

**Social Work**

- 390, Seminar in Social Work when relevant

**Sociology**

- 342, World Population and Ecology  
 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.

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

**Bachelor of Health Sciences with Personal Emphasis in Clinical Laboratory Science or Cytotechnology**

Courses in clinical laboratory science 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 health sciences 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. These courses are not acceptable for graduate credit:

**Cytotechnology:**

- 302a, Introduction to Cytotechnology  
 302b, Female Genital Tract I  
 302c, Female Genital Tract II  
 302d, The Processing Laboratory  
 302e, Respiratory and Oral Cytology  
 302f, Body Fluid Cytology  
 302g, Gastrointestinal and Genitourinary Cytology  
 302h, Fine Needle Aspiration Cytology  
 302i, Advanced Practices in Cytology  
 302j, Leadership and Management CT

**Clinical Laboratory Science:**

- 303a, Fundamentals in Clinical Laboratory Science  
 303b, Clinical Bacteriology  
 303c, Bacteriology Practicum  
 303d, Mycology  
 303e, Clinical Immunology  
 303f, Immunology Practicum  
 303g, Immunohematology  
 303h, Immunohematology Practicum  
 303i, Hematology  
 303j, Hematology Practicum  
 303k, Clinical Chemistry  
 303l, Chemistry Practicum  
 303m, Parasitology CLS  
 303n, Leadership and Management CLS  
 393, Research Methods in the Health Sciences

**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 nonthesis 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 nonthesis program unless they have been accepted into an individual faculty lab. Starting with a common core, either option may be developed into a final degree program in one of the following areas: animal behavior, biochemistry, biotechnology, conservation biology, developmental biology, ecology, evolution, genetics, molecular and cellular biology, microbiology, plant and animal physiology, plant systematics, population biology, and tropical biology.

**M.S. Admission Requirements**

Applicants to the M.S. program must submit completed application and personal data forms, three letters of recommendation from undergraduate faculty, and transcripts of all previous work. Submission of Graduate Record Examination scores, although not required, is highly recommended and will be helpful for positive consideration

**Biology (continued)**

of admittance. Admission as a regular graduate student requires graduation from an accredited college with an overall minimum grade point average of 2.75 and minimum grade average of 3.0 in the applicant's undergraduate major.

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

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

Three credits of B392 Topics in Biology can be given to graduate students for B224, B246, and B371, if they receive a B or better grade for all undergraduate course work 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 at least 4 but not more than 8 hours of Biology 489, Graduate Seminar.

**Advisers**

All incoming thesis and nonthesis students will be assigned an academic adviser by the director of graduate studies upon admission to the graduate program.

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

**Nonthesis Option**

Including the general requirements, students must take at least 36 credit hours, of which at least half must be at the 400 level. Students are encouraged to take a laboratory course (300 or 400 level) or 2 credit hours of Biology 490, 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 adviser work together to develop a research plan. The thesis proposal must be approved by the student's adviser and advisory committee before the student enrolls in more than 4 credit hours of Biology 490, Graduate Research, and before the student has completed 15 credit hours in the master's program. A thesis embodying results of original research shall be submitted to and approved by the Department of Biology and the Graduate School. This approval requires both a written thesis and oral presentation and defense.

**Ph.D. in Biology**

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

**Ph.D. Admission Requirements**

Applicants to the Ph.D. program must submit a formal application to the Graduate Admissions Office. In addition, the applicant should arrange to have sent: three letters of recommendation from faculty members at previously attended colleges or universities, GRE scores (Verbal, Quantitative, and Analytical), and transcripts of all postsecondary academic work. Admission to the Ph.D. program normally requires a minimum grade point average overall and in biology courses of 3.0 (where A = 4.0). Applicants from countries where English is not a primary language are required to take the TOEFL examination. Scores must be submitted before admission can be decided. Ordinarily, a score of 550 or better is required. Applicants should have a bachelor's or M.S. degree from an accredited United States college or university or evidence of equivalent training at an accredited institution outside the United States.

Applicants should have the appropriate background for graduate work in biology, including courses in genetics, biochemistry, and evolution. Courses in organic chemistry, college physics, and calculus are expected. A course in statistics is recommended. Students admitted to the Ph.D. program who have not met all the prerequisites may be required to make up deficiencies before admission to candidacy. The deficiencies will be decided during orientation meetings prior to the start of the second semester. Three credits of B392, Topics in Biology, can be given to

**Biology (continued)**

graduate students for B224, B246, and B371 if they receive a B or better grade for all undergraduate course work 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 60 credit hours of course work which must be taken beyond the bachelor's degree. At least 30 of the 60 hours must be taken at the 400 level. With the explicit consent of the advisory committee, students may take for graduate credit up to 3 credit hours of 200-level courses in allied departments. Courses in biology at the 200 level and below are not available for graduate credit. At least 31 of the 60 hours must be taken while in residence at the University of Missouri-St. Louis. Graduate credit for course work transferred from another program is subject to approval by the graduate committee and by the Graduate School. Graduate courses taken elsewhere will be considered for transfer credit during orientation meetings conducted prior to the start of the second semester of enrollment.

Specific courses shall be completed as follows:

- **Biology 388** (3 hours), Biometry, or equivalent course in statistics.
- **Biology 489** (2 hours), Graduate Seminar. Three semesters required (6 credits total).
- 12 hours of formal course work required by the student's emphasis area at the time a student is admitted to the Ph.D. program.

The maximum number of credit hours that may be applied toward the 60-hour requirement is limited as stated below: A combination of 6 total credit hours of the following:

- **Biology 405**, Topics in Ecology, Evolution, and Systematics
- **Biology 406**, Topics in Molecular, Cellular, and Developmental Biology
- **Biology 407**, Topics in Floristic Taxonomy
- **Biology 489**, Graduate Seminar: 10 hours
- **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.

**Qualifying Examination and Dissertation**

Students must pass a qualifying examination (which consists of a written and oral component), based on fundamental principles presented in formal courses and in papers of special importance in the field. The exam will be given in January of each year, at the beginning of the winter semester.

Students beginning studies in the fall semester would normally take the qualifying examination prior to their fourth semester of full-time study. Doctoral students who have earned an M.S. degree previously are encouraged to take the examination in their first year.

**Admission to Candidacy**

To be admitted to candidacy, students must satisfy the requirements of the Graduate School, which includes passing all qualifying examinations and completing all required course work (which is a minimum of 24 credit hours as specified above).

**Dissertation Proposal**

All students must defend orally a written dissertation proposal to their dissertation committee. The approved proposal must be submitted to the director of graduate studies in biology. Doctoral students may not enroll in more than 4 credits of graduate research (Biology 490) 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. Students must be enrolled in the graduate program at the University of Missouri-St. Louis either as nondegree 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 nondegree students will earn only the certificate.

**Biology (continued)**

Students must have at least a 3.0 GPA for undergraduate course work to be accepted into the program. The minimum course prerequisites for admission to the program are undergraduate courses in genetics, cell biology, and biochemistry.

**Requirements**

Students must maintain a minimum GPA of 3.0 to remain in the certificate program. The certificate is awarded after completion of the courses listed below. Students enrolled in the master's program may simultaneously earn a graduate degree and count the appropriate courses from the list below toward the biotechnology certificate.

The biotechnology certificate requires **18 credit hours** of course work.

**Core Requirements**

- I. **Biology 428**, Advanced Techniques in Molecular Biology
- II. **Biology 426**, Advanced Gene Expression in Eukaryotes, or **Biology 438**, Advanced Gene Expression in Prokaryotes (if both above courses are taken, one may be used as elective credit)
- III. The remaining 11 credit hours must be taken from the following **electives**:

**Biology**

- 317, Immunobiology
- 319, Immunobiology Laboratory
- 371, Biochemistry
- 376, Topics in Biochemistry
- 378, Protein Biochemistry Laboratory
- 406, Topics in Molecular, Cellular, and Developmental Biology
- 410, Advanced Cell Physiology
- 417, Advanced Immunology
- 429, Advanced Molecular Evolution
- 430, Advanced Topics in Development
- 431, Graduate Internship in Biotechnology
- 434, Advanced Virology
- 435, Advanced Molecular Cell Biology
- 439, Advanced Plant Molecular Biology and Genetic Engineering
- 444, Advanced Gene Activity During Development
- 489, Graduate Seminar, when relevant

**Chemistry**

- 372, Advanced Biochemistry
- 373, Biochemical Techniques

**Graduate Certificate in Tropical Biology and Conservation**

The certificate is awarded after completion of 18 credit hours of core courses and electives with a minimum of 12 credits at the 400 level. Up to 3 credits may be taken at the 200 level upon permission of the Graduate Committee. Electives must include a minimum of 3 credits outside biology with a

maximum of 7 outside biology. A maximum of 3 credits may be taken elsewhere than UM-St. Louis. Students may simultaneously earn a graduate degree and count credits earned in their degree program toward the certificate when appropriate.

**Required Core Courses:**

- Biology 445**, 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 the Graduate Committee).

**Choice of:**

- Biology 446**, Theory and Application of Conservation Biology
- Biology 487**, Advanced Tropical Ecology and Conservation

**Electives:****Biology**

- 341, Population Biology
- 351, Flowering Plant Families: Phylogeny and Diversification
- 364, Ornithology
- 367, Entomology
- 385, Wildlife Ecology and Conservation
- 396, Introduction to Marine Science
- 423, Advanced Tropical Resource Ecology
- 424, Advanced Tropical Resource Ecology Field Studies
- 425, Advanced Tropical Vertebrate Ecology
- 441, Advanced Population Biology
- 442, Population and Community Ecology
- 446, Theory and Application of Conservation Biology
- 448, Advanced Evolution of Animal Sociality
- 458, Evolutionary Ecology of Plants
- 459, Advanced Evolutionary Ecology of Animals
- 465, Methods in Plant Systematics
- 480, Advanced Behavioral Ecology
- 481, Advanced Theoretical Systematics and Evolution
- 483, Applications of Geographic Information Systems
- 487, Advanced Tropical Ecology and Conservation
- 489, Graduate Seminar, when relevant

**Economics**

- 230, International Economic Analysis
- 251, Intermediate Economic Theory: Microeconomics
- 360, Natural Resource Economics

**History**

- 300, Selected Topics in History, when relevant
- 371, History of Latin America: to 1808
- 372, History of Latin America: Since 1808
- 381, West Africa Since 1800
- 425, Readings in Latin American History, when relevant
- 430, Readings in African History, when relevant

**Political Science**

- 248, Environmental Politics
- 253, Political Systems of South America
- 254, Political Systems of Mexico, Central America, and the Caribbean

**Biology (continued)**

- 258, African Politics
- 283, International Political Economy
- 285, International Organizations and Global Problem Solving
- 347, Introduction to Environmental Law and Policy
- 351, Comparative Public Policy and Administration
- 359, Studies in Comparative Politics, when relevant
- 385, International law
- 388, Studies in International Relations
- 394, Leadership and Management in Nonprofit Organizations
- 414, Topics in Public Policy Analysis, when relevant
- 448, Political Economy and Public Policy
- 459, Seminar in Latin American Politics, when relevant
- 462, Political Theory and Public Policy
- 481, Seminar in International Relations
- Social Work**
- 390, Seminar in Social Work Issues, when relevant
- Sociology**
- 342, World Population and Ecology
- 346, Demographic Techniques
- 426, Community and Regional Conflict Resolution

**Career Outlook**

The biology degree programs, at the baccalaureate and master's degree levels, are designed to prepare the student for further training. The undergraduate degree is designed to prepare the student for professional training in areas such as medicine, training, dentistry, veterinary medicine, optometry, and related areas, or for further graduate training in research. The master of science program is an extension of the undergraduate program and has as its goals three main objectives:

- Provide research-oriented training and education.
- Provide qualified graduates for doctoral programs.
- Provide secondary school and junior college biology teachers with training necessary to maintain and improve their teaching effectiveness.

The Ph.D. program prepares students as research professionals in fields such as biological conservation, ecology, and biomedical science. Employment opportunities are available in college or university research and teaching, in government and public institutions such as museums and botanical gardens, and in industry.

**Biology (continued)****Course Descriptions**

Prerequisites may be waived by consent of the department or instructor. Some courses as indicated in the course description may be taken concurrently with the listed offering. Consult an adviser for further information.

The following courses fulfill the Natural Sciences and Mathematics (SM) breadth of study requirements: 1, 3, 11, 12, 110, 113, 114, 115, 116, 118, 120, 130, 140, 150, 213, 215, 216, 218, 220, 222, 224, 226, 235, 237, 240, 241, 246, 250, 254, 256, 260, 262, 264, 266, 280, 282, 292, 303, 310, 314, 316, 317, 319, 320, 322, 323, 324, 325, 326, 327, 328, 329, 334, 335, 338, 339, 341, 344, 348, 351, 353, 355, 358, 359, 360, 364, 366, 367, 368, 369, 370, 371, 375, 376, 378, 380, 381, 383, 385, 386, 387, 388, 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 in other courses in biology at the 200 level or above. Students who plan to pursue a career in medicine or one of the medical-oriented professions should enroll in Biology 11 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 lab, 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.

**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 Genetics (3)**

The structure and transmission of genetic characteristics in humans, including modern advances and their impact on society. 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.



**Biology (continued)****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 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.

**201 Fundamental Biological Laboratory Skills (1)**

Prerequisite: Chem 11 and 12 and Math 30, Biology majors must complete Biology 11 and 12 before taking this course. This laboratory course will provide background information and practical experience in introductory laboratory techniques. This course is appropriate for biology majors or for students in other disciplines who wish to improve their laboratory skills for technical positions or for teaching. This course meets for two hours each week. The course will not fulfill laboratory requirements for the major.

**213 Vertebrate Physiology (3)**

Prerequisite: 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)**

Prerequisite: Biology 11 (majors must also take Biology 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)**

Prerequisite: 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)**

Prerequisite: 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)**

Prerequisite: Biology 11 (majors must also take Biology 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 consent of instructor. Laboratory to accompany Biology 224. Three and one-half hours of laboratory per week.

**231 Undergraduate Internship in Biotechnology (1-4)**

Prerequisite: 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.

**232 Cell Structure and Function (3)**

Prerequisite: Biology 11 (majors must also take Biology 12), Chem 11, 12 and 261 or equivalents. General cell biology, stressing cell structure and ultrastructure, as related to cell function. Three hours of lecture per week.

**Biology (continued)****234 Histology and Microtechniques (5)**

Prerequisite: Biology 11 (majors must also take Biology 12), Biology 232 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 ½ hours of laboratory per week. (Additional lab hours arranged.) Fulfills both a lecture and a laboratory 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 (3)**

Prerequisite: Biology 11 and 12. Introduction to the principles and theories of conservation biology. Course topics include biodiversity, extinctions, population modeling, habitat fragmentation, conservation area management, restoration ecology, and social science elements of conservation strategies. Class sessions will include lectures, discussions, and simulation exercises. Three hours of lecture per week.

**241 Conservation Biology Laboratory (2)**

Prerequisites: Bio 240 (recommended to be taken concurrently). Laboratory to accompany Bio 240. Laboratory will include computer simulations of conservation problems using existing software, 2-3 field trips to local conservation projects, and field interviews with governmental and non-governmental agencies. Three and one-half hours of laboratory per week.

**246 Introduction to Evolution (3)**

Prerequisite: Biology 11 and 12; Bio 224 strongly recommended. 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 (3½ 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)**

Prerequisite: 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)**

Prerequisite: 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)**

Prerequisite: 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.

**280 Animal Behavior (3)**

Prerequisite: Biology 11 and 12. The study of invertebrate and vertebrate behavior, including neurophysiological, hormonal, developmental, genetic, ecological and evolutionary aspects of behavior; behavior interactions within and between populations. Three hours of lecture per week.

**282 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.

**Biology (continued)****285 Curriculum and Methods of Teaching Life Sciences (4)**

(Same as SecEd 285.) Prerequisite: SecEd 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 SecEd 286.) Prerequisite: SecEd 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/SecEd 285.

**292 Special Topics in Biology (3)**

Prerequisites: Bio 11 and 12, junior standing, and consent of instructor or curriculum committee. In-depth discussions of special topics in the biological sciences, generally conducted in a seminar format with extensive student participation. This course may be used to satisfy requirements for elective biology courses for the B.A. or the B.S. degree in biology; it cannot be substituted for core courses required of all majors. May be taken up to two times for credit.

**302A Introduction to Cytotechnology (3)**

Prerequisite: Admission to the Cytotechnology program at Jewish Hospital College of Nursing and Allied Health. Introduction to the profession of cytotechnology including basic cell biology, ethics, the microscope and history of the profession. Basic concepts of pathology, anatomy, normal histology, and benign cellular processes are taught.

**302B Female Genital Tract I (4)**

Prerequisite: Biology 302A or consent of instructor. Examines the morphogenesis of malignancy with emphasis on cellular changes of squamous and endocervical epithelium of the uterine cervix. The student is expected to identify morphologic cellular manifestations and begin to differentiate diagnosis of presented diseases on kodachromes and glass slides. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**302C Female Genital Tract II (3)**

Prerequisite: Biology 302B or consent of instructor. Emphasis on the study of lesions of the uterine corpus, metastatic lesions, and lesions of the vulva and vagina. The student is expected to differentiate between malignant and premalignant diseases of the uterine corpus and to begin differential diagnosis of endometrial adenocarcinoma and endocervical adenocarcinoma from glass slides and

kodachromes. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**302D The Processing Laboratory (2)**

Prerequisite: Biology 302C or consent of instructor. Includes routine procedures for processing, receipt, staining, coverslipping and filing of specimens. Cytology laboratory experience includes performing laboratory techniques under the supervision of a cytotechnologist. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**302E Respiratory and Oral Cytology (3)**

Prerequisite: Biology 302D or consent of instructor. Designed to acquaint the student with the anatomy and histology of the upper and lower respiratory areas. Epithelial appearances and changes associated with normal, benign, and malignant processes are emphasized. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**302F Body Fluid Cytology (3)**

Prerequisite: Biology 302E or consent of instructor. Examines the cytopathology of effusions, cerebral spinal fluid and other body fluids, and the cytologic changes associated with benign and malignant processes. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**302G Gastrointestinal Genitourinary Cytology (3)**

Prerequisite: Biology 302F or consent of instructor. The study of the cytology of the gastrointestinal and genitourinary systems. The anatomy of each body site is discussed along with the normal, benign and malignant cellular changes of each system. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**302H Fine Needle Aspiration Cytology (4)**

Prerequisite: Biology 302G or consent of instructor. Examines the anatomy and histology of the breast, thyroid, and lymph nodes with emphasis on the cytologic patterns associated with normal, benign, and malignant processes. In addition, the student will have the opportunity to observe and assist the cytopathologist and/or cytotechnologist with fine needle aspiration procedures from various body sites to observe techniques for processing and rapid cytologic assessment. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**Biology (continued)****302I Advanced Practices in Cytology (12)**

Prerequisite: Biology 302H or consent of instructor. This clinical course requires the student to examine a variety of specimens for cytologic evaluations from all body sites. Students must have achieved minimum screening accuracy in prerequisite courses to begin practicum. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**302J Leadership and Management CT (4)**

Prerequisite: Economics 51 or Business 210, or equivalents. Examines theories of leadership, management and organization as applied to cytotechnology. Healthcare economics, political issues, healthcare systems are investigated within a systems theory framework. Computer spreadsheets and delivery patterns. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303 Biotechnology Colloquium (1)**

Prerequisite: Must be enrolled in the 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 2 credit hours.

**303A Fundamentals in Clinical Laboratory Science (4)**

Prerequisite: Admission to the Clinical Laboratory Science program at Jewish Hospital College of Nursing and Allied Health. Introduction to the basic concepts in the major areas of laboratory diagnostic procedures. Basic laboratory mathematics, methodology, terminology, concepts of quality control, biological and chemical safety are presented. Successful completion of this course is required before enrollment in subsequent CLS courses.

**303B Clinical Bacteriology (3)**

Prerequisite: Biology 303A or consent of instructor. Study of the morphology, cultural and growth characteristics of bacteria which cause infectious disease. Specimen and media selection, collection, transport, storage and processing are also studied. Students learn to differentiate normal from pathogenic microorganisms. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303C Bacteriology Practicum (4)**

Prerequisite: Biology 303B or consent of instructor. Students learn to select proper media for isolation and differentiation of organisms. Basic and special testing are practiced to identify specific microorganisms. Sensitivity of organisms to

antimicrobial drugs is determined. Safety procedures are taught and practiced. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303D Mycology (2)**

Prerequisite: Biology 303C or consent of instructor. Presentation of the major clinically-important fungi and common contaminants. Microscopic and other methods of identification and classification are discussed and practiced. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303E Clinical Immunology (2)**

Prerequisite: Biology 303D or consent of instructor. Introduces the principles of both normal and abnormal responses of the immune system through the molecules, cells, organs and systems responsible for the recognition and disposal of foreign materials. Immunological manifestations of diseases are discussed. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303F Immunology Practicum (1)**

Prerequisite: Biology 303E or consent of instructor. The focus of the clinical practice is on serologic and immunologic testing. Data interpretation, troubleshooting in test systems and disease correlation with laboratory data are stressed. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303G Immunohematology (3)**

Prerequisite: Biology 303F or consent of instructor. Presents the theory and principle of immunology and genetics that determine blood types and transfusions. Aspects of red cells, platelets and components are discussed regarding selection, collection, transport, storage, processing and their use for transfusion. Donor requirements and laboratory operations are included. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303H Immunohematology Practicum (3)**

Prerequisite: Biology 303G or consent of instructor. The focus of clinical practice is the basic and special testing to assure safe blood supply and transfusion. Adverse reactions are investigated to identify cause. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**Biology (continued)****303I Hematology (3)**

Prerequisite: Biology 303H or consent of instructor. The study of anatomy and physiology of red cells, white cells and platelets using the quantitation and morphology of these cells to identify normal and abnormal processes. Hematopoietic diseases are presented. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303J Hematology Practicum (3)**

Prerequisite: Biology 303I or consent of instructor. The clinical practice focuses on the basic and special testing in hematology. Identification of normal and abnormal cell morphology is studied and disease is correlated with abnormal cells. Hemostasis testing is practiced; these tests monitor anticoagulant drugs. Other tests practiced identify coagulation deficiency and other hemostatic diseases. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303K Clinical Chemistry (4)**

Prerequisite: Biology 303J or consent of instructor. Biochemical theory and physiology of carbohydrates, lipids, and lypoproteins, heme derivatives, proteins and enzymes. The biochemistry and physiology of electrolytes and acid base balance are discussed. Endocrinology, therapeutic drug monitoring and instrumentation specific to the chemistry laboratory testing are also discussed. Normal and abnormal manifestations of diseases and correlation with other laboratory tests are presented. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303L Chemistry Practicum (4)**

Prerequisite: Biology 303K or consent of instructor. The clinical practice focus is on basic and special test methods and instrumentation used in the quantifying metabolites discussed in Biology 303K. Quality control, correlation of test data and diseases are presented. Biological and chemical safety is practiced. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303M Parasitology CLS (2)**

Prerequisite: Biology 303L or consent of instructor. Presentation of the major parasites. Classification, diagnostic stages, life cycles and vectors are studied and microscopic identification is practiced. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**303N Leadership and Management CLS (4)**

Prerequisite: Economics 51 or Business 210 or equivalents. Examines theories of leadership, management, and organization as applied to Clinical Laboratory Science. Healthcare economics, political issues, healthcare systems are investigated within a systems theory framework. Computer programs are used for development of financial spreadsheets and delivery patterns. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**310 Cell Physiology (3)**

Prerequisite: Biology 371 (Biology 232 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.

**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.

**316 Parasitology (3)**

Prerequisite: Biology 11, 12, and 10 additional hours of biology and upper-division standing. (Biology 232 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)**

Prerequisite: Biology 371 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 in immunology. Three and one-half hours of laboratory per week.

**Biology (continued)****320 Introduction to Neuroscience (3)**

Prerequisite: Biology 213 or consent of instructor. The study of nervous systems, featuring the cellular bases of initiation and conduction of the impulse, synaptic transmission, and the network integrative function of invertebrate and vertebrate nervous systems. This course emphasizes the multidisciplinary nature of the neurosciences, including anatomical, physiological and molecular approaches to understanding neural function. Three hours of lecture per week.

**322 Laboratory Techniques in Neuroscience (2)**

Prerequisite: Biology 320 (must be taken concurrently). Experiments are designed to accompany Biology 320, and will include the use of live animals and computer simulation of the physiological and biophysical properties of excitable membranes.

**323 Tropical Resource Ecology (3)**

Prerequisite: Biology 220 and either Biology 246 or 280 or their equivalent, or consent of instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Student may not receive credit for both Biology 323 and 423. Three hours of lecture per week. Offered in odd years.

**324 Tropical Resource Ecology Field Studies (2)**

Prerequisite: Biology 323 (may be taken concurrently). The field component to the lecture and seminar course that applies the behavioral ecology paradigm to examine the patterns of use and exploitation of resources in the tropics of humans. Two weeks of intensive field research and lectures in Guyana, South America the week prior to and during Spring break (trip costs to be borne by student). Students may not receive credit for both Biology 324 and 424. Offered in odd years.

**325 Tropical Vertebrate Ecology (3)**

Prerequisite: Biology 220, and either Biology 246 or 280 or their equivalent, or consent of instructor. This course explores the role of neotropical vertebrate individuals in the expression of patterns and processes in populations and communities that elucidate the degree to which organic evolution can be ascribed to natural selection and/or random events. Three weeks of intensive lecture, discussion and individual field studies in Guyana, South America during July-August (trip costs to be borne by student). Class size 12 students. Students may not receive credit for both Biology 325 and 425. Offered in even years.

**326 Gene Expression in Eukaryotes (3)**

Prerequisite: Biology 224 and 371. 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.

**327 Introduction to Biotechnology (4)**

Prerequisite: Biology 224 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. May not be used to fulfill the 300-level lecture course requirement for the B.A. or B. S. degree in biology. Students may not receive credit for both Biology 327 and either Biology 228 or a comparable transfer course in biotechnology from another institution.

**328 Techniques in Molecular Biology (4)**

Prerequisite: Biology 327 and either Biology 326 or 338. An in-depth look at theory and practice of current technologies in molecular biology. The focus will be on techniques used to study gene structure and expression. Laboratory will present hands-on experience with these techniques. One hour of lecture and 6 hours of laboratory per week. Fulfills a laboratory requirement only for majors. Students may not receive credit for both Biology 328 and 428.

**329 Molecular Evolution (3)**

Prerequisite: Biology 246 or 341, 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.

**334 Virology (3)**

Prerequisite: 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)**

Prerequisite: Biology 326 or 338 and 371. 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.

**Biology (continued)****338 Gene Expression in Prokaryotes (3)**

Prerequisite: 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.

**339 Plant Molecular Biology and Genetic Engineering (3)**

Prerequisite: Biology 326 or 338. Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant-microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture per week. Students may not receive credit for both Biology 339 and 439.

**341 Population Biology (3)**

Prerequisite: Biology 220 and 224 (Biology 246 recommended). Introduces concepts and mathematical models of population ecology and population genetics. By integrating the ecology and genetics of populations, the course goal is to understand the processes that contribute to microevolution of populations. Topics include: demography, metapopulation biology, natural selection, migration, gene flow, and genetic drift. Three hours of lecture per week. Students may not receive credit for both Bio 341 and 441.

**344 Gene Activity During Development (3)**

Prerequisite: 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 (2)**

Prerequisite: Biology 240 or consent of instructor. This course is generally restricted to students officially enrolled in the Certificate Program in Conservation Biology. The course provides practical experience with conservation or environmental agencies. Specific placement will be selected according to student's interests and career goals as well as availability of agency openings. Course requirements include practical experience and final report on practicum experience.

**348 Evolution of Animal Sociality (3)**

Prerequisite: Biology 280, 220 or 341 recommended or consent of instructor. 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.

**351 Flowering Plant Families: Phylogeny and Diversification (5)**

Prerequisites: Biology 250 or consent of instructor. Focusing on the flowering plant families of North America, the aim of the course is to give an understanding of their phylogeny and diversification. The student will also gain an understanding of plant morphology and anatomy, a basis for further developing their knowledge of plants. Three hours of lecture and three to four hours of laboratory per week.

**353 Sex and Evolution in the Flowering Plants (3)**

Prerequisites: Biology 11 and 12 or equivalent; Biology 246 or 250 recommended. The evolution of flowers, and flowering plants, is the result of mutualistic plant-animal interactions. This course explores all aspects of the function of flowers, integrating findings and approaches from ecology, systematics, plant physiology, and animal behavior. Topics to be explored are current hypotheses about the benefits of sexual reproduction, the origins of insect pollination, the production and ecological role of flower color, scent, and nectar, deceptive pollination systems, pollen-stigma interactions and incompatibility systems, flowering plant mating systems (incl. selfing and apomixis), and pollination by insects, vertebrates, wind, and water. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors.

**355 Evolution and Phylogeny of Seed Plants (3)**

Prerequisites: Biology 246 or 250 or equivalent. Examination of the evolution of, and relationships among, major lines of seed-bearing plants, both extinct (Bennettitales, cordaites, etc.) and extant (conifers, cycads, ginkgo, Gnetales, and flowering plants). Criteria for the assessment or morphological homology are examined, and wherever possible the evolution of morphological structures is related to their function. Included introduction to cladistic methods and practical exercises in the analysis of large morphological data matrices using PAUP & MacClade. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors. Students may not receive credit for both Biology 355 and Biology 455.

**Biology (continued)****359 Evolutionary Ecology of Animals (3)**

Prerequisite: Biology 220, 280, and one of 224, 246, or their equivalents, or consent of instructor. 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 (3)**

Prerequisite: Biology 232 and consent of instructor, Bio 234 recommended. Discussion of electron microscopy and associated techniques. Students will learn techniques associated with the preparation of materials for electron microscopy and learn to operate and perform minor servicing of the electron microscope. This course fulfills a laboratory requirement for the B.A. or B.S. degree in biology; it may not be used to fulfill the 300-level lecture course requirement for the B.A. or B.S. in biology. Two hours of lecture per week and two hours of laboratory per week.

**361 Advanced Laboratory for Electron Microscopy (2)**

Prerequisites: Bio 360 (may be taken concurrently). Additional laboratory to accompany Bio 360. Students may use the electron microscope to conduct specific research projects and/or to improve their proficiency in techniques associated with the electron microscope. Students may not use both Bio 360 and Bio 361 to fulfill the minimum number of laboratory courses required for the B.A. or the B.S. degree in biology. A minimum of four hours per week, to be arranged.

**364 Ornithology (3)**

Prerequisite: 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.

**367 Entomology (3)**

Prerequisite: 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.

**368 Entomology Laboratory (2)**

Prerequisite: Biology 367 (may be taken concurrently). Laboratory to accompany Biology 367. 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.

**369 Social Insects (3)**

Prerequisites: Bio 367 and upper division standing or consent of instructor. A study of social insects as a model system for the investigation and synthesis of topics in evolutionary biology. Basic aspects such as classification, diversity, and natural history; conceptual approaches to topics for which social insects yield novel insights. Three hours of lecture per week. Students may not receive credit for both Bio 369 and 469.

**370 Endocrinology (3)**

Prerequisite: Biology 213 (Biology 371 recommended). A survey of chemical coordinating mechanisms with special emphasis on the evolution of hormonal control systems. Three hours of lecture per week.

**371 Biochemistry (3)**

(Same as Chemistry 371). Prerequisite: Chemistry 261 and either Biology 11 or Chem 262. The chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Three hours of lecture per week. Students may not receive credit for both Biology 371 and Chemistry 371. Biology 371 may not be used to fulfill the 300-level lecture course requirement for the B.S. in Biology.



**Biology (continued)****375 Techniques in Biochemistry (2)**

Prerequisite: Biology 371 or Chemistry 371 (may be taken concurrently), Laboratory activities introducing fundamental qualitative and quantitative biochemical techniques.

**376 Topics in Biochemistry (3)**

Prerequisite: Biology 371. 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 Protein Biochemistry Laboratory (2)**

Prerequisite: Biology 375 or consent of instructor. Exploration of various techniques and tools for purification, analysis, and characterization of proteins. Three and one-half hours of laboratory per week.

**380 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 341 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.

**383 Introduction to Geographic Information Systems (3)**

Prerequisite: Biology 220, 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 483.

**385 Wildlife Ecology and Conservation (3)**

Prerequisite: 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 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, 341, 442 or equivalent. This course will cover research areas in tropical population, community and ecosystems ecology, with emphasis on interspecies and environment-organism interactions, population control factors, and genetic structure of populations. Topics include the current status and causes of tropical habitat destruction, ongoing attempts to manage those habitats, and development of strategies leading to sustained use of nonrenewable resources. Students may not receive credit for both Biology 387 and 487. Three hours of lecture per week.

**388 Biometry (3)**

Prerequisite: Math 30 and a minimum of 15 hours in biology. Reviews descriptive, analytical, and experimental methods useful for the statistical study of biological phenomena. Students will develop the skills needed to better appreciate and evaluate the published literature, as well as the ability to design their own research programs. Topics include: the collection and summarization of biological observations; development, design, and testing of hypotheses; analysis and presentation of data. Three hours of lecture per week. Fulfills the statistics requirement for the B.A. or B.S. degree in biology.

**389 Senior Seminar (2)**

Prerequisite: Senior standing. Required of biology majors. Presentation of selected papers by students. May not be taken for graduate credit.

**Biology (continued)****390 Research (1-3)**

Prerequisite: Consent of the Biology 390 course coordinator. Generally restricted to junior and senior standing. Research (laboratory and/or library) in an area selected by the student in consultation with and under the supervision of a faculty research adviser. Credit arranged. Course may be repeated for a total of up to 5 credit hours. No more than 2 credit hours may be applied toward the minimum number of biology course credits for the major in biology.

**392 Selected Topics (1-10)**

Prerequisite: Junior standing and consent of instructor. Selected topics in biology. The topics will vary each semester. Topics available in the department office. Credit arranged. May be taken more than once for credit.

**393 Research Methods in the Health Sciences (3)**

Prerequisite: Psychology 201 or equivalent. Develops an understanding of the research process as applied to allied health. The value and purpose of research within an ethical/legal context is explored. Qualitative and quantitative research methods and approaches to solve problems are examined. Students are actively involved in evaluating, critically analyzing and interpreting data to determine implications for practice. Offered exclusively for students meeting Clinical Lab Science or Cytotechnology requirements in the Clinical Program at Jewish Hospital College of Nursing and Allied Health.

**395 Field Biology (3)**

Prerequisite: Three biology courses and consent of instructor. Intensive study of the flora and fauna of selected natural areas of North America, including an extended field trip. Details of the field trip and course *Schedule* will be posted in the Biology Department preceding registration for the term in which the course will be offered. Students will be required to pay costs of travel and of the field trip. This is a laboratory course appropriate for advanced undergraduates and non-thesis master of science students. Students may not receive credit for both biology 395 and 440.

**396 Introduction to Marine Science (3)**

Prerequisite: Biology 11 and 12 or their equivalents, (Biology 264 and 266 recommended). A multidisciplinary study of the ocean environment. Topics to include the geology of ocean basins, atmospheric and astronomic effects on the motion of water, chemical and physical properties of sea water, and the adaptations and diversity of marine organisms to their environment. Topics will include the ecology of various benthic and pelagic marine communities and human impact on the world's oceans. Offered in Winter Semester only.

**398 Introduction to Marine Science Laboratory (2)**

Prerequisite: Biology 396 and consent of instructor. An intensive laboratory and field study of selected North American marine communities. Based on a two-week field trip to Florida and offered during the Spring Intersession semester, following the lecture course (Biology 396) of the preceding Winter semester. Students must pay their own travel and living expenses.

**399 Science Teaching Intern Seminar (3)**

Prerequisite: Biology 285 and 286. Addresses the application of educational philosophy, science curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with SecEd 290, Secondary School Student Teaching.

**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 3 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 3 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, arranged in the Cronquist sequence of families, covering morphology, anatomy, palynology, biogeography, chemosystematics, cytology, and other aspects of plant classification and phylogenetics. Given at the Missouri Botanical garden. One hour per week.

**414 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.

**Biology (continued)****423 Advanced Tropical Resource Ecology (3)**

Prerequisite: Biology 220, and either Biology 246 or Biology 280 or their equivalent, or consent of the instructor. A lecture and seminar course that applies the behavioral ecology paradigm to the patterns of use and exploitation of resources in the tropics by humans. Students may not receive credit for both Biology 323 and Biology 423. Three hours of lecture, and one hour of discussion or seminar per week. Offered in odd years.

**424 Advanced Tropical Resource Ecology Field Studies (2)**

Prerequisite: Biology 423 (may be taken concurrently). The field component to the lecture and seminar course that applies the behavioral ecology paradigm to examine the patterns of use and exploitation of resources in the tropics by humans. Two weeks of intensive field research and lectures in Guyana, South America the week prior to and during spring break (trip costs to be borne by student). Graduate students will be required to write an extra paper on tropical resource use problems. Students may not receive credit for both Biology 324 and Biology 424. Offered in odd years.

**425 Advanced Tropical Vertebrate Ecology (3)**

Prerequisite: Biology 220, and either Biology 246 or Biology 280 or their equivalent, or consent of the instructor. This course explores the role of Neotropical vertebrate individuals in the expression of patterns and processes in populations and communities that elucidate the degree to which organic evolution can be ascribed to natural selection and/or random events. Three weeks of intensive lecture, discussion and individual field studies in Guyana, South America during July-August (trip costs to be borne by student). Graduate students will be required to write a paper on a topic relevant to the course. Class size 12 students. Students may not receive credit for both Biology 325 and Biology 425. Offered in even years.

**426 Advanced Gene Expression in Eukaryotes (3)**

Prerequisite: Biology 224 and 371. 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 (4)**

Prerequisite: Biology 327 and either Biology 326 or Biology 338. An in-depth look at the theory and practice of current technologies in molecular biology. The focus will be on techniques used to study gene structure and expression. Laboratory will present hands-on experience with these techniques. One hour of lecture, six hours of laboratory, and one hour of seminar per week. Students may not receive credit for both Biology 328 and Biology 428.

**429 Advanced Molecular Evolution (3)**

Prerequisite: Biology 246 or 341, 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.

**431 Graduate Internship in Biotechnology (1-4)**

Prerequisite: Graduate standing and enrollment in graduate Biotechnology Certificate Program. Six credit hours maximum (maximum of eight combined credit hours of 490 and internship). Internship will consist of period of observation, experimentation and on-the-job training in a biotechnology laboratory. The laboratory may be industrial or academic. Credit will be determined by the number of hours the student works each week and in consultation between the intern's supervisor and the instructor. Internship assignments will be commensurate with the education and experience of the student.

**434 Advanced Virology (3)**

Prerequisite: 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 371, or equivalent. This course is designed to explore the structural organizational 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 Biology 435.

**438 Advanced Gene Expression in Prokaryotes (3)**

Prerequisite: 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 Biology 438.

**Biology (continued)****439 Advanced Plant Molecular Biology and Genetic Engineering (3)**

Prerequisite: Biology 326 or 338. Topics will include plant cell and developmental biology, DNA transfer into plants, using mutations to identify genes and their functions, regeneration of plants in tissue culture, signal transduction mechanisms, molecular biology of plant organelles, developmental engineering, metabolic engineering, plant microbe interactions, and engineered resistance to pathogen attack. Three hours of lecture and one hour of seminar per week. Student may not receive credit for both Biology 339 and Biology 439.

**440 Ecological Research in Temperate Zones (3)**

Prerequisite: Graduate standing and consent of instructor. This course will visit several temperate ecosystems with the objectives of learning about the natural history of these areas together with learning how to design projects and conduct field research addressing current ecological theories in a temperate setting. Several faculty members will participate in this course. Temperate sites to be visited will likely include Missouri Ozarks, Great Smokey Mountains, Indiana dunes, and Southern Illinois bottomland and cypress swamp forest. Students will be required to pay costs of travel and of field trips. Students may not receive credit for both Biology 395 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 the first eight weeks of semester.

**441 Advanced Population Biology (3)**

Prerequisites: Bio 220 and 224 (Bio 246 recommended). Introduces concepts and mathematical models of population ecology and population genetics. By integrating the ecology and genetics of populations, the course goal is to understand the processes that contribute to microevolution of populations. Topics include: demography, metapopulation biology, natural selection, migration, gene flow, and genetic drift. A discussion section will focus on mathematical elements of population biology models. Three hours of lecture, and one hour of discussion per week. Students may not receive credit for both Bio 341 and 441.

**442 Population and Community Ecology (3)**

Prerequisite: Biology 220 or 341 or their equivalents. Studies of structure and organization of natural communities stressing the abundance and distribution of species, the regulation of species diversity, and the evolution of demographic parameters in populations. Three hours of lectures per week.

**444 Advanced Gene Activity During Development (3)**

Prerequisite: 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 Pol Sci 452.) Prerequisite: graduate standing in Biology or Political Science and consent of instructor. Prior course in ecology recommended. This course will introduce the student to concepts and techniques for formulating, implementing, and analyzing public policy with an emphasis on environmental concerns, conservation, and sustainable development. The course will be team-taught by a political scientist and a biologist. Course materials will include case studies that demonstrate the special problems of the environmental policy-making in developing and developed economics.

**446 Theory and Application of Conservation Biology (3)**

Prerequisite: Biology 341, 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)**

Prerequisite: 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 228, 220, or 341 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 Biology 448.

**Biology (continued)****455 Advanced Evolution and Phylogeny of Seed Plants (3)**

Prerequisites: Biology 246 or 250, or equivalent. Advanced approaches in examination of the evolution of, and relationships among, major lines of seed-bearing plants, both extinct (Bennettitales, cordaites, etc.) and extant (conifers, cycads, ginkgo, Gnetales, and flowering plants). Criteria for the assessment of morphological homology are examined, and wherever possible the evolution of morphological structures is related to their function. Includes use of cladistic methods and practical exercises in the analysis of large morphological data matrices using PAUP & MacClade. Two hours of lecture per week and one hour of laboratory per week to be arranged. Does not fulfill a laboratory requirement for biology majors. Students may not receive credit for both Biology 355 and Biology 455.

**458 Evolutionary Ecology of Plants (3)**

Prerequisite: Biology 388 and 341, or consent of instructor. 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. Three hours of lecture per week.

**459 Advanced Evolutionary Ecology of Animals (3)**

Prerequisite: Biology 220, 280 and one of 224, 246; or their equivalents; or consent 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. 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.

**465 Methods in Plant Systematics (4)**

Prerequisite: Biology 351 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.

**469 Advanced Social Insects (3)**

Prerequisites: Bio 367 and upper division standing or consent of instructor. An advanced study of social insects as a model system for the investigation and synthesis of topics in evolutionary biology. Basic aspects such as classification, diversity, and natural history; conceptual approaches to topics for which social insects yield novel insights. Three hours of lecture per week. Students may not receive credit for both Bio 369 and 469.

**474 Hormones, Pheromones, and Behavior (3)**

Prerequisite: Biology 213 and 280 required, Biology 370 recommended. This course will survey the hormonal and phenomonal 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 341 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 hour 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 a spatial analysis. Examples from a wide range of disciplines are used to emphasize the use of GIS as a tool to support analysis and decision-making. Students will have hands-on use of GIS software using UNIX-based computer workstations. A formal research paper on GIS applications in biological research will be required. Three hours of combined lecture and computer operations per week. Students may not receive credit for both Biology 383 and 483.

## Biology (continued)

### **485 Problems in Teaching College Biology (3)**

(Same as ADU ED 435.) Prerequisite: Teaching experience, 30 semester hours in biology, and consent of instructor.

Basic philosophies underlying undergraduate biology education at the college level will be presented and examined with concern for establishment of an individual philosophy in the prospective college teacher. Teaching techniques suitable for college-level instruction will be considered, practiced, and evaluated. Advantages and limitations of various methods of instruction will be considered with respect to current research findings.

### **486 Techniques in Teaching College Biology for Graduate Students (2)**

(Same as SEC ED 486.) Prerequisite: Graduate standing and teaching assignment. Discussion and practice of techniques specific to instruction in the life sciences. Consideration will be given to teaching strategies, curriculum design, evaluation, instrumentation, and student-teacher interaction.

Recommended for all graduate students with teaching assistantships.

### **487 Advanced Tropical Ecology and Conservation (3)**

Prerequisite: Biology 220, or 341, 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 developments of strategies leading to sustained use of nonrenewable resources. A research proposal designed to investigate current topic in tropical ecology will be required. Students may not receive credit for both Biology 387 and 487. Three hours of lecture per week.

### **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.

### **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 members.

### **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

**Gordon K. Anderson**, Professor\*, Chairperson  
Ph.D., University of Glasgow

**Lawrence Barton**, Professor\*  
Ph.D., University of Liverpool

**James S. Chickos**, Professor\*  
Ph.D., Cornell University

**Joyce Y. Corey**, Professor\*  
Ph.D., University of Wisconsin

**Wesley R. Harris**, Professor\*  
Ph.D., Texas A. and M. University

**David W. Larsen**, Professor Emeritus\*  
Ph.D., Northwestern University

**Robert W. Murray**, Curators' Professor Emeritus\*  
Ph.D., Yale University

**William J. Welsh**, Professor\*  
Ph.D., University of Pennsylvania

**Lee Brammer**, Associate Professor\*  
Ph.D., University of Bristol

**Valerian T. D'Souza**, Associate Professor\*  
Ph.D., University of Detroit

**David L. Garin**, Associate Professor Emeritus\*  
Ph.D., Iowa State University

**Harold H. Harris**, Associate Professor\*  
Ph.D., Michigan State University

**Jane A. Miller**, Associate Professor Emerita\*  
Ph.D., Tulane University

**James J. O'Brien**, Associate Professor\*  
Ph.D., Australian National University

**Christopher D. Spilling**, Associate Professor\*  
Ph.D., The University of Technology, Loughborough

**Keith J. Stine**, Associate Professor\*  
Ph.D., Massachusetts Institute of Technology

**Rudolph E. K. Winter**, Associate Professor\*; Director of Graduate Studies,  
Ph.D., The Johns Hopkins University

**Zhi Xu**, Associate Professor\*  
Ph.D., University of Pittsburgh

**Donald F. Becker**, Assistant Professor\*  
Ph.D., University of Minnesota

**F. Christopher Pigge**, Assistant Professor\*  
Ph.D., University of North Carolina

**Joseph B. Dence**, Adjunct Associate Professor  
Ph.D., California Institute of Technology

**Joseph B. Monahan**, Adjunct Associate Professor  
Ph.D., University of South Carolina

**William L. Neumann**, Adjunct Associate Professor  
Ph.D., University of Missouri-St. Louis

**Robert G. Orth**, Adjunct Associate Professor  
Ph.D., Case Western Reserve University

**Nigam P. Rath**, Research Associate Professor  
Ph.D., Oklahoma State University

**William P. Ridley**, Adjunct Associate Professor  
Ph.D., University of Minnesota

**Raghavan Rajagopalan**, Adjunct Assistant Professor\*,  
Ph.D., Columbia University

**Janet B. Wilking**, Research Assistant Professor\*  
Ph.D., Washington University

**John Gutweiler**, Lecturer  
Ph.D., Saint Louis University

### Technical Staff

**Kenneth Owens**, Glassblower

**Joseph Kramer**, Electronics Technician II

**Gordon Kerschmann**, Electronics Technician

**Donna Kramer**, Coordinator, Laboratory Operations

**Frank L. May**, Research Investigator

**Norman Windsor**, Senior Electronics Technician

\*members of Graduate Faculty

### General Information

#### Degrees and Areas of Concentration

The chemistry department offers courses leading to the B.A. in chemistry; the B.S. in chemistry; in cooperation with the College of Education, the B.S. in education with emphasis in chemistry and the B.A. in chemistry with teacher certification; and, in cooperation with the College 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.

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, physical, and biochemistry. In addition to a balanced program of basic graduate courses, the department offers special topics courses and seminars in current research areas. Research is being carried on in each of the above areas by 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.

**Chemistry (continued)****Fellowships and Scholarships**

**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.

**The Lawrence Barton Scholarship** is given annually to a chemistry major who is enrolled in at least 9 credit hours per semester. Preference is given to juniors and to first generation college students, and to students who demonstrate financial need.

**The Women in Chemistry Scholarship** is given to a female student over the age of 24, who is a chemistry major and has completed at least 60 credit hours. The student is expected to work with a faculty member on an undergraduate research project.

**The Brunngraber Undergraduate Research Fellowship** and the **Lamberg Fellowship** are given to a chemistry major and are based on GPA, statement of research interests, and performance in completed course work.

**Aid to Education Scholarships** are funded by the Monsanto Co. and 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 doctoral 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 must have presented an acceptable thesis.

**Minor in Chemistry**

A minor in chemistry is available to students majoring in related areas. See General Information section for residency requirements.

**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 3.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 3 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
- 241, Basic Inorganic Chemistry
- 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, 323, and 364.

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.



## Chemistry (continued)

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. 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 Arts in Chemistry with a Biochemistry Certificate

The university offers a certificate program for science majors who are interested in careers in biochemistry. This is an interdisciplinary program that involves additional courses in biochemistry and biology. In addition to the usual requirements for the B.A. degree in chemistry, the student must take the following courses:

#### Chemistry

371, Biochemistry  
372, Advanced Biochemistry  
373, Biochemical Techniques

376, Interdisciplinary Topics in Biochemistry or  
377, Physical Biochemistry

#### Biology

11, Introductory Biology I  
210, Cell Structure and Function  
224, Genetics

327, Introduction to Biotechnology or  
326, Gene Expression in Eukaryotes

Students may obtain a minor in biology by adding Biology 12 to the curriculum described above. The Biology department also offers a certificate in biochemistry.

### Bachelor of Science in Chemistry.

This is the first professional degree in chemistry. It may be taken as a terminal degree by students intending to become professional chemists or for preparation for graduate work in chemistry or biochemistry. Students may choose to specialize in chemistry or biochemistry.

### Chemistry Option

Candidates must complete the requirements for the B.A. degree in chemistry. In addition, the following chemistry courses are required:

234, 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 three elective hours of advanced work in chemistry at the 200 level or above. Students are encouraged to take Chem 290, Chemical Research, to fulfill the advanced elective requirement.

### Biochemistry Option

Candidates must complete the requirements for the B. A. degree in chemistry, with the exception of one credit of Senior Seminar, Chemistry 289. In addition, the following chemistry and biology courses are required:

#### Biology

11, Introductory Biology I  
210, Cell Structure and Function or  
224, Genetics

#### Chemistry

321, Instrumental Analysis  
323, Laboratory in Instrumental Analysis  
341, Inorganic Chemistry I  
371, Biochemistry  
372, Advanced Biochemistry  
373, Biochemical Techniques  
376, Interdisciplinary Topics in Biochemistry, or  
377, Physical Biochemistry or 3 credits of Chemistry 290, Chemical Research (which must be a project in biochemistry)

Fifty 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.

**Chemistry (continued)****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 following:

**Science Core Courses:**

**Philosophy 280**, Philosophy of Science  
**Biology 11**, Introductory Biology I  
**Biology 12**, Introductory Biology II  
**Chemistry 11**, Introductory Chemistry I  
**Chemistry 12**, Introductory Chemistry II  
**Geology 1**, General Geology  
**Meteorology 1**, Elementary Meteorology  
**Biology 120**, Environmental Biology, or another environmental science  
**Physics 11**, Basic Physics, or  
**Physics 111**, Physics: Mechanics and Heat  
**Physics 12**, Basic Physics, or  
**Physics 112**, Physics: Electricity, Magnetism, and Optics

**Chemistry Endorsement**

**Chemistry 122**, Quantitative Analysis  
**Chemistry 231**, Physical Chemistry I and **Chemistry 232**, Physical Chemistry II  
**Chemistry 261**, Structural Organic Chemistry  
**Chemistry 262**, Organic Reactions  
**Chemistry 263**, Techniques of Organic Chemistry  
**Chemistry 371**, Biochemistry

**Bachelor of Arts in Chemistry with Teacher Certification**

Students must complete the B.A. in chemistry requirements, as well as the requirements for teacher certification. (See the College of Education section of this *Bulletin*.)

**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  
**Math 105**, Basic Probability and 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 Research  
**BA 303**, Business-to-Business Marketing

**2) Financial Management**

**BA 204**, Financial Management  
**BA 334**, Investments  
**BA 350**, Financial Policies

**3) Accounting**

**BA 145**, Managerial Accounting  
**BA 340A**, Financial Accounting and Reporting I  
**BA 345**, Cost Accounting

**Minor in Chemistry****Requirements for the Minor**

Students may earn a minor in chemistry by completing the program below:

The following five courses are required:

**Chem**

**11**, Introductory Chemistry I  
**12**, Introductory Chemistry II  
**122**, Quantitative Analysis  
**261**, Structural Organic Chemistry  
**263**, Techniques of Organic Chemistry

One course from the following list must be completed:

**Chem**

**231**, Physical Chemistry I  
**241**, Basic Inorganic Chemistry  
**262**, Organic Reactions  
**371**, Biochemistry (same as Biology 371)

Courses which are prerequisites to subsequent courses in the minor may not be taken on a satisfactory/unsatisfactory basis. A GPA of at least 2.0 is required for the courses presented for the minor. At least three courses toward the minor must be completed at UM-St. Louis.

**Graduate Studies****Admission Requirements**

Individuals with at least the equivalent of the B.A. degree in chemistry may be admitted to the Graduate School as candidates for the M.S. degree or as precandidates for the Ph.D. degree in chemistry. A student in the M.S. program, having completed at least 15 credit hours, may request to transfer to the Ph.D. program by petition to the department.

The department admissions committee, which makes admission recommendations to the chairperson, usually considers applicants' grade point averages and normally requires above-average performance in all areas of chemistry as well as physics and mathematics, or other evidence of high aptitude for graduate work in chemistry. Applicants' GRE scores, letters of recommendation, and academic programs are also considered. In some cases the committee may require successful completion of undergraduate course work as a condition of enrollment as a regular student.

## Chemistry (continued)

Students with bachelor's degrees in fields other than chemistry may be admitted to pursue graduate studies in chemistry, but they must make up background deficiencies, usually by taking undergraduate course work.

### Financial Support

Teaching assistantships are available to qualified applicants 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 Studies 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:

- Outstanding performance in recent undergraduate course work.
- Satisfactory performance in standardized placement examinations. These examinations are given twice a year, approximately one week before the beginning of the fall and winter semesters.
- Successful completion of assigned course work.

The ultimate choice of whether students may enroll in the M.S. or Ph.D. degree programs resides with the chemistry faculty.

**Distribution Requirement** Students must take chemistry courses for graduate credit at the 300 or 400 level, including at least one in three of the four areas of chemistry: organic, inorganic, physical, and biochemistry. Intermediate level courses (Chem 303, 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 organic, inorganic, physical, and analytical chemistry within two years of initial enrollment.

A minimum of 30 hours is required, including 3 hours in Chem 489, Chemistry Colloquium. No more than 3 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.

**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 9 hours must be at the 400 level, excluding Chemistry 490. A maximum of 9 hours in 200-level or above courses outside the department may be accepted if students receive prior approval of their advisers and the department.

Students are expected to follow all other general requirements of the Graduate School regarding master's degree and thesis requirements.

**Master of Science without Thesis** Unlike the thesis option, students need not be enrolled full-time. Of the required 30 hours, 15 credits must be at the 400 level. A maximum of 6 credits of Chemistry 490, Graduate Research in Chemistry, may be included in place of 300-level courses. A maximum of 12 hours taken in 200-level or above courses outside the department may be accepted with prior approval of the Director of Graduate Studies.

### Doctoral Degree Requirements

Incoming doctoral students must demonstrate proficiency in organic, inorganic, physical, and analytical chemistry within one year of initial enrollment.

A minimum of 60 hours is required, including research hours.

**Cumulative Examinations** In addition to the Ph.D. requirements set forth by the Graduate School, students seeking the Ph.D. in chemistry must take a series of cumulative examinations given eight times a year. Students must pass five 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 semester of graduate study, but must start no later than the second semester in the Ph.D. program. The examinations are usually given the second Saturday of each month, September through April. The mechanism for designing and deciding on passing and failing grades for each examination resides with faculty members in each specialization area.

**Chemistry (continued)**

**Seminar Requirement** Students must present a seminar in their third year and during each subsequent year. The third year seminar may be the defense of the doctoral dissertation proposal. One of the seminars is for the purpose of describing dissertation research. Students must enroll in Chemistry 489, 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 303**, Intermediate Physical 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 Research in Chemistry

**Chem 489**, Chemistry Colloquium

but should include at least one in three of the four areas of chemistry: organic, inorganic, physical, and biochemistry. Courses in areas other than chemistry may be included with prior departmental approval.

2) Pass eight cumulative examinations.

3) Present at least one seminar to the department on the dissertation research.

4) Participate in the undergraduate academic program as a teaching assistant for at least one semester.

5) Be in good standing.

**Dissertation**

Four copies of the dissertation must be submitted upon completion of the graduate research problem.

**Probation and Dismissal**

Students are dismissed from the program if they fail to pass at least five cumulative examinations before the end of the third year as pre-candidates 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 (continued)****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, 231, 232, 233, 234, 261, 262, 263, 289, 290, 303, 306, 321, 323, 341, 342, 343, 364, 365, 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. 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. 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.

**5 Chemistry for the Health Professions (4)**

An introduction to general, nuclear, structural organic, organic reactions and biochemistry. This course is designed primarily for students in nursing and related health professions, and should not be taken by students majoring in the physical or biological sciences. Chemistry majors may include neither Chemistry 5 nor 6 in the 120 hours required for graduation. Four hours of lecture per week.

**6 Organic and Biochemistry for the Health Professions (2)**

Prerequisites: any college chemistry course. An introduction to organic reactions and biochemistry. Chemistry 6 is offered during the second half of the semester. Four hours of lecture 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 the Environment and Everyday Living (3)**

This course examines the role of chemistry in everyday life and in the environment, and is intended for students not pursuing scientific or engineering majors. Chemical principles are introduced to the extent necessary for understanding of issues, but this course does not provide the basis for further technical courses. Two hours of lecture per week; on alternate weeks, one hour of discussion or two hours of laboratory.

**11 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.

**Chemistry (continued)****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.

**231 Physical Chemistry I (3)**

Prerequisites: Chem 122 and Math 180 (may be taken 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.

**241 Basic Inorganic Chemistry (2)**

Prerequisites: Chem 12. Review of principles of atomic structure, covalent and ionic bonding. Properties of the elements and synthesis, reactions and bonding aspects of important compounds of main group and transition metal compounds.

**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 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 prior to student teaching. This course must be completed in residence.

**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.

**303 Intermediate Physical Chemistry (3)**

Prerequisites: Chem 231, 232, 233. A graduate and professional preparatory course reviewing the basic principles of physical chemistry. Topics 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.

**Chemistry (continued)****306 Intermediate Organic Chemistry (3)**

Prerequisites: Chem 261, 262, 263. A graduate and professional preparatory course reviewing 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.

**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.

**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.

**341 Inorganic Chemistry I (3)**

Prerequisites: Chem 232 (may be taken concurrently), 241 and 262. An introduction to the chemistry of the elements, including atomic and molecular structure, acids and bases, the chemistry of the solid state, and main group and transition metal chemistry. Three hours of lecture per week.

**343 Inorganic Reactions (2)**

Prerequisite: Chem 233, 341 and 364 (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.

**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.

**365 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 ( $^{13}\text{C}$  and  $^1\text{H}$ , cw

and pulsed) and mass spectroscopy for the purpose of elucidating the structure of organic compounds. Three hours of lecture per week.

**371 Biochemistry (3)**

(Same as Biology 371) Prerequisite: Chem 261 and either Biology 11 or Chem 262. The chemistry and function of cell constituents, and the interaction and conversions of intracellular substances. Three hours of lecture per week. Students may not receive credit for both Biology 371 and Chemistry 371. Biology 371 may not be used to fulfill the 300-level lecture course requirement for the B.S. in Biology.

**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.

**376 Interdisciplinary Topics in Biochemistry (3)**

Prerequisites: Chem 371; Chem 372 strongly recommended. Includes advanced studies of enzyme mechanisms, the role of metal ions in enzymatic and non-enzymatic process, and the application of computational chemistry to biological systems. Three hours of lecture per week.

**377 Physical Biochemistry (3)**

Prerequisite: Chem 231. Designed to acquaint students with concepts and methods in biophysical chemistry. Topics that will be discussed include protein and DNA structures, forces involved in protein folding and conformational stability, protein-DNA interactions, methods for characterization and separation of macromolecules, electron transfer, and biological spectroscopy. Three hours of lecture per week.

**381 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 rotational, vibrational and electronic spectra in terms of geometric structure and dynamics. Description and interpretation of physical techniques used to obtain molecular spectra. Three hours of lecture per week.

**Chemistry (continued)****416 Chemical Applications of Group Theory (3)**

Prerequisite: Chem 232. A brief introduction to the fundamental relationships of group theory and molecular symmetry. Application of group theory to molecular orbital theory, molecular vibrations, and molecular spectra. Three hours of lecture per week.

**419 Advanced Reading in Chemistry (1)**

Prerequisite: Admission to the Ph.D. degree program. Reading and examinations in the subdisciplines of chemistry. Enrollment must begin after completion of any course deficiencies.

**430 Advanced Physical Chemistry (3)**

Prerequisite: Chem 232. Covers advanced topics in physical chemistry. May include but is not limited to properties of solids and liquids, gas/solid and solid/liquid interfacial chemistry, optical and electron spectroscopy, and chemical dynamics. Three hours of lecture per week.

**432 Application of Thermodynamics and Reaction Kinetics in Chemistry (3)**

Prerequisite: Chem 232. Review of equilibrium thermodynamics. Focus is on statistical thermodynamics and reaction kinetics with an emphasis on solution phase chemistry. Three hours of lecture per week.

**435 Quantum Mechanical Foundations in Spectroscopy (3)**

Prerequisites: Chem 232. A review of relevant principles and techniques of quantum mechanics. Focus is on the use of quantum theory and molecular symmetry (group theory) to understanding the structure and interpreting the spectra of atoms and molecules. Three hours of lecture per week.

**439 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 341 or an equivalent course. Chemistry of the main group elements and their compounds including such topics as electron deficient compounds, acids, bases and nonaqueous solvents, catenation and inorganic polymers, the solid state, organotypical element chemistry and energetics. Three hours of lecture per week.

**442 Coordination Chemistry (3)**

Prerequisite: Chem 341 or an equivalent course. Chemistry of the coordination compounds of the transition metals including such topics as kinetics and mechanisms of reaction, stereochemistry, ligand field theory, stability and electronic spectra. Three hours of lecture per week.

**443 Spectroscopic Methods for Inorganic Compounds (3)**

Prerequisites: Chem 341 or an equivalent course. Study of modern spectroscopic characterization methods of particular importance to inorganic systems, with emphasis on such techniques as multinuclear NMR spectroscopy, UV/visible and EPR spectroscopy, IR/Raman spectroscopy, and Mossbauer spectroscopy. Application of such methods to questions of structure, bonding and reactivity. Three hours of lecture per week.

**445 Organometallic Chemistry of the Main Group Elements (3)**

Prerequisites: Chem 341 or an equivalent course. A systematic study of main group element compounds containing carbon-metal or carbon-metalloid bonds. Emphasis will be on preparative methods, structures and reactions of various classes of compounds. Three hours of lecture per week.

**446 Organometallic Chemistry of the Transition Elements (3)**

Prerequisites: Chem 341 or an equivalent course. A study of the transition metal compounds containing metal-carbon bonds and related metal-element bonds, including their synthesis, structure and bonding, and reactions. Applications in organic synthesis and catalysis will also be presented. Three hours of lecture per week.

**448 Problem Seminar in Inorganic Chemistry (1)**

Prerequisite: Consent of the inorganic chemistry staff. Problems from the current literature, presentations, and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

**449 Special Topics in Inorganic Chemistry (1-3)**

Prerequisite: Consent of instructor. Selected topics in inorganic chemistry. May be taken more than once for credit.

**460 Advanced Organic Chemistry I - Physical Organic (3)**

Prerequisites: Chem 262 and 232. Mechanism and theory of organic chemistry. Topics to include kinetics, transition state theory, reaction intermediates, and stereochemical analysis. Three hours of lecture per week.

**461 Advanced Organic Chemistry II - Reactions and Synthesis (3)**

Prerequisite: Chem 262. Examination of a variety of organic transformations typically utilized in organic synthesis. Topics will include carbon-carbon bond formation, pericyclic reactions, oxidation, reduction, and functional group interconversions. Mechanism and stereochemistry will be emphasized. Three hours of lecture per week.



## Chemistry (continued)

### 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. Topics that may be offered include: methods of organic synthesis, organometallics in organic synthesis, topics in bioorganic chemistry, organic thermochemistry, natural products chemistry, stereochemistry, photochemistry, heterocyclic chemistry, medicinal chemistry.

### 478 Problem Seminar in Biochemistry (1)

Prerequisites: Consent of the biochemistry staff. Problems from the current literature, presentations and discussions by faculty, students and visiting scientists. Ph.D. students may take more than once for credit. Up to three credits may be applied to the M.S. degree program.

### 479, Special Topics in Biochemistry (1-3)

Prerequisite: Consent of instructor. Selected topics in biochemistry. May be taken more than once for credit.

### 481 Introduction to Graduate Study in Chemistry (1)

Prerequisite: Consent of Graduate Adviser. Topics to be covered include: techniques of teaching of Chemistry in colleges and universities, methods of instruction and evaluation; and responsibilities of the Graduate teaching Assistant in laboratory instruction; safety in the undergraduate laboratory, safety practices, emergency procedures; selection of research project and thesis adviser.

### 482 Introduction to Graduate Research in Chemistry (1)

Prerequisites: Consent of graduate adviser. Topics include: safety in the research laboratory, safety practices, emergency procedures, hazardous materials, waste disposal, radiation safety; research ethics; chemistry information retrieval, computer assisted information retrieval, types of databases, searching bibliographic data bases.

### 489 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 Beatty**, Professor\*; Chairperson  
Ph.D., Ohio State University  
**Thomas McPhail**, Professor\*  
Ph.D., Purdue University  
**Michael Murray**, Professor\*  
Ph.D., University of Missouri-Columbia  
**Donald Shields**, Professor Emeritus  
Ph.D., University of Minnesota  
**Rita Csapo-Sweet**, Associate Professor  
Ed.D., Harvard University  
**James Fay**, Associate Professor\*  
M.F.A., Tulane University  
**Elizabeth Kizer**, Associate Professor Emerita  
Ph.D., Purdue University  
**C. Thomas Preston**, Associate Professor\*  
Ph.D., University of Nebraska-Lincoln  
**Ronald Turner**, Assistant Professor\*, Vice President for  
University Outreach, and Director of Cooperative Extension  
Ph.D., University of Missouri-Columbia  
**Clark McMillion**, Lecturer  
M.A., State University College of New York at Brockport  
**Steven Phipps**, Lecturer  
Ph.D., University of Missouri-Columbia  
**Sidney Savan**, Lecturer  
B.S., Washington University

\*members of Graduate Faculty

Each member of the faculty of the Department of Communication represents a requisite balance between practitioner and scholar/teacher. The department's curricula and activities demand a faculty with practical expertise in such disciplines as communication, radio/television/film, media studies, and public policy. Each faculty member has demonstrated repeated excellence as a practitioner through varied endeavors in workshops and lectures, as well as communication, radio/television/film, and video programs and productions. The faculty also 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 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 theory and rhetoric, or mass communication) or tailor a specific concentration to meet the student's individual needs and interests. An emphasis in communication theory or mass communication is recommended for students with clear career goals in one of these areas. The communication major is recommended for students interested in teacher certification, the bachelor of general studies degree in the Evening College, or in specific interdisciplinary fields such as public relations/advertising/organizational communication, information science, electronic journalism, television, media administration, and marketing communication. The faculty encourages all students to meet early and often with their faculty adviser to select a meaningful group of courses for a coherent, career-oriented academic program.

#### Minors and Certificates for Communication

The department actively supports the following minor and certificate programs open to students majoring in communication: Minor in Public Affairs Journalism, Minor in Photographic Studies, Minor in Legal Studies, Certificate in Writing, and Certificate in Secondary Education. For more information, see Certificate Programs and Interdisciplinary Studies in this *Bulletin*.

#### Master of Arts in Communication

The master of arts program, a collaborative effort between UM-St. Louis and UM-Kansas City, provides the opportunity for an advanced degree program in communication with emphasis in organizational and mass communication. For further details, please see the Graduate Studies section of the Communication Department listings.

### Undergraduate Studies

#### General Education Requirements

Majors must satisfy the university and college general education requirements. The college's foreign language requirement may be taken in any language. Communication courses may not be taken on a satisfactory/unsatisfactory basis.

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 work.

**Communication (continued)****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
  - 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
  - 333, Communication Audit
  - 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
  - 360, Health Communication
- 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
- 330, Empirical Research Methods
- 331, Research Methods in Communication
- 334, Advertising Media Planning
- 350, Mass Communication History
- 352, Mass Media Criticism
- 354, Comparative Telecommunication Systems
- 355, Media Law and Regulation
- 356, International Communication
- 357, Media Ethics
- 358, Communication in Public Relations
- 360, Health Communication
- 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 6 hours of communication courses numbered 200-299 and at least 6 hours of communication courses numbered 300-399. Every major must complete the requirements for an emphasis area as described below.

**Emphasis Areas**

Two emphasis areas are available: Communication theory and rhetoric and mass communication.

**Required Courses for All Majors**

- 40, Introduction to Public Speaking
- 135, Communication Theory
- 193, 194, 196, 197, 198 (at least 3 hours of Practicum courses), or
- 393, 394, 396, 397 (at least 3 hours of Internship courses).

**Emphasis Area Requirements**

In addition to the above required course work, majors must complete the requirements specified below for one of the following emphasis areas:

**I Communication Theory and Rhetoric**

In addition to the required courses for all majors, students must take the following:

- a. 230, Small Group Communication
- b. Twelve additional hours in Communication Theory and Rhetoric

## Communication (continued)

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 College of Education, students must meet the state requirements for certification.

The B.A. and certification for grades 7-12 can be completed by taking a minimum of 39 hours in communication, selected according to departmental recommendations. The B.A. and certification for grades 7-9 can be obtained by taking 36 hours in communication, selected according to departmental recommendations.

Requirements of the College of Education include courses in professional education and English 262, 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, television club). In addition to the traditional classroom experience, students receive practical training in the department's laboratory facility: the Lucas Hall video laboratory.

Internships at radio and television stations, community agencies, newspapers, and public relations, marketing, and advertising firms, and a variety of business organizations provide valuable opportunities for majors to apply their communication studies.

### Minors in Communication

Students with majors other than communication may select from two minors to complement their academic and career goals.

The following conditions apply to all minors: Credit hours in Communication 195, and/or Communication 395, may be substituted for credit hours listed below with written consent of the communication department chairperson.

At least 9 of the 18 hours required for the minor must be taken at UM-St. Louis.

A minimum GPA of 2.5 is required in the minor.

### I Requirements for the minor in Communication Theory and Rhetoric are as follows:

a. **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.

### Graduate Studies

The department offers the master of arts degree in communication.

### Admission requirements:

For admission, a student must have a baccalaureate degree with a minimum G.P.A. of 2.75 and an undergraduate background in communication and/or the social sciences. The Graduate Record Examination is required, and should be submitted at the time of application. Two letters of recommendation are also requested for each student applying to the program. Deadlines are July 1 for the fall semester; December 1 for the winter semester, and May 1 for the summer term.

## **Communication (continued)**

### **Master of Arts in Communication**

#### **Degree Requirements:**

Candidates for the M.A. degree shall complete a minimum of 30 semester hours of approved study, at least 21 of which must be taken in courses offered by the department. Video courses from UM-Kansas City taken while in residence at Um-St. Louis may count toward this 21 hour minimum. A minimum of 18 hours must be taken at the 400 level, in addition to the hours taken for the thesis or internship/paper. Of this 18 hours of 400-level courses, 15 hours must be the specific core courses noted as follows:

#### **Communication**

- 400**, Seminar in Communication Theory
- 405**, Introduction to Communication Research Methods
- 411**, Seminar in Mass Communication Organization
- 431**, Seminar in Organizational Communication
- 435**, Seminar in Advanced Applied Communication Research

Students can plan their degree program to reflect either the emphasis area of mass communication or organizational communication.

Students must select one of the following exit projects: a six-hour thesis or a six-hour internship. Student must have a mid-program review at the end of 12-15 hours of course work, at which time they will discuss their academic performance and program with a faculty committee and determine the most appropriate exit project, although that project may be decided earlier at the student's discretion. 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

#### **Career Outlook**

The B.A. in communication prepares students for careers in numerous fields. Past graduates are working in the following positions: radio and television news, promotion and public relations, administration, directing, announcing, production, and sports journalism; media management; public relations, advertising, marketing, Web page design, market research, corporate media, sales, training, speech writing, print editing, journalism, teaching, and research. Other students have pursued graduate education in communication programs across North America offering the M.A. and Ph.D. degrees.

## Communication (continued)

### 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.

#### **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.

#### **113 Basic Television Studio Production (3)**

Study of basic television studio production techniques and practices. The class will provide the student with practical experience in studio camera operating, directing, producing, switching, audio mixing and lighting. Lab arranged.

#### **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.

#### **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 no more than 6 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.

**Communication (continued)****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 6 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 6 credit hours may be earned in departmental practicum courses.

**210 Television Production I (3)**

Prerequisites: Comm 110 or consent of instructor. A study of the basic theories and practices of remote television production. The areas of producing and directing in the field will be studied. The class will provide the student with practical experience in remote camera operation and basic editing techniques. Lab arranged.

**212 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.

**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.

**232 Effective Communication in the Organization: Tool for Leadership (3)**

Prerequisites: Junior standing or consent of instructor. Telecourse designed to equip students with communication skills applicable to the organizational context. The course will present effective strategies for the articulation of ideas, with particular emphasis on the development of leadership skills.

**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 media, and measuring effectiveness of campaign communications.

**Communication (continued)**

**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.

**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.

**313 Advanced Video Editing (3)**

Prerequisite: Six (6) hours of television production. Study of advanced editing techniques. Exposure to nonlinear formats. Animation and advanced graphics development. Exploration of state of the art editing formats. Lab arranged.

**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.

**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.

**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 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.



**Communication (continued)****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 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.

**357 Media Ethics (3)**

Prerequisite: nine hours of philosophy or nine hours communication or consent of instructor. (Same as Philosophy 357). This course is concerned with some of the issues that arise from the intersection of ethics and modern media communications. Attention is given to some of the more specific concerns of media ethics, such as truth, honesty, fairness, objectivity and bias; personal privacy and the public interest; advertising; conflicts of interest; censorship and offensive or dangerous content (pornography, violence). Particular attention will be given to problems posed by the development of personal computer communications through bulletin boards, on-line services, and the Internet.

**358 Communication in Public Relations (3)**

Prerequisite: Comm 150. An overview of communication within the area of public relations. Emphasis on ethics, law, professional standards, and written communication. Case study approach.

**360 Health Communication (3)**

Prerequisite: Comm 030, 040, or 050 or consent of instructor. An analysis of the role communication plays in influencing the health care environment. The course consists of two parts. The first part examines public health care prevention campaigns, e.g., anti-smoking, as well as focusing on the environmental problems, including communication strategies utilizing various media alternatives. The second part focuses on interpersonal and small group communication practices within health-care settings. Consideration of verbal and nonverbal communication research will be explored.

**362 Storytelling (1-3)**

Prerequisite: Junior standing or consent of instructor. This course gives an overview of the history of storytelling, types of tales, and appropriate uses for storytelling. The primary emphasis of the course is in developing storytelling skills through preparation, performances, and evaluation.

**390 Directed Readings (3)**

Prerequisites: Consent of instructor; not open to students who have any Y or delayed grades outstanding. Supervised independent study involving readings, conferences, papers, etc., in one of the department's disciplines: communication theory and rhetoric, or mass communication.

**391 Supervised Research (1-5)**

Prerequisites: Junior/senior standing and consent of instructor; not open to students who have any Y or delayed grades outstanding. Supervised field or laboratory research, data collection, literature searches, qualitative or quantitative data analysis, report writing and other techniques used by communication researchers. Repeatable, but no more than 5 credit hours may be earned in supervised research courses.

**392 Administration of Cocurricular Activities (3)**

Prerequisites: Junior standing and consent of instructor. A survey of the skills required to administer the various cocurricular activities associated with teachers in the secondary schools, such as: operation of debate tournaments, public speaking competitions, and mass media centers.

**393 Internship in Applied Communication (3-6)**

Prerequisites: Senior standing, with a least 12 hours of course work in communication theory and rhetoric; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Advanced practical work in business communication, political campaign communication, advertising, public relations, or other forms of organizational or public communication. Work must be done off campus, under supervision of a working professional in the field, in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

**394 Internship in Journalism (3-6)**

Prerequisites: Senior standing, with at least 12 hours of course work in journalism, mass communication, etc.; an overall GPA of at least 3.0; consent of instructor; open to communication majors only; not open to students who have any Y or delayed grades outstanding. Practical work with an off-campus newspaper, magazine, or other news organization, supervised by a journalism professional in consultation with a faculty member. Repeatable, but no more than six hours total credit may be earned in internship courses toward the 36-hour minimum required for the degree.

**Communication (continued)****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.

**400 Seminar in Communication Theory (3)**

Prerequisites: Graduate Standing. Examination of the theoretical, methodological, and philosophy of science issues in the discipline of communication. Examines general, micro, contextual, and interdisciplinary (symbiotic) communication theories. Required of all graduate communication students. (Core Course.)

**405 Introduction to Communication Research Methods (3)**

Prerequisites: Graduate Standing. Concerns the logic of scientific inquiry including the discovery, counting, and analysis of material, social, and symbolic facts, and reviews research methods guided by general, micro and contextual communication theories. Provides an orientation to graduate research including proposal development for thesis, internship and paper requirements and includes a theory-based research project of the student's choice. Required of all graduate communication students. (Core Course.)

**406 Introduction to Communication Education Research (3)**

Prerequisites: Graduate Standing. The development of educational communication research as a social scientific field. Critical evaluation of techniques and problem selection. Emphasis on the function of communication education concept formation and theory.

**431 Seminar in Organizational Communication (3)**

Prerequisites: Graduate Standing. Explores communication theories and topics related to organizational, institutional, and social system contexts and reviews the communication literature on behavior in organizations. Emphasizes a case study approach to the communication strategies used by agencies and corporations. (Core course.)

**435 Seminar in Advanced Applied Communication (3)**

Prerequisites: Graduate Standing. Examines the logic and forms of communication inquiry in solving client-centered problems. Topics include audience ratings and segmentation, targeting, applied and basic research paradigms and approaches to grounding theory. Reviews the use of research by agencies, campaigns and organizations. Includes a team research project. (Core Course.)

**454 Seminar in Communication Systems and Technologies (3)**

Prerequisites: Graduate Standing. Examines innovation in modern communications technologies, their impact on society, and their contribution to the information revolution.

**490 Directed Readings in Communication (1-10)**

Prerequisites: Graduate Standing. Individual research on a problem defined by the graduate student and the faculty member in conference. May be repeated once with the consent of the departmental graduate faculty.

**495 Seminar in Special Topics in Communication (3-9)**

Prerequisites: Graduate Standing. Selected topics in the study of communication. Review of the communication theory and methods appropriate to the topic. The course includes a research project. May be repeated in the topic is different.

**498 Thesis Research and Preparation (3-6)**

Prerequisites: Graduate Standing. Individual research for and preparation of graduate thesis. Project must be approved by the graduate faculty.

**499 Graduate Internship (3)**

Prerequisites: Graduate Standing. Individual on-site internship in organizational or mass communication setting. Internship project must be approved by the graduate faculty.

## Criminology and Criminal Justice

### Faculty

**Richard Wright**, Professor\*, Chairperson  
Ph.D., Cambridge University

**Robert Bursik**, Professor\*  
Ph.D., University of Chicago

**G. David Curry**, Professor\*  
Ph.D., University of Chicago

**Scott H. Decker**, Professor\*  
Ph.D., Florida State University

**Richard B. Rosenfeld**, Professor\*  
Ph.D., University of Oregon

**Bruce A. Jacobs**, Associate Professor  
Ph.D., University of Southern California

**David Klinger**, Associate Professor\*  
Ph.D., University of Washington

**Janet L. Lauritsen**, Associate Professor\*  
Ph.D., University of Illinois-Urbana

**Allen E. Wagner**, Associate Professor Emeritus  
Ph.D., Washington University

**Eric Baumer**, Assistant Professor\*  
Ph.D., State University of New York at Albany

**Jody Miller**, Assistant Professor\*  
Ph.D., University of Southern California

**Norman A. White**, Assistant Professor\*  
Ph.D., State University of New York at Albany

**Timothy Maher**, Lecturer  
M.A., University of Missouri-St. Louis

**Norman Malloyd**, Lecturer  
M. A., University of Missouri-St. Louis

**Margaret Phillips**, Lecturer  
Ph.D., Saint Louis University

\*members of Graduate Faculty

Criminology and criminal justice faculty represent several academic disciplines. By integrating practice with theory, faculty are able to present a comprehensive picture of crime and the justice system. This nexus of theory and application is found most directly in the department's emphasis on understanding policy in criminology and criminal justice. All components of crime and justice are represented in the curriculum including criminal behavior, delinquency, crime prevention, arrest, prosecution, defense, court processing, probation, prison, and parole. A special feature of the program is the cadre of local professionals who supplement the regular faculty. A federal appeals-court judge, local prosecutor, correctional supervisor, and probation supervisor are among this group.

### General Information

#### Degrees and Areas of Concentration

The department offers courses leading to the bachelor of science, the master of arts, and Ph.D., in criminology and criminal justice.

#### Cooperative Programs

Faculty of the criminology and criminal justice department hold appointments as fellows in the Center for Metropolitan Studies, the Center for International Studies and the Institute for Women's and Gender Studies. Workshops, projects, credit courses, and other social services are brought to the criminal justice community.

#### Internships

Majors are strongly encouraged to participate in 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. Courses used to fulfill the social science or state requirement may not be taken from courses in the major. Foreign language proficiency is not required, although students are encouraged to take foreign language courses. Majors may not take the following courses on a satisfactory/unsatisfactory basis: criminology and criminal justice courses; Sociology 220, Quantitative Techniques in Sociology; or Sociology 230, Research Methods. Additionally, substitutions which have been approved by departmental advisers for these courses may not be taken on a satisfactory/unsatisfactory basis.

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,

**Criminology and Criminal Justice (continued)**

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. All prerequisites must be satisfied prior to enrolling in a course. Students may register for 300-level courses only after obtaining a signature from the adviser in the criminology and criminal justice department.

**Degree Requirements**

Courses used to fulfill the social science or state requirements may not be taken from courses in the major.

Students may register for 300-level courses only after obtaining a signature from the adviser in criminology and criminal justice. All pre-requisites must be satisfied prior to enrolling in a course.

CCJ majors may not take course numbers 010, 260, or 345 offered through UM-Independent Studies to fulfill degree requirements in the major.

Bachelor of science in criminology and criminal justice candidates must complete the core curriculum listed below:

**Core Curriculum**

The following courses in criminology and criminal justice are required:

- 10, Introduction to Criminology and Criminal Justice
- 110, Theories of Crime
- 120, Criminal Law
- 130, Criminal Justice Policy
- 210, Research Methods in Criminology and Criminal Justice
- 220, Statistical Analysis in Criminology and Criminal Justice
- 390, Seminar in Criminology and Criminal Justice

One additional 200 level or above course in Criminology and Criminal Justice.

**Two courses from the following four:**

- 230, Crime Prevention
- 240, Policing
- 260, Corrections
- 270, Juvenile Justice

**Two courses at the 300 level:**

- 300, Communities and Crime
- 305, Comparative Criminology and Criminal Justice
- 310, Computers in Criminal Justice
- 315, Ethics in Criminology and Criminal Justice
- 320, Forms of Criminal Behavior
- 325, Gender, Crime, and Justice

- 330, History of Crime and Justice
- 335, Probation and Parole
- 340, Race, Crime, and Justice
- 345, Rights of the Offender
- 350, Victimology
- 380, Special Topics in Criminology and Criminal Justice

**Elective Courses**

- 99, The City
- 180, Alcohol, Drugs and Society
- 227, Urban Law: Poverty and the Justice System
- 280, Internship in Criminology and Criminal Justice
- 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:**

- 10, Introduction to Criminology and Criminal Justice

The candidate must then select from two of the following three courses:

- 110, Theories of Crime
- 120, Criminal Law
- 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 (s/u) basis.

**Graduate Studies****Master of Arts in Criminology and Criminal Justice**

The department offers a master of arts degree in criminology and criminal justice, which provides students with advanced theoretical and methodological training for research and management careers in criminal justice.

**Admission Requirements**

The minimum GPA for regular admission to graduate study is 2.75 on a 4-point scale. However, students may be admitted under restricted status with a GPA of 2.5.

Students admitted with a 2.5 to 2.75 GPA will be reviewed after completing 6 credit hours of graduate work. Admission is competitive.

**Degree Requirements**

The M.A. in criminology and criminal justice requires the completion of 33 credit hours, at least 18 of which are in criminology and criminal justice. All students must satisfy a 15-hour core course requirement. Additionally, M.A.

**Criminology and Criminal Justice (continued)**

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**

- 400, Proseminar: Criminology and Criminal Justice
- 405, Methods
- 410, Statistics
- 415, Foundations of Criminological Theory
- 420, Contemporary Criminological Theory

**Two of the following four courses**

- 451, Juvenile Justice System
- 452, The Police
- 453, Adjudication
- 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 course work.

**Application** To consider an applicant for admission, the Department of Criminology and Criminal Justice must have transcripts, three letters of recommendations, GRE scores and a writing sample. Applicants with master's degrees should include a chapter of their thesis. International students whose native language is not English are required to submit scores from the TOEFL examination.

**Amount of Course Work** Sixty post-baccalaureate hours of graduate work are required for the Ph.D. More than half of these hours must be completed in residence. Twelve credit hours of dissertation research (CCJ 499) are required. Students may enroll for dissertation credits (CCJ 499) only when all other degree requirements have been completed.

**Required courses for the Ph.D. are:**

- 400, Proseminar (3)
- 405, Methods (3)
- 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 the Department of Criminology and Criminal Justice.

**Comprehensive Examination**

Graduate students in the Ph.D. program cannot become recognized as Ph.D. candidates until they have passed the comprehensive examination. The goals of the comprehensive examination are to assess the student's familiarity with substantive literature, theory and methods of criminology and criminal justice and to evaluate the student's intellectual imagination and ability to apply knowledge to broad criminological questions.

## **Criminology and Criminal Justice (continued)**

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.

## Criminology and Criminal Justice (continued)

### 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, 20, 75, 99, 110, 120, 130, 180, 210, 220, 226, 227, 230, 240, 260, 270, 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.

#### 20 Foundations of Law: An Introduction to Legal Studies (3)

(Same as ID 20, and PoliSci 20). As a broad liberal-arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

#### 75 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.

#### 152 Philosophical Foundations of Criminal Justice (3)

(Same as Philosophy 152). Addresses fundamental conceptual and ethical issues that arise in the context of the legal system. Questions may include: How does punishment differ from pre-trial detention? How, if at all, can it be justified? Is the death penalty ever justified? When is it morally permissible for juries to acquit defendants who are legally guilty? Is plea bargaining unjust? Why might people be morally obligated to obey the laws? Are laws restricting civil liberty (e.g., laws against abortion, homosexuality, or drug use) permissible.

#### 180 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.

#### 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.

#### 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.

## **Criminology and Criminal Justice (continued)**

### **233 Philosophy of Law (3)**

Prerequisite: CCK 10 and three (3) hours of Philosophy. (Same as Philosophy 287) 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.

### **240 Policing (3)**

Prerequisite: CCJ 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. 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.

### **330 History of Crime and Justice (3)**

(Same as History 320) Prerequisites: Junior Standing or consent of instructor; CCJ 110, 120, 130, 210, 220. 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.



## **Criminology and Criminal Justice (continued)**

### **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.

### **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, 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. Examination of the history of criminological thought incorporating 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)**

(Same as Philosophy 431) Prerequisite: Graduate standing. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

### **433 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.

### **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.

### **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.

**Criminology and Criminal Justice (continued)**

**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, 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 Process and Policy (3)**

Prerequisite: Graduate standing. An analysis of criminal justice as a network of decisions and complex organizations. Topics include sources of criminal justice policy, policy agendas, implementation and evaluation.

**451 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 CCJ410. 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 Psych 475, 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

**Susan K. Feigenbaum**, Professor\*, Chairperson  
Ph.D., University of Wisconsin

**Sharon G. Levin**, Professor\*; Director of Graduate Studies;  
Assistant Chairperson  
Ph.D., University of Michigan

**Lawrence White**, Professor; Friedrich A. Hayek Professor in  
Economic History  
Ph.D., University of California, Los Angeles

**Thomas R. Ireland**, Professor\*  
Ph.D., University of Virginia

**Joseph P. McKenna**, Professor Emeritus  
Ph.D., Harvard University

**William E. Mitchell**, Professor Emeritus  
Ph.D., Duke University

**Donald Phares**, Professor Emeritus  
Ph.D., Syracuse University

**Robert L. Sorensen**, Professor\*, Director of Undergraduate  
Studies  
Ph.D., Virginia Polytechnic Institute

**Clinton A. Greene**, Associate Professor\*  
Ph.D., University of California-Davis

**Donald J. Kridel**, Associate Professor\*  
Ph.D., University of Arizona

**Timothy McBride**, Associate Professor, \* Economics, Public  
Policy Administration, and Gerontology  
Ph.D., University of Wisconsin-Madison

**David C. Rose**, Associate Professor\*  
Ph.D., University of Virginia

**Herbert D. Werner**, Associate Professor Emeritus\*  
Ph.D., University of California-Berkeley

**Anne Winkler**, Associate Professor\*, Economics and Public  
Policy Administration  
Ph.D., University of Illinois at Urbana-Champaign

**Debin Ma**, Assistant Professor  
Ph.D., University of North Carolina

**Sarapage McCorkle**, Assistant Professor\*; Director, Center for  
Entrepreneurship and Economic Education  
Ed.D., University of Missouri-St. Louis

**Michael T. Allison**, Senior Lecturer  
A.B.D., University of Virginia

**Kathleen Phares**, Senior Lecturer  
M.A., University of Missouri-St. Louis

\*members of Graduate Faculty

### General Information

**Degrees and Areas of Concentration** Several degree programs are offered by the economics department. The B.A. in economics provides a flexible liberal arts orientation for students. The B.S. in economics places more emphasis upon developing the analytical and quantitative skills used in analysis. Both degrees can be tailored to meet the career

interests of the student.

The economics faculty considers research an integral part of good teaching. Research projects in recent years have dealt with energy, public choice, industrial organization, nonlinear modeling, property rights, wage discrimination, urban economic development, health economics and aging, economics of science, economics of gender, poverty and welfare, and government regulations.

The economics department also offers courses at the undergraduate level in geography.

A graduate program offers work leading to the M.A. degree in economics in preparation for careers in teaching, research, government, and industry. The program includes course work in macroeconomic theory, urban, international, industrial, and quantitative economics; and research methodology. The program can accommodate prospective full-time students as well as those who wish to study part-time solely in the evening. Classes are small, and student-faculty interaction is encouraged.

The economics department cooperates with the College of Business Administration and the master's in public policy administration program.

**Departmental Honors** A student may earn departmental honors with a GPA of 3.6 in economics and the recommendation of the department.

**Minor in Economics** A minor in economics is also available. See the following section for requirements.

### Undergraduate Studies

#### General Education Requirements

All undergraduate economics majors must meet the university and college general education requirements. Candidates for the B.A. degree may take any foreign language to meet this requirement. Candidates for the B.S. degree take mathematics and quantitative courses instead of the foreign language requirement. Courses in economics may be used to meet the university social sciences requirement.

Education majors specializing in economics must fulfill the requirements for the bachelor of arts degree. These majors are responsible for obtaining an adviser in the Department of Economics.

All prerequisites for economics courses must be completed with a C- or better.

#### Satisfactory/unsatisfactory Option

Courses outside the major field and Economics 51, Principles of Microeconomics, and Economics 52, Principles of Macroeconomics, may be taken on a satisfactory/unsatisfactory basis.

**Economics (continued)****Degree Requirements**

**Bachelor of Arts in Economics** Candidates for the B.A. degree must take at least 33, but no more than 45, hours in economics. At least 27 hours must be above the 100 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:

**51**, Principles of Microeconomics  
**52**, Principles of Macroeconomics  
**220**, Money, Banking, and Monetary Theory  
**251**, Intermediate Economic Theory: Microeconomics  
**252**, Intermediate Economic Theory: Macroeconomics  
**265**, Economic Statistics  
**380**, History of Economic Thought

**Bachelor of Science in Economics**

Candidates for the B.S. degree must complete at least 36, but no more than 45, hours in economics. At least 30 hours must be above the 100 level. All required courses for the major must be completed with a grade of C- or better. The following courses are required:

**51**, Principles of Microeconomics  
**52**, Principles of Macroeconomics  
**220**, Money, Banking, and Monetary Theory  
**251**, Intermediate Economic Theory: Microeconomics  
**252**, Intermediate Economic Theory: Macroeconomics  
**265**, Economic Statistics  
**365**, Introduction to Econometrics  
**Math 80**, Analytic Geometry and Calculus I, or  
**Math 100**, Basic Calculus

**Also required are two of the following:**

**350**, Mathematical Economics  
**352**, Analysis of Business Cycles  
**366**, Applied Econometrics  
**367**, Econometric and Time Series Forecasting or any mathematics course numbered 175 or above (with consent of adviser)

**Complementary Areas of Study**

The department encourages all majors to develop breadth in related disciplines. Course work and minors are available in a number of areas such as business administration, computer science, statistics, and political science. Students should check with their advisers for recommendations concerning courses in these areas. The department suggests the following supplemental course work for students interested in pursuing doctoral-level graduate work in economics or careers in general business.

**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 311, Math 132, BA 131, or the equivalent.

**The following courses are required:**

**51**, Principles of Microeconomics

**52**, Principles of Macroeconomics

**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 (s/u) 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 candidate's potential for success in the program.

The admissions decision is based on the applicant's academic transcript, GRE scores, letters of recommendation, and a personal narrative on the application form.

**Departmental Honors** A student may earn departmental honors with a GPA of 3.75 in all required courses for the M.A. degree and the recommendation of the department.

## Economics (continued)

### 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**, Mathematical Economics  
**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

### 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 6 hours of economics electives may be taken at the 300 level. With the approval of the graduate coordinator, students may take up to 9 hours of graduate courses outside the Department of Economics.

### Business Economics

The business economics option prepares students for careers in business, government, and other organizations. This option combines the applied economic analysis and quantitative

skills necessary for decision making in business and government with an appreciation for the function areas of these institutions.

The business economics option requires 60 credit hours. Students with previous education in economics or business may waive up to 24 hours of the 60 hours required. Regardless of the number of required courses waived, at least 36 hours of graduate work must be completed within a six-year period to earn the degree. A minimum of 24 hours must be completed while enrolled in the M.A. in economics program at UM-St. Louis. More than 50 percent of the credit hours completed in the business economics option must be taken in the Department of Economics.

### Required Courses

In addition to the required core courses, students must complete the following courses:

**BA 412**, Public Policies Toward Business  
**BA 440**, Financial Accounting: Theory and Practice  
**BA 450**, Financial Management  
**BA 460**, Organizational Behavior and Administrative Processes  
**BA 470**, Contemporary Marketing Concepts  
**MS/IS 480**, Management Information Systems  
**Econ 366**, Applied Econometrics  
**Econ 453**, Economics of Contracts and Organization  
**Econ 467**, Business and Economic Forecasting

### Electives

Candidates must complete at least 9 hours of electives in 400-level economics courses. With the approval of the graduate coordinator, students may take additional graduate courses outside the Department of Economics.

### Graduate Certificate in Management Economics

A Graduate Certificate in Managerial Economics is a program of study designed for individuals who wish to supplement previous graduate studies with advanced training in economic analysis. The entrance requirement is a master's degree in such areas as business administration, finance, or public policy administration. Individuals admitted to this certificate program will be nonmatriculating graduate students.

### Requirements

The certificate requires a minimum of 18 hours of course work in economics. Students must complete:

**451**, Microeconomic Analysis  
**452**, Macroeconomic Analysis  
**465**, Econometric Theory and Methods

and two of the following:

**366**, Applied Econometrics  
**453**, Economics of Contracts and Organization  
**467**, Business and Economic Forecasting

## Economics (continued)

### Career Outlook

Economics is a language that provides the individual with a concise and logical way to study a wide range of problems and issues. It provides the flexibility for adapting to our ever-changing society, and it is also useful in everyday life. Thus, the economics major is excellent preparation for launching many careers. Economics graduates with a B.A. or B.S. degree pursue careers in banking, industry, and government. They use their training in economics as a foundation for a variety of jobs in management, personnel, sales, and marketing. Others continue their study of economics in graduate schools, earning M.A. and Ph.D. degrees. An undergraduate major in economics also provides a strong background for work on an M.B.A. or law degree. Economics is also important for careers in politics, journalism, and public and private service in foreign countries. Career planning materials are available in the Economics Resource Center, 452 SSB. For additional information, call the director of graduate studies at 516-5560.

**Economics (continued)****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, 110, 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, 360, 364, 365, 366, 367, 380, 395.

GEOGRAPHY: 101, 102, 210, 211, 220, 295.

**Economics****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.

**110 The Economics of Professional Sports (3)**

Prerequisite: Econ 40 or equivalent or consent of instructor. This course will survey the economic organization of professional sports team industries and the relationship of sports teams to their employees, fans, and governments. Economic issues relating to salaries and labor disputes, monopoly practices, cartels and pricing, team location decisions, and public subsidies for professional sports teams will be analyzed.

**205 History of American Economic Development (3)**

Prerequisites: Econ 40 or 51 or consent of instructor. (Same as Hist 205). Examines theories and evidence that explain American economic development from the Colonial period to the present. Selected topics include the growth incentive in our constitutional framework, the role of immigration in U.S. economic development, and the pros and cons of the factory system.

**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 Public Finance: 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 Finance: 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.

**Economics (continued)****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.

**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 100 recommended. Application of microeconomic theory to the decision-making process in the business firm. Discussion of cost behavior, price and output determination under various competitive conditions, as well as factors affecting wages, interest, and profits.

**260 Labor Economics (3)**

Prerequisite: Econ 40, or 51, or 52. Examines the labor market in the economy. Considers the theories of labor supply, labor demand, and market determination of wages. Other topics include noncompetitive markets, internal labor markets, the theory of human capital, compensating wage differentials, labor market discrimination, unions and collective bargaining, unemployment, and poverty and the distribution of income.

**262 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.

**301 Quantitative Methods and Modeling in Economics, Business and the Social Sciences (3)**

Prerequisites: Math 30; Econ 51 or junior standing. This course focuses on the application of mathematical techniques to model building. The course reviews various mathematical techniques and shows students how they can be used for describing various social and business phenomena. Specific examples from the business, economics, criminology and other social sciences will be employed to reinforce the mathematical tools and concepts discussed. Students who have previously completed Econ 350 or Math 80 or Math 100 may not take this course for credit.

**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.



**Economics (continued)****350 Mathematical Economics (3)**

Prerequisites: Math 80 or 100, Econ 251, or Business 408 or 410. This course uses calculus and other mathematical tools to analyze economic phenomena. In addition to exploring techniques used to solve unconstrained and constrained optimization problems, the course also examines how matrix algebra is used in economic modeling. This course allows students to mathematically analyze economic models which receive graphical treatment in lower level courses.

**352 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.

**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.

**365 Introduction to Econometrics (3)**

(Same as Public Policy Administration 365.) Prerequisites: Econ 51 and 52; Econ 265 Math 80 or Math 101; or consent of instructor. An introduction to quantitative analysis of economic behavior. The ordinary least squares technique and the assumptions underlying it are developed. Methods designed to detect and correct for the violations of these assumptions are examined. Special emphasis is given to the practical application of the procedures discussed through the use of computer exercises.

**366 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.

**408 Microeconomics for Policy Analysis (3)**

Prerequisites: Graduate Student Standing. (Same as PPA 408) This course introduces microeconomic analysis of consumers, firms, and government, with an emphasis on policy applications. It assumes no prior training in economics and is appropriate for graduate students in public policy administration, nonprofit management, political science, gerontology, criminology and criminal justice, and other related fields. This course may not be used by economics students to meet M. A. degree requirements.

**420 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 (continued)****421 Public Sector Microeconomics (3)**

Prerequisite: Econ 251 or BA 410, or PPA 408. (Same as PPA 421.) 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 220; 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 Economics of Contracts and Organization (3)**

Prerequisites: Econ 251 or BA 410 (or 408). Considers issues in the coordination of human resources in the production of goods and services, either through individual contracting or through various forms of organizations. Organization is explained as a nexus of contractual relationships within a cooperative production unit, whether that unit is governmental, in private commerce, or has a nonprofit orientation-or some mix of the three basic modes. Emphasizes the roles of transactions costs, bounded rationality, monitoring individual performance in team production, opportunism, basic principles of insurance, and other incentive compatibility issues.

**460 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.

**463 Economics of Telecommunications (3)**

Prerequisites: Econ 251, BA 408 or BA410 and Econ 350. Application of economic theory and techniques to the telecommunications industry. Topics include demand theory for telephone access and use, consumer surplus models for subscription choice, nonlinear pricing strategies including pure and mixed bundling and multi-part tariffs, the incentives of the firm under various regulatory regimes, a comparison of rate-of-return regulation and incentive (price cap) regulation, and the impact of carrier-of-last-resort responsibilities.

**465 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.

**Economics (continued)****471 The Political Economy of Health Care (3)**

Prerequisite: Econ 251 or BA 408 or consent of instructor. This course investigates the impact of government policy on health care provision and financing, focusing on the effect of entitlement programs, tax policy, and government regulation. Applying standard economics techniques, students will analyze incentives facing the decision makers in the health care system and ways in which they are altered by government policy. Attention will also be given to rationales for government intervention and roles of interest groups in the formulation of U.S. health care policy. The course will provide a detailed review of specific federal and state government financing programs, primarily focusing on Medicare and Medicaid, and will include discussion of the economic aspects of current health finance reform proposals.

**472 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 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.

**295 Special Topics in Geography (1-6)**

Prerequisite: Consent of instructor. This course will provide a more in-depth analysis of the various factors which influence Geographic patterns. The topic selected will vary from semester to semester. This course may be taken for credit more than once as long as the topic discussed in each semester is different.

**Home Economics****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.

## English

## Faculty

**Deborah Aldrich-Watson**, Associate Professor\*, Chairperson  
Ph.D., Columbia University

**David Carkeet**, Professor\*  
Ph.D., Indiana University

**Joseph Carroll**, Professor\*  
Ph.D., University of California-Berkeley

**Sylvia J. Cook**, Professor\*  
Ph.D., University of Michigan

**Charles Dougherty**, Professor Emeritus  
Ph.D., University of Toronto

**William C. Hamlin**, Professor Emeritus  
Ph.D., University of Missouri-Columbia

**Howard Schwartz**, Professor\*  
M.A., Washington University

**James E. Tierney**, Professor Emeritus  
Ph.D., New York University

**Peter Wolfe**, Professor\*  
Ph.D., University of Wisconsin

**Richard M. Cook**, Associate Professor\*  
Ph.D., University of Michigan

**Sally Ebest**, Associate Professor\*  
Ph.D., Indiana University

**Kathy Gentile**, Associate Professor\*  
Ph.D., University of Oregon

**Francis Grady**, Associate Professor\*  
Ph.D., University of California-Berkeley

**Barbara Kachur**, Associate Professor\*  
Ph.D., The Ohio State University

**Bruce L. Liles**, Associate Professor Emeritus  
Ph.D., Stanford University

**John T. Onuska, Jr.**, Associate Professor Emeritus  
Ph.D., Harvard University

**Steven Schreiner**, Associate Professor\*  
Ph.D., Wayne State University

**Eamon Wall**, Associate Professor  
Ph.D., City University of New York

**Jane Williamson**, Associate Professor Emerita  
Ph.D., Bryn Mawr College

**Jane Zeni**, Associate Professor\*  
Ed.D., University of Missouri-St. Louis

**Tivoli Majors**, Assistant Professor\*  
Ph.D., University of Texas at Austin

**Nanora Sweet**, Assistant Professor\*  
Ph.D., University of Michigan

**Mary Troy**, Assistant Professor\*  
M.F.A., University of Arkansas

**Dennis Bohnenkamp**, Senior Lecturer  
M.A., University of Missouri-Columbia

**Ellie Chapman**, Senior Lecturer Emerita  
M.A., Murray State University

**Susan Grant**, Senior Lecturer  
M.A., Southern Illinois University-Edwardsville

**Nancy Gleason**, Senior Lecturer  
M.A., University of Missouri-St. Louis

**Judy Gurley**, Senior Lecturer Emerita  
M.A., University of Arkansas

**Linda Kick**, Senior Lecturer  
M.A., University of Toronto, M.A., University of Missouri-Columbia

**William Klein**, Senior Lecturer  
M.A., University of Tulsa

**Judith Linville**, Senior Lecturer  
M.A., University of Arkansas

**Jennifer MacKenzie**, Senior Lecturer  
M.A., Purdue University

**Terence Martin**, Senior Lecturer  
Ph.D., Southern Illinois University-Carbondale

**Margaret DeChecko**, Lecturer  
M.A., University of Illinois - Champagne

**William Mayhan**, Lecturer  
Ph.D., Washington University

**Scott McKelvie**, Lecturer  
M.A., University of Missouri-St. Louis

**Lyman Peters**, Lecturer  
M.A., University of Missouri-St. Louis

**David Rota**, Senior Lecturer  
Ph.D., Southern Illinois University-Carbondale

**Barbara Van Voorden**, Lecturer  
M.A., Washington University

\*members of Graduate Faculty

## General Information

**Degrees and Areas of Concentration** The English department offers or participates in offering the B.A. in English, the B.A. in English with certification for secondary teaching, and the B.S. in secondary education with an emphasis area in English. The department also offers a minor in English. Additionally, students with any major in the university may earn a Certificate in Writing so that they may demonstrate evidence of training in creative, journalistic, or technical writing.

The department has a graduate program leading to the master of arts degree. Students may pursue a literature track where they acquire a broad coverage in British and American writers or a writing track where half of the course work deals with composition and writing theory. The department also offers the master of fine arts in creative writing, in which half of the courses are writing workshops and independent writing projects.

**Departmental Honors** Candidates for departmental honors in English must achieve a 3.2 average in English at graduation and complete an undergraduate or graduate seminar in English, the final paper for which must be acceptable to the instructor as an honors thesis.

**English (continued)****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 inter-disciplinary. English courses may be used to meet the university's humanities requirement, **except** the following:

- 10, Freshman Composition
- 11, Freshman Composition for International Students
- 112, Topics in Writing
- 122, Traditional Grammar
- 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
- 320, Independent Writing Project

The college's foreign language requirement may be met in any language.

**Satisfactory/Unsatisfactory Option**

English majors may take any English course on a satisfactory/unsatisfactory basis except the following:

- 10, 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, Reporting
- 262, The Curriculum and Methods of Teaching English
- 300, Writing in the Professions
- 305, Writing for Teachers
- 313, Advanced Business Writing
- 319, Editing
- 320, Independent Writing Project

**Degree Requirements****Bachelor of Arts in English**

English majors must complete at least 36, but no more than 45, hours in English exclusive of English 10, 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**

- 322, Old English Literature
- 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

**English (continued)****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
- 329, Forms and Modes of Poetry
- 387, The Two Cultures: Literature and Sciences
- 388, Narrative, Cognition, and Emotion

**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.

A maximum of 6 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.

Students majoring in English must complete a minimum of 12 graded hours in English courses at the 300 level or above in residence with a grade point average of 2.0 or better in these courses or students must receive special consent of the department.

Students should consult with faculty advisers to determine which upper-level courses best satisfy their major needs and interests.

**Bachelor of Arts in English with Certification for Secondary Education**

In addition to the requirements for the B.A. in English, students must meet the following requirements for secondary certification:

1) Two courses in American literature. This requirement may be met by courses counted for the major.

a American literature must include a unit or course in the literature of ethnic groups.

b American literature must include a unit or course in literature for adolescents.

2) Twelve hours in composition and rhetoric:

**English**

10, Freshman Composition, may be counted.

209, Practical Criticism: Writing About Literature, is required.

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 307, Linguistics, or 309, History of the English Language

4) **English 262**, The Curriculum and Methods of Teaching English. Must be taken before student teaching. Prerequisite: SEC ED 213, Techniques of Secondary School Teaching, and a near major in English.

5) **English 270**, English Teaching Intern Seminar, must be taken concurrently with SEC ED 290, Secondary School Student Teaching.

**English (continued)**

6) Candidates for certification in Missouri must have a 2.5 cumulative GPA, computed from the beginning of freshman year and including all colleges attended. They also need a minimum GPA of 2.5 in their English courses. All grades in professional education and in required English courses must be C or better.

Courses in professional education listed as requirements by the teacher education program in the College of Education 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 an Emphasis Area 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 College 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 adviser in the English department to ensure a coherent program of studies. The GPA in courses for the minor must be 2.0 or better. Nine of the 18 hours must be taken in residence at UM-St. Louis. No more than 3 hours taken on a satisfactory/unsatisfactory basis may be counted toward the 18-hour minimum.

**Certificate Program in Writing** A student may receive the Certificate in Writing by completing a total of 18 hours in writing courses chosen from the following:

**Comm 212**, Broadcast Writing and Reporting  
**Comm 217**, Script Writing for Business and Industry  
**English 103**, Poetry Writing  
**English 104**, Short Story Writing  
**English 105**, Play Writing  
**English 108, or Comm 108** 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 Comm 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 317**, Topics in Teaching Writing  
**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.)

**Technical Writing Emphasis**

The technical writing emphasis provides a more career-specific strategy for students enrolled in the Writing Certificate program. The technical writing emphasis is composed of **three required** courses:

**213**, Technical Writing  
**319**, Editing  
**313**, Advanced Business and Technical Writing or  
**320**, Independent Writing Project

In addition, students take **three electives** for a total of 18 hours chosen from the following:

**Business Administration**

**103**, Computers and Computer Information  
**205**, Contemporary Business Communication

**Communication**

**65**, Introduction to Information Technology

**Computer Science**

**125**, Introduction to Computer Science (Prerequisite: Math 30, College Algebra)

**English**

**212**, Business Writing  
**214**, News Writing  
**215**, Feature Writing  
**216**, Writing in the Sciences  
**228**, Public Relations Writing  
**313**, Advanced Business and Technical Writing (if **320** is taken as requirement)  
**320**, Independent Writing Project (if **313** is taken as requirement)

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

**English (continued)**

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 GRE scores as the basis for its decision. Applications to the master of arts program 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 both 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 the composition track must take 18 hours in literature courses (including Eng 400) and 18 hours in composition courses (including Eng 485). The literature courses should provide broad coverage, rather than a

narrow focus on a particular genre or historical period. If student choose the thesis option (6 hours) they will take 15 hours in literature and 15 hours in composition.

**Thesis Option** Students in literature or writing theory may elect the thesis option, which requires a total of 6 hours of thesis credit. The thesis should demonstrate original thought and substantial research and may be a critical study of literary works, a theoretical exploration of issues related to literature or writing, or a descriptive assessment of fieldwork related to writing and pedagogy. The thesis must be approved and assigned a grade by a thesis committee. The student will select a major professor who, after consulting with the chair and the graduate coordinator, will select two other members of the committee.

Further information may be found in *The Master of Arts in English*, available from the English department.

**Master of Fine Arts in Creative Writing**

The application process is identical to that for the master of arts degree, with two exceptions: a writing sample is required (15-20 poems or 20-40 pages of fiction), and there is one annual deadline for all applications, March 1. In addition to the Graduate School requirements, students must complete at least 39 hours, 30 of which must be in 400-level courses. Nine hours may be taken in 300-level courses approved by the department and Graduate School. Students will specialize in one genre, poetry or fiction. They must complete the following course work: (a) 21 hours in creative writing courses: 15 hours of workshops (at least one course outside the genre), and 6 hours of English 494; (b) 15 hours of courses in literature, language, or writing theory offered by the English department; and 3 hours of elective—another workshop or literature/language/ writing theory course or a relevant offering in another discipline. Students may not take a 300-level writing course in their genre for graduate credit. At least two of the writing workshops and English 494 must be taken at UM-St. Louis.

Complete information may be found in *The Master of Fine Arts in Creative Writing*, available from the English department.

**Career Outlook**

In addition to traditional employment as teachers at the primary, secondary, and community-college levels, recent UM-St. Louis graduates in English are working in journalism, editing, advertising, public relations, and other fields that place a premium upon creation and interpretation of the written word. Numerous recent English majors have successfully entered law school.



**English (continued)****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: 307, 308, 309. LITERATURE: 12, 13, 14, 15, 16, 17, 20, 70, 71, 120, 123, 124, 125, 126, 127, 128, 131, 132, 133, 134, 135, 171, 172, 225, 280, 306, 321, 322, 323, 324, 325, 327, 329, 332, 337, 338, 339, 342, 345, 346, 352, 353, 364, 365, 368, 369, 371, 372, 373, 374, 375, 376, 380, 383, 384, 385, 386, 387, 388, 391, 395. SPECIAL OFFERINGS: 250, 390. Theater: 23, 80, 198, 223, 261, 281, 282, 322.

**Writing****10 Freshman Composition (3)**

Teaches critical reading and thinking skills and emphasizes writing as a process. Enhances writing skills through a sequence of increasingly complex writing assignments. Class discussion and small-group workshops focus on problems of invention, organization, development, and revision in essay writing. Fulfills the campus freshman writing requirement. Does not count toward the major in English.

**11 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 Comm 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: Freshman Composition or equivalent (3-6 hours) and junior standing. This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for academic and professional settings. The course includes complex readings, focuses on persuasion and argumentation, expands upon students' research and documentation skills, and requires research in university libraries. This course fulfills the university's requirement for a junior-level course in communicative skills. It may not be taken on a satisfactory/unsatisfactory basis.

**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.

**English (continued)****212 Business Writing (3)**

Prerequisites: Freshman composition or equivalent (3-6 hours) and junior standing. This course further develops the experienced writer's style and analytical capabilities to the level of sophistication necessary for upper-division writing assignments and for business and professional settings. Writing assignments may include business correspondence, reports, resumes, proposals, analyses, feasibility studies, and articles for in-house publications. The course emphasizes clarity, conciseness, organization, format, style, tone, and mechanical correctness; expands upon students' research and documentation skills; and requires research in university libraries. Fulfills the university's requirement for a junior-level course in communicative skills. It may not be taken on a satisfactory/unsatisfactory basis.

**213 Technical Writing (3)**

Prerequisites: Freshman composition or equivalent (3-6 hours) and junior standing. The major elements of industrial technical writing. Writing assignments include technical definitions, abstracts and summaries, mechanism descriptions, instructions, process analyses, technical reports and proposals. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course includes an introduction to research methods and documentation. All readings are selected from industrial material. Fulfills the university's requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option.

**214 News Writing (3)**

(Same as Comm 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's requirement for a junior-level course in communicative skills. May not be taken on the satisfactory/unsatisfactory option.

**216 Writing in the Sciences (3)**

Prerequisite: Freshman composition or equivalent (3-6 hours) and junior standing. Designed to teach students how to write effectively in the sciences. Writing assignments include short reports, proposals and a major project. Students are encouraged to select projects that will reflect work in a science course which may include a research or analytical report, a formal proposal or a procedures/instructions manual. Emphasis is placed on clarity, conciseness, organization, format, style, and tone. The course will include an introduction to research methods and documentation. Fulfills the university's requirement for a junior-level course in communicative skills, subject to the approval of the student's major department. May not be taken on the satisfactory/unsatisfactory option.

**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.

**303 Advanced Poetry Writing (3)**

Prerequisite: English 210 and English 103 or consent of instructor. Workshop in poetry writing.

**304 Advanced Fiction Writing (3)**

Prerequisite: English 210 and English 104 or consent of 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. These might include reports, manuals, proposals, Web projects, computer documentation, or other advanced written assignments. These projects demonstrate the ability to handle complex assignments requiring initiative, independent work, and professional-level writing skills.

**English (continued)****317 Topics in the Teaching of Writing (3)**

(Same as Edu 317). Prerequisites: English 210 or equivalent. Special topics in the practice of and pedagogy of writing designed for in-service teachers. Topics may include writing at specific grade levels, writing/reading workshops, writing in urban settings, writing across the curriculum, action research, new technology, classroom and district-level assessment. May be repeated once for credit if topics differ. Counts toward Certificate in Writing.

**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 either individually or with an instructor to complete an extensive creative writing project.

**329 Forms and Modes of Poetry (3)**

Prerequisite: English 209 prerequisite or corequisite. An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and masterpieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g., Yeats, McKay, Bogan, Auden).

**455 Graduate Workshop in Poetry and Fiction (3)**

Prerequisite: Open to students in the MFA program and to others with consent of the instructor. Consists of a writing workshop in which the poetry and fiction written by the students enrolled in the course are discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original poetry and/or fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

**456 Graduate Workshop in the Novel (3)**

Prerequisite: Consent of the instructor, based on submission of sample of novel manuscript. A writing workshop in which a novel written by the student is discussed and analyzed by the instructor and members of the class. Students must have a complete novel manuscript (50,000 words minimum) ready for discussion by the beginning of class. May be repeated for maximum graduate credit of fifteen (15) hours.

**457 Graduate Workshop in Nonfiction (3)**

Prerequisites: Open to students in the MFA program and to others with consent of the instructor. A variable-topics writing workshop focusing on one or more of the following forms: personal essay, memoir, travel writing, literary journalism, biography, or other types of literary nonfiction. May be repeated for maximum graduate credit of fifteen (15) hours.

**459 Literary Journal Editing (3)**

Prerequisite: Open to students in the MFA program who have had at least two graduate writing workshops and to others with consent of the instructor. In this course students serve as the first readers of all submissions to the university's literary magazine, *Natural Bridge*. Students will read and evaluate poems, short stories, and essays and recommend a body of work to the editorial board of the magazine. The editorial board will then consider the class consensus in its final selection of material for publication. In addition to this primary task of editorial selection, students will also be involved in the production of an issue of the magazine. May ordinarily be repeated for maximum graduate credit of six hours.

**485 Theories of Writing (3)**

An analysis of major modern theories in 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 MFA program and to others with permission of instructor. Consists of a writing workshop in which the poetry written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original poetry throughout the course. May be repeated for maximum graduate credit of fifteen hours.

**English (continued)****493 Graduate Workshop in Fiction (3)**

Prerequisite: Open to students in the MFA program and to others with permission of instructor. Consists of a writing workshop in which the fiction (short stories or chapters of a novel) written by the students enrolled in the course is discussed and analyzed by the instructor and members of the class. Students taking this course will be expected to write original fiction throughout the course. May be repeated for maximum graduate credit of fifteen (15) hours.

**494 Final Writing Project (1-6)**

Prerequisite: Successful completion of 15 hours in graduate creative writing courses or permission from instructor. An independent writing tutorial taken by students after they have completed all other creative writing course work. Completion of the project (defined as six hours of credit) requires a substantial body of original poetry or fiction. May be repeated for maximum graduate credit of six (6) hours.

**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 210 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.

**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.

**English (continued)****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.

**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.

**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."

**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.

**322 Old English Literature (3)**

Prerequisite: English 210; or, for majors, English 209 prerequisite or corequisite and English 131 prerequisite or permission of instructor. An introduction to the literary culture of Anglo-Saxon England through study of the Old English language and close reading of a diverse group of Old English texts from the eighth to eleventh centuries.

**323 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.

**English (continued)****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.

**329 Forms and Modes of Poetry (3)**

An advanced critical study of formal poetry, from classical and Renaissance models to modern innovations and masterpieces. The course will cover scansion, figurative language, stanza form and convention, modes of occasional poetry, and studies of formal poets (e.g. Yeats, McKay, Bogan, Auden).

**332 Elizabethan Poetry and Prose (3)**

Spenser, Sidney, Wyatt, and other poets of the later 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 theater with some attention to the sonnets and longer poems. An historical background for a study of all the plays, including discussions of Elizabethan society, the world of the stage, and Shakespeare's biography.

**339 Tudor and Stuart Drama (3)**

A survey of the dramatic writings of the period from the interludes of John Heywood to the closing of the theaters in 1642, with particular attention to the plays of Marlowe, Jonson, Webster, and Ford. Though Shakespeare will not be studied in this course, connections between his works and those of his contemporaries will be discussed.

**342 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 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.

**English (continued)****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.

**387 The Two Cultures: Literature and Science (3)**

Prerequisite: English 132; English 209 (may be taken concurrently). Surveys the history of the debate about the relations between literature and science, beginning with the exchange between Arnold and Huxley in the Victorian period, continuing through the debate between Leavis and Snow at mid-century, and concluding with current controversies and with current efforts at interdisciplinary synthesis.

**388 Narrative, Cognition, and Emotion (3)**

Prerequisite: English 132; English 209 (may be taken concurrently). Examines narrative theory in the light of recent research into cognitive organization and the structure of the emotions. Traditional and contemporary theories of narrative – of realism, symbolism, point of view, tone, and genre – are developed through recent findings in empirical science. A variety of stories and novels are used as test cases for theoretical propositions.

**391 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 designed to prepare students for the professional study of English. The course will both familiarize students with basic bibliographic tools and scholarly methods and introduce them to issues that are of current critical interest to those engaged in the advanced study of literature. These issues include gender, textuality, reader-response, multiculturalism, feminism, psychoanalysis, cultural studies, literary history and the relationship of literature to philosophy, history and science. Must be taken within the first twelve hours of graduate study.

**415 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.

**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.

**English (continued)**

**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. This course must be completed in residence.

**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.



## Foreign Languages and Literatures

### Faculty

**Roland A. Champagne**, Professor\*, French, Chairperson  
Ph.D., Ohio State University

**Lorna V. Williams**, Professor\*, Spanish  
Ph.D., Indiana University

**Jeanne Morgan Zarucchi**, Professor\*, French and Art History  
Ph.D., Harvard University

**Marcus Allen**, Associate Professor Emeritus\*, French  
Ph.D., University of Pittsburgh

**Albert J. Camigliano**, Associate Professor Emeritus, German  
Ph.D., University of Wisconsin

**Alfred F. Goessl**, Associate Professor Emeritus\*, German  
Ph.D., Tulane University

**Ingeborg M. Goessl**, Assistant Professor\* Emerita,  
Ph.D., University of Kansas

**Panayiotis Bosnakis**, Assistant Professor, Greek  
Ph.D., Ohio State University

**Paul R. Hoffman**, Assistant Professor Emeritus, German  
M.A., University of Michigan

**Rolf R. Mueller**, Assistant Professor, German  
Ph.D., University of Kansas

**Deborah Baldini**, Senior Lecturer, Spanish  
M.A., Washington University

**Rita Bergoudian**, Senior Lecturer, French  
M.A., University of South Carolina

**Geremie Hoff**, Senior Lecturer, Italian and Spanish  
M.A., Webster University

**Anne-Sophie Blank**, Lecturer, French  
M.A., Washington University

**Martha Caeiro**, Lecturer, Spanish  
M.A., Washington University

**Donna Cays**, Lecturer, Spanish  
M.A., Saint Louis University

**Elizabeth Eckelkamp**, Lecturer, Japanese  
M.A., Washington University

**Nancy Mayer**, Lecturer, ESL  
M.A.T., Webster University

**Denise Mussman**, Lecturer, ESL  
M.A., University of Illinois-Chicago

**Margaret B. Phillips**, Lecturer, Latin  
Ph.D., Saint Louis University

**Sandra Trapani**, Lecturer, French  
M.A., University of Missouri-Columbia

**Susana Walter**, Lecturer, Spanish  
M.A., Washington University

**Susan Yoder-Kreger**, Lecturer, Spanish  
M.A., University of Virginia, Charlottesville

\*members of Graduate Faculty

### General Information

**Degrees and Areas of Concentration** The Department of Foreign Languages and Literatures offers course work in French, 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, Modern Greek, Italian, Japanese, and Latin.

Courses in Chinese and Japanese 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 Saint 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.

**Community College Scholarship** Qualified community college students may apply for the Foreign Language Community College Scholarship to be applied for educational fees toward the enrollment in third semester or higher courses in French, German, or Spanish. This scholarship must be used within one semester of the award. For information, contact the department.

**German 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.

## Foreign Languages and Literatures (continued)

**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 (s/u) 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 (13 hours: Language Courses 001, 002, and 101) may enroll in a second language on a satisfactory/unsatisfactory basis.

#### Specific Requirements or Restrictions

Students entering with no high school language units must enroll in Language 001 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 grade of D in a Language 001 course is a passing grade but not an entrance grade for a Language 002 course. A grade of D in a Language 002 course is a passing grade but not an entrance grade for a Language 101 course or its equivalent. A grade of 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 (s/u) basis.

#### Bachelor of Arts

All students seeking a B.A. in a foreign language must meet the departmental requirement of a minimum of 33 hours (excluding Language 001 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 College of Education.

**Bachelor of Science in Education** Those students seeking the B.S.Ed. degree, with a concentration in a foreign language, are required to complete 30 hours of work (excluding credit for Language 001 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 College of Education concerning their program.

#### Transfer Students

Transfer students majoring in one of the foreign languages must complete at UM-St. Louis a minimum of 12 graded hours in language courses at the 200 level or above with a grade point average of 2.0 or better in these courses.

#### Native Speakers

Native speakers must complete five courses in the 200 level or above to obtain a major in their native language.

## Foreign Languages and Literatures (continued)

### 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 345**, Europe 1763-1871
- History 351**, Contemporary France: Since 1870

#### German

Each major in German must complete the following courses:

- 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 352**, 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),

**Foreign Languages and Literatures (continued)**

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 355**, 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**

**170**, Composition and Conversation  
**180**, Readings in French  
**200**, Advanced Grammar  
**280**, French Literature I, or **281**, French Literature II

**Plus one additional course on the 200 level or above.**

**German**

**170**, Composition and Conversation  
**180**, Readings in German  
**201**, Masterpieces of German Literature, or  
**202**, The German Novelle and Drama

**Plus any two additional courses on the 200 level or above.**

**Spanish**

**Two of the following three:**

**171**, Conversation and Pronunciation  
**172**, Composition  
**180**, Readings in Spanish  
**200**, Syntax of the Spanish Language, or  
**271**, Advanced Spanish Conversation  
**280**, Introduction to Hispanic Literature: Spain, or  
**281**, Introduction to Hispanic Literature: Spanish America

**Plus one additional course on the 200 level or above.**

Students pursuing a graduate degree in secondary education may select an emphasis area in French, German, or Spanish. These required eighteen hours may be selected from 300- and 400-level courses in these languages.

**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 (continued)****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.

**111 Love in the Western World (3)**

This course will examine concepts of love in western literary traditions. Its main focus will be concepts of love from Greek and Roman antiquity and Christianity, and the ways that these concepts have shaped modern ideas of love. Emphasis on language and culture is also important in interpreting the texts.

**264 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.

**300 Language Acquisition and Analysis (3)**

The nature of human language, including language universals, sounds and sound patterns, word formation, and language processing. Students will be acquainted with first and second language acquisition, and will analyze data from various languages. Recommended for teachers of English and foreign languages.

**364 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 FLL 264, Curriculum and Methods, with an emphasis on specific practical skills. To be taken concurrently with SEC ED 290, Student Teaching.

**399 Standards-Based Foreign Language Instruction (3)**

Prerequisites: Teacher certification and one year teaching experience. Designed to provide inservice foreign language teachers with the background to enable them to design instructional units which incorporate the standards for foreign language learning. May be applied toward the Master's in Secondary Education with an emphasis in foreign language teaching.

**464 Issues in Foreign Language Methodology (3)**

Prerequisite: Foreign language education certification and teaching experience. Designed for secondary foreign language teachers, this course addresses recent developments in approaches and methods in the teaching of foreign languages. Emphasis is on curriculum design, teaching strategies, and evaluation.

**Chinese**

Courses in Chinese are taught on the UM-St. Louis campus by faculty of Washington University, through the Joint Center for East Asian Studies.

**001 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.

**190 Special Readings (1-3)**

Prerequisite: Chinese 102 or consent of the department. Independent study through readings, reports, and conferences.

**English as a Second Language****201 ESL Listening and Speaking Skills (3)**

Prerequisite: Minimum TOEFL score of 450 or placement by examination. This course is for international students. They gain skills in conversational level listening and speaking. Students improve comprehensive and discrete listening skills, conversation in various situations, strategies and pronunciation. In addition, students will practice these skills and learn about American culture by participating in local field trips. This course does not count toward a degree.

**203 Intermediate ESL Reading and Writing (3)**

Prerequisite: Minimum TOEFL score of 450 or placement by examination. In this course international students develop fluency in their reading and writing skills in American English. This course consists of reading a variety of types of written texts, vocabulary building, organization in writing from the paragraph to essay, techniques for generating ideas, grammar use and editing. This course does not count toward a degree.

**Foreign Languages and Literatures (continued)****205 Intermediate ESL Grammar (3)**

Prerequisite: Minimum TOEFL score of 450 or placement by examination. A course for international students who have already studied basic English grammar. The content covers intensive study of verb tenses; their forms, meanings and integrated use; and other grammatical structures. This course does not count toward a degree.

**301 Advanced ESL Conversation and Pronunciation (3)**

Prerequisite: Successful completion of ESL 201, minimum TOEFL score of 500 or placement by examination. Designed for non-native speakers who need to improve their fluency and pronunciation in American English. Conversation strategies, oral presentations and extensive practice to reduce accent are included. This course does not count toward a degree.

**302 Advanced ESL Listening and Note-taking (2)**

Prerequisite: Successful completion of ESL 201, minimum TOEFL score of 500 or placement by examination. Listening and note-taking skills are developed through practice. Students learn to recognize the organization and emphasis of class lectures. Strategies include vocabulary building, test-taking, and participation in class discussions. This course does not count toward a degree.

**303 Advanced ESL Reading and Writing (3)**

Prerequisite: Successful completion of ESL 203, minimum TOEFL score of 500 or placement by examination. To prepare students for English 10 or English 210, writing skills include organization of essays, rhetorical forms and their structure works, revision of ideas, research techniques, grammar use and editing. For reading development, students read articles and a novel, practice reading strategies and learn how to summarize articles. This course does not count toward a degree.

**305 Advanced ESL Grammar (3)**

Prerequisites: Minimum TOEFL score of 500. This course is for ESL students who need review and applied practice of English grammar for oral and written work. This course does not count toward a degree. Placement by assessment or consent of program coordinator.

**390 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.

**401 Advanced Pronunciation and Accent Reduction (3)**

Prerequisites: ESL 301, placement or consent of instructor. Designed for non-native speakers who have fluency in speaking English but need to reduce their accent to be better understood and feel confident expressing ideas. Course includes review and practice of the pronunciation of the consonants and vowels in American English; accent reduction, achieved through extensive practice of the stress, rhythm and intonation patterns; speaking skills through presentations.

**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 I or equivalent. Emphasis will be placed upon the speaking and understanding of French and upon the acquisition of the fundamentals of grammar and syntax. One-hour language laboratory per week required.

**101 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.

**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 (15)**

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.

**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.

**Foreign Languages and Literatures (continued)****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 are in French.

**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.

**311 Special Topics in French Culture (3)**

Prerequisite: Junior standing or French 280 or 281 for French majors. Selected topics in French culture. May be taught in English or French. If taught in English, French majors will do course assignments in French. This course may be repeated for credit.

**331 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 Theater and Poetry (3)**

Prerequisite: French 280 or 281. Critical reading and analysis of French Classical Age theater 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 Theater 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.

**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 Theater (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.

## Foreign Languages and Literatures (continued)

### 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.

### 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.

### 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.

### 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.

### 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, Hebel, 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.

### 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.



**Foreign Languages and Literatures (continued)****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.

**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 review and continued development of language skills with readings in their cultural context.

**150 Modern Greek Literature in Translation (3)**

This course is an exploration of significant works by major Modern Greek authors, dealing with relevant issues of Western literary traditions. Authors include: Cavafy, Kazantzakis, Seferis, Solomos, Elytis.

**190 Special Readings (1-3)**

Prerequisite: Modern Greek 101 or consent of the department. Independent study through readings, reports, and conferences.

**Hebrew**

Courses in Biblical and Modern Hebrew are available at Washington University for UM-St. Louis students. Consult Washington University and UM-St. Louis Registrar's Office 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.

**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.

## Foreign Languages and Literatures (continued)

### Japanese

#### 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.

#### 190 Special Readings (1-3)

Prerequisite: Japanese 102 or consent of the department. Independent study through readings, reports, and conferences.

### 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.

#### 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.

#### 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.

### 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.

#### 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.

#### 115A, 115B, 115C Intensive Spanish (15)

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.

#### 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.

**Foreign Languages and Literatures (continued)****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.

**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.

**311 Special Topics in Hispanic Culture (3)**

Prerequisite: Junior standing or Spanish 280 or 281. Selected topics in Hispanic culture taught in Spanish. This course may be repeated for credit provided that the topic is different each time.

**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 (continued)**

**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 to 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 are 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.

**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

**Alan F. J. Artibise**, E. Desmond Lee Professor and Director,  
Public Policy Research Center  
Ph.D., University of British Columbia

**Jay Rounds**, Desmond Lee Professor for Museum and  
Community History Studies\*  
Ph.D., University of California, Los Angeles

**Carlos A. Schwantes**, Saint Louis Mercantile Library Professor  
of Transportation Studies  
Ph.D., University of Michigan

**Jerry M. Cooper**, Professor\*, Graduate Coordinator  
Ph.D., University of Wisconsin

**Walter Ehrlich**, Professor Emeritus\*  
Ph.D., Washington University

**Paul Corby Finney**, Professor Emeritus  
Ph.D., Harvard 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 Emeritus\*  
Ph.D., Duke University

**Richard H. Mitchell**, Professor\*  
Ph.D., University of Wisconsin

**James Neal Primm**, Curators' Professor Emeritus\* Ph.D.,  
University of Missouri-Columbia

**Steven W. Rowan**, Professor\*  
Ph.D., Harvard University

**Arthur H. Shaffer**, Professor\*, Education Coordinator  
Ph.D., University of California; Los Angeles

**Blanche M. Touhill**, Professor\*, Chancellor  
Ph.D., Saint Louis University

**Robert M. Bliss**, Associate Professor\* and Dean, Pierre  
Laclede Honors College  
Ph.D., University of Wisconsin

**J. Frederick Fausz**, Associate Professor\*  
Ph.D., William and Mary

**Winston Hsieh**, Associate Professor\*  
Ph.D., Harvard University

**Andrew J. Hurley**, Associate Professor\*  
Ph.D., Northwestern University

**Adell Patton Jr.**, Associate Professor\*  
Ph.D., University of Wisconsin

**Gerda W. Ray**, Associate Professor\*  
Ph.D., University of California, Berkeley

**John A. Works Jr.**, Associate Professor Emeritus\*,  
Undergraduate Coordinator  
Ph.D., University of Wisconsin

**Priscilla Dowden**, Assistant Professor\*  
Ph.D., Indiana-Bloomington

**Laura Westhoff**, Assistant Professor  
Ph.D., Washington University

**Robert Archibald**, Adjunct Professor\*, President, Missouri  
Historical Society  
Ph.D., University of New Mexico

**Louise B. Robbert**, Adjunct Professor\*  
Ph.D., University of Wisconsin

**Eric Sandweiss**, Adjunct Associate Professor  
Ph.D., University of California-Berkeley

\*members of Graduate Faculty

### General Information

**Degrees and Areas of Concentration** The department offers work in Asian, African, European, Latin American, Middle Eastern, and United States history from ancient to modern times. At the bachelor's level, the department offers the B.A. in history, and, in cooperation with the College of Education, the B.A. in history with teacher certification and the B.S. in education with an emphasis in social studies.

At the graduate level, the department offers an M.A. in history with work in European, Latin American, East Asian, Middle Eastern, African, African-American, and United States history. The department also offers the option of an M.A. in history (historical agencies) with a concentration in museum studies.

### Departmental Honors

Students majoring in history may be awarded departmental honors upon graduation if they have achieved the following: a) at least a 3.2 overall GPA; b) at least a 3.5 GPA for all hours attempted in history courses; and c) an outstanding research paper in the Senior Seminar as certified by the faculty member responsible for directing it.

### Undergraduate Studies

#### General Education Requirements

History majors must meet the university and college general education requirements. History courses that will satisfy the university's state requirement are:

**History 3**, American Civilization

**History 4**, American Civilization

**History 5**, American Biography

**History 6**, African-American History

**History 7**, The History of Women in the United States

**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

**History (continued)**

Students may take any language that fulfills the college's foreign language requirement. Majors may not take required history courses on a satisfactory/unsatisfactory basis. Students enrolled in variable credit reading courses for 5 credit hours must complete a seminar paper.

**Degree Requirements**

**Bachelor of Arts in History** Students are encouraged to take programs which combine breadth of coverage with intensity. Two of the following are required:

**Courses 1 to 199.**

- History 3**, American Civilization
- History 4**, American Civilization
- History 5**, American Biography
- History 6**, African-American History
- History 7**, The History of Women in the United States

**Plus two of the following:**

- History 30**, The Ancient World
- History 31**, Topics in European Civilization: The Emergence of Western Europe to 1715
- History 32**, Topics in European Civilization: 1715 to the Present

**Plus:**

**Non-Euro/American survey:** One 3-hour course

**Courses 201 to 399.**

- One course in **United States history**
- One course in **European history**
- One course in **Non-Euro-American history**
- History 393**, Senior Seminar

Three additional 200 or 300-level courses

**Other**

Majors must complete at least 38, but not more than 45, hours in history with no grade below C in major. Courses 255 and 256 do not count toward major. After fulfilling the general education and specific major degree requirements, students are to take the remaining 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 14 hours of 300-level history courses in residence. One course must be 393, Senior Seminar (5 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 College of Education section in this *Bulletin*.

**Bachelor of Science in Education: Emphasis in Social Studies**

The history requirements are the same as for the B.A. degree except students fulfill the College of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the College of Education section in this *Bulletin*.

**Graduate Studies**

**Degree Requirements**

The Department of History offers two options for graduate study, the master of arts in history and the master of arts in history (historical agencies) with concentration in museum studies. These options are described below in separate sections.

**Master of Arts in History**

The Department of History offers students two ways of completing the master of arts degree: one path of study emphasizes depth of knowledge and research competence acquired through writing a substantial master's thesis; the second emphasizes breadth of historical knowledge acquired through graduate course work and the writing of research papers. Both paths include a core of substantive courses in history (see Core') to which the student adds either a thesis (see Thesis') or additional research papers and seminars (see Research Papers).

## History (continued)

The M.A. program offers all students intermediate training preparatory to doctoral programs, advanced training leading to teaching and other careers, and disciplined advanced work.

The department offers study in European history, United States history, East Asian history, Latin American history, and African and Middle Eastern history. Within these areas of study, students may specialize in the following fields:

Europe to 1715  
 Europe since 1715  
 Latin America  
 United States to 1865  
 United States since 1865  
 China and Japan since 1800  
 Africa and the Middle East  
 Africa and African American

### Admission Requirements

Applicants must meet several departmental admission requirements in addition to the general criteria of the Graduate School. The applicant's undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, only students with a 3.2 grade point average in their undergraduate major are admitted; most successful applicants have higher grades.

Applicants must submit three letters of recommendation, preferably from former teachers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Applicants must take the GRE Aptitude Test; the Advanced Test is optional. The departmental Graduate Committee bases its admission decisions upon the undergraduate transcript, the letters of recommendation, 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 3 credit hours each (21 hours in all), and one 5-credit-hour writing seminar consisting of a 2-credit-hour research paper supplement to a 3-credit-hour, 400-level history readings course.

To earn the 26-hour core, candidates select three fields of study, the first with a minimum of four courses (each at 3 credit hours or more), the second and third with a minimum of two courses each (at 3 credit hours or more). Each field must include at least one 400-level course.

In addition to this core, each candidate must select one of the two following degree options:

#### 1) Thesis Option—32 hours total

In addition to the core, the candidate choosing this option must enroll for 6 hours of thesis credit and submit an acceptable thesis. The thesis is based on original research in primary sources. Normally, theses do not exceed 100 pages of text. Candidates receive a grade for the thesis upon its approval by an advisory committee. The committee consists of professors selected by the candidate after consultation with the major professor. One member of the committee must be outside the candidate's general area of study, and one may be outside the history department.

The advisory committee conducts an oral examination on the thesis during the candidate's last semester of residence. The committee decides whether the candidate shall pass, fail, or fail with the option to repeat the oral examination at a later date. Students may not take the oral examination more than twice. The second examination must be held no less than one and no more than two semesters following the date of the first examination. Summer session may be counted as a semester under this procedure, but students should be aware of the difficulties involved in assembling faculty committees during the summer.

Thesis candidates must demonstrate competence in one foreign language or in quantitative methods as applied to historical study. Candidates shall demonstrate foreign language competence by translating, with the use of a dictionary, 500 words in one hour. A member of the history faculty will conduct this examination. That faculty member will choose the test for translation. Candidates shall demonstrate quantitative methods competence by satisfactory completion of either Psychological Statistics 201 or Sociological Statistics 220, or their equivalent.

#### 2) Research Paper Option—36 hours total

To complete this option, the candidate must complete two 5-credit-hour seminars (each consisting of a 400-level reading seminar plus 2 credit hours of supplementary work on a substantial research paper), in addition to the core. The candidate may choose a fourth field in addition to the three already represented in the core to complete this option.

### Master of Arts in History (Historical Agencies) with concentration in Museum Studies

This option is intended for students planning to pursue professional careers in museums. In addition to the core requirement of substantive courses in history, the program includes intensive training in the theory and practice of museology. This innovative program is a collaboration between the UMSL Department of History, Department of Anthropology, and Department of Art and Art History, and the Missouri Historical Society and is taught by a combination of professors and practicing professionals from

**History (continued)**

St. Louis-area museums. Recognizing that the museums field is in a period of rapid change, the program is designed to train students for leadership in the emergence of a new paradigm of museology that focuses on relationships between museums and the people and communities that they serve.

For most students this will be a terminal master of arts degree, fully preparing graduates for immediate entry into museum careers in a variety of positions. While the core requirement focuses on history studies, the museological training is applicable to employment in any type of museum.

**Admission Requirements**

Applicants wishing to enter the museum studies concentration must apply specifically for that concentration; successful application for the general M. A. program in history does not automatically provide access to the museum studies program. Applications for the museum studies concentration will be accepted only for the fall semester. Because of the prescribed sequence of course work, no midyear entry into the program will be allowed.

In addition to the general criteria of the Graduate School, applicants for the museum studies concentration must meet several additional criteria of the Department of History and the museum studies program. To meet departmental admission requirements, the applicant's undergraduate studies need not have been in history, but they must demonstrate high academic potential. Normally, the history department admits only students with a 3.2 grade point average in their undergraduate major; most successful applicants have higher grades. Applicants must submit three letters of recommendation, preferably from former teachers and/or employers, and a sample of their written work. The sample may or may not be academic work, and length is not a consideration. Applicants must take the Graduate Record Exam Aptitude Test; the Advanced test is optional.

Besides these departmental requirements, applicants must submit the Museum Studies Supplemental Application. The supplemental application includes a statement of intent for pursuit of a museum career.

The departmental Graduate Committee and the director of the museum studies program will base their admissions decisions upon the undergraduate transcript, the letters of recommendation, the sample of written work, and the GRE scores as evidence of ability to meet the academic demands of the training program, and the supplemental application as evidence of the will and ability to pursue a successful career in museums.

Applications for the museum studies program must be received by the university by no later than March 15.

**Museum Studies Curriculum – 19 hours total**

All candidates for the M. A. in history (historical agencies), concentration in museum studies, must complete History 435, 436, and 437. (These courses are crosslisted under the same numbers in the anthropology department and the art and art history department. Students may enroll through the department of their choice.) All candidates must also complete Art and Art History 492 (History of the Visual Arts in American Museums) and Anthropology 439 (Practicum in Exhibit and Program Development). Together, these courses provide a solid foundation in the theory and history of museology and in practical skills for museum work. As a final requirement, candidates must complete History (or Anthropology or Art and Art History) 438. This master's project will be the capstone demonstration of competence in museum studies. The specific nature of this demonstration will be customized to the interests and career aspirations of each student. It may take the form of a traditional thesis, an exhibit project, or some other appropriate form, as approved in advance by the candidate's advisory committee.

**Core History Curriculum – 20 hours total**

In addition to the above requirements, all candidates must complete a core of 20 hours of history course work, with no more than 6 hours at the 300 level (except History 393). This 20-hour core consists of six courses to be earned as follows: five courses, each at 3 credit hours or more, and one 5-hour seminar consisting of a 2-credit-hour research paper supplement to a 3-credit-hour, 400-level readings course on an aspect of the history of St. Louis.

To earn the 20-hour history core, candidates select two fields of study from among the department's fields of specialization, listed in an earlier section. The first field of study must include a minimum of four courses (each at 3 credit hours or more), and the second must include a minimum of two courses (each at 3 credit hours or more). Each field must include at least one 400-level course.

Most candidates in the Museum Studies option choose courses dealing with the history of the St. Louis region, as examples of historical analysis that can support the community service missions of museums in any location. However, this emphasis is not required.

**Career Outlook for B. A. and M. A. graduates**

An important rationale for the discipline of history is its centrality to the university curriculum and to the life experience. The ability to put events or developments into the context of the past is useful as well as pleasurable. Responses to a questionnaire sent to history graduates have indicated that alumni in a wide variety of fields are as conscious of and appreciative of their training in history as those who have chosen it as a profession. Men and women in business, lawyers, bankers, librarians, and foreign service officers have all found it relevant to their careers. Study and research in history sharpens organizational and writing skills



**History (continued)**

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.

**Career Outlook for M. A. (Historical Agencies) with concentration in Museum Studies**

There are more than 8,000 museums in the United States. History museums constitute more than half of that total, and employ approximately one-third of the 150,000 paid staff working in U. S. museums. While job requirements vary widely among individual museums and specific professional roles, the M.A. degree offered by this program qualifies graduates for a wide range of career opportunities, in history museums and in other types of museums as well. The museum studies program provides students with placement assistance and counseling and with access to a wide range of information on career opportunities in the field, and program faculty use their extensive networks in the field to help identify opportunities and to place students.

**History (continued)****Course Descriptions**

Students enrolled in variable credit reading courses for 5 credit hours must complete a seminar paper.

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 3, 4, 5, 6, 7, 30, 31, 32, 61, 62, 71, 72, 81, 82, 83, 84, 91, 201, 203, 207, 208, 210, 211, 212, 220, 241, 242, 243, 244, 252, 262, 300, 301, 302, 303, 304, 305, 306, 311, 312, 313, 314, 315, 316, 317, 318, 320, 321, 323, 324, 330, 331, 332, 333, 334, 335, 336, 337, 341, 342, 343, 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, 201, 252, 262, 358, 361, 362, 371, 372, 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.

**5 American Biography (3)**

A survey of United States history utilizing the perspective of biography. Students will study major themes in the history of the United States by focusing on the lives and experiences of selected individuals. The course fulfills the state requirement.

**6 African-American History (3)**

A survey of African-American history from the beginning of the European slave trade to the modern Civil Rights era. This course meets the state requirement.

**7 The History of Women in the United States (3)**

A survey of women's history from the colonial era to the present. The course meets the state requirement.

**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.

**History (continued)****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.

**87 Women in the Ancient World (3)**

Surveys the roles and statuses assigned to women in the Ancient Near East, Greece, and Rome to the fall of the Roman Empire in the fifth century A.D. Pays particular attention to extant sources for the study of women in ancient societies including literary and documentary materials and unwritten evidence including archaeological and iconographic sources.

**91 The Rise of Modern Judaism (3)**

Introduction to the historical development of modern day Judaism and the Jewish people. Subjects will include the genesis of the major movements in Jewish life, the destruction of European Judaism, Zionism and the birth and growth of Israel. Substantial attention will be given to the flowering of American Judaism and its significant role in defining the rise of Modern Judaism.

**150 The People's Century, Part I (3)**

The course provides unique insight into the turbulent events of the last 100 years by combining rare archival film footage with the testimony of ordinary people who lived through the century's sweeping changes and who recount their firsthand experiences.

**200 Selected Topics in History (1-3)**

Prerequisites: Consent of instructor. May be repeated for credit with consent of instructor.

**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.

**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.

**205 History of American Economic Development (3)**

Prerequisites: Econ 40 or 51 or consent of instructor. (Same as Econ 205). Examines theories and evidence that explain American economic development from the Colonial period to the present. Selected topics include the growth incentive in our constitutional framework, the debate over the profitability of slavery, the role of immigration in U.S. economic development, and the pros and cons of the factory system.

**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.

**208 The History of St. Louis (3)**

Prerequisite: Junior standing or consent of the instructor. This course will provide an overview of the history of the St. Louis metropolitan region from its founding in 1764 to the present. Main topics will include the St. Louis region before the Europeans, forces leading to the founding of the city, St. Louis as an "urban frontier," the Age of Steam on water and rail, the questions of slavery and the Civil War, St. Louis in the Gilded Age, the World's Fair, early efforts at city planning, impact of the automobile, St. Louis during the Depression and World War II, post war suburbanization, urban renewal St. Louis-style, school desegregation, the Schoemehl years, the emergence of St. Louis "Edge Cities," and St. Louis 2004.

**209 History of American Conservatism (3)**

Prerequisite: History 3 or 4. Examines the core of conservative thought from eighteenth-century America to the present. Will analyze the texts of Federalists, Jacksonians, the Gilded Age, Progressivism, anti-New Dealers, and the modern period. Writers from James Madison through William F. Buckley will be included.

**History (continued)****210 African-American History: From Slavery to Civil Rights (3)**

Prerequisite: Consent of the instructor. This course examines the impact of region, gender, and class on black activism by focusing on topics such as remembering slavery and emancipation, institution and community building during segregation, changing strategies in politics and protest, and the emergence of the direct action civil rights movement.

**211 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.

**219 U.S. Labor History (3)**

Examines the history of work and the working class in the United States. It focuses on the transformation of the workplace, the evolution of working class consciousness and the development of the labor movement, the role of race, gender and ethnicity in uniting or dividing the working class, and the nature of labor's relations with other social groups in the political arena. Particular emphasis on the political and economic conditions and strategies of periods when working class power was growing.

**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: Junior standing and Sec Ed 213. A study of the scope and sequence of history and social studies courses in the school curriculum, with emphasis on the selection and organization of materials and methods of instruction and evaluation. Attention is directed also toward learning the techniques and research tools of the scholar in the fields of history and social studies. May not count toward history hours required for history major. Must be completed prior to student teaching. This course must be completed in residence.

**256 Social Studies Teaching Intern Seminar (1)**

(Same as SEC ED 256.) Prerequisite: Must be enrolled concurrently in student teaching. Addresses the application of educational philosophy, social studies curriculum, teaching strategies, and instructional technology in the classroom setting. Offered concurrently with Secondary School Student Teaching, SEC ED 290.

**History (continued)**

**257 United States History for the Secondary Classroom (3)**  
Prerequisite: Education 213, Graduate Standing or consent of instructor. (Same as Secondary Education 257.) Adapts the themes and subject matter of American history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Either History/Sec Ed 257 or 258 must be taken the same semester as History/Sec Ed 255 except with special consent of the Social Studies Coordinator. Cannot be counted towards the minimum 38-hour history major requirement, but can be counted towards the 45-hour maximum and for Social Studies Certification.

**258 World History for the Secondary School Classroom (3)**  
Prerequisite: Education 213, Graduate standing or consent of instructor. (Same as Secondary Education 258.) Adapts the themes and subject matter of World history to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Either History/Sec Ed 257 or 258 must be taken the same semester as History/Sec Ed 255 except with special consent of the Social Studies Coordinator. Cannot be counted towards the minimum 38-hour history major requirement, but can be counted towards the 45-hour maximum and for the Social Studies Certification.

**262 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.

**312 The Indian in American History, 1600-1900 (3)**  
Prerequisite: Junior standing or the consent of instructor. Investigates Native American encounters with non-Indian peoples between 1600 and 1900, analyzing how traditional Indian cultures changed to meet a variety of new challenges introduced to North America by Europeans and Africans. The approach will be interdisciplinary and ethnohistorical with emphasis placed on case studies of important native nations at key turning points in their history.

**313 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.

**History (continued)****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. Reviews and analyzes the development of cities from a North American perspective focusing on the 19<sup>th</sup> and 20<sup>th</sup> centuries. Attention will be given to the issue of why North American cities appear and function differently from urban areas on other continents, including Europe, Asia, and South America.

**318 African-American Women's History (3)**

Prerequisite: Junior standing or consent of the instructor. This course introduces some of the themes of African-American women's history. By examining the impact of region, gender, and class on African-American women's experiences across time, the course highlights black women's applied and theoretical contributions to feminist politics and activism as well as the black struggle for freedom and equality. Topics covered include: slavery and emancipation, institution and community building, the family and work, electoral politics and direct action protest, civil rights, and contemporary issues.

**319 Topics in African-American History (3)**

Prerequisite: Junior standing or consent of instructor. Will explore a salient topic in African-American history. Such historical documents as personal narratives, letters, government documents, and autobiographies as well as monographs, articles, and other secondary sources will be used to explore topics such as slavery and slave culture in the United States; blacks and America's wars; the African-American intellectual tradition; or, African-Americans and the Great Migration.

**320 History of Crime and Justice (3)**

Prerequisite: Junior standing or consent of the instructor. (Same as CCJ 330). The analysis, development, and change in philosophies and responses to crime. Emphasis on major forms and definitions of crime, the emergence of modern policing, the birth of the prison and the juvenile court.

**321 Medieval England (3)**

Prerequisite: Junior standing or consent of the instructor. A brief summary of the Anglo-Saxon heritage and the impact of the Norman Conquest, followed by an investigation of the institutional, social, and legal evolution of the realm of England. English development will be viewed in its European context.

**323 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 Myceneans: 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.

**History (continued)****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.

**343 Absolutism and Revolution: Europe from 1598 to 1715 (3)**

Prerequisite: Junior standing or consent of the instructor. Examines how the final stages of the Reformation and the decline of Habsburg hegemony interacted with a series of simultaneous "revolutions" (social, political, scientific, and economic) in the mid-seventeenth century to produce a vibrant, expansionist Europe with Bourbon France as the major power.

**345 Europe 1763-1871: Revolution, Reaction, and Reform (3)**

Prerequisite: Junior standing or consent of the instructor. This course will examine Europe from the end of the Seven Years' War to the end of the Franco-Prussian war. It includes industrialization and the social and economic responses to it, the causes and course of the French Revolution and its impact on the rest of Europe, the romantic and reactionary aftermath to revolution, the slow and unsteady pace of political, social, and economic reform during the nineteenth century, the significance of the revolutions of 1848, the dawn of the age of nationalism, and the unification of Italy and Germany. The approach will be topical.

**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. A survey of the main social, economic, political, military, and cultural trends since the outbreak of World War II.

**350 The People's Century, Part I (3)**

The course provides unique insight into the turbulent events of the last 100 years by combining rare archival film footage with the testimony of ordinary people who lived through the century's sweeping changes and who recount their firsthand experiences. As an upper-division course, History 350 requires substantially more work than its lower-division counterpart, History 150.

**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.

**History (continued)****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 economic 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 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.



**History (continued)****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)**

Prerequisite: Consent of department and presentation of three examples of formal written work submitted in prior upper-division courses in history. Studies in historical methodology and historiography. Directed readings, research, and writing leading to the production of an original piece of historical scholarship. An exit interview is required. Senior Seminar is required for all history majors. May not be taken for graduate credit.

**400 Readings in American History to 1865 (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history to 1865.

**403 Mercantile Library Seminar and Readings in American History (3-5)**

Prerequisite: Consent of instructor and advanced graduate standing. Directed readings and writing on selected topics and areas in American history that draw heavily upon resources in the St. Louis Mercantile Library.

**405 Readings in American History Since 1865 (3 or 5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writing on selected topics and areas in American history since 1865.

**407 Readings in African-American History (3-5)**

Prerequisite: Graduate standing and consent of instructor. Directed readings and writings on selected topics and areas in African-American history.

**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.

**434 History Curatorship (5)**

Prerequisite: Graduate standing and consent of instructor. Principles and practices of curatorship in history museums. Historiography and research in material culture; theoretical foundations; methodologies for collecting and curating collections; legal and ethical issues, interpretation, role of the history curator in exhibit and program development' responsibilities to the community.

**435 Foundations of Museology I (3)**

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

**436 Foundations of Museology II (3)**

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

**437 Effective Action in Museums (3)**

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

**History (continued)****438 Museum Studies Master's Project (4)**

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

**440 United States History for the Secondary Classroom (3-6)**

Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of American history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques particularly designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 440 may not be used to meet History degree requirement.

**441 World History for the Secondary Classroom (3-6)**

Prerequisite: Graduate standing or consent of instructor. The intent of this course is to adapt the themes and subject matter of World history to the secondary classroom and to train teachers in the methodology of Socratic symposium, techniques designed to maximize the use of sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of World history, on expanding bibliography and on methods for choosing primary sources for use in an interactive classroom. History 441 may not be used to meet History degree requirement.

**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 (1-3)**

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. Systematic 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 graduate standing. Discussion and presentation of research on a special topic within the field.

**452 Doctoral Proseminar in African-American History (3)**

Prerequisite: Consent of instructor and advanced graduate standing. Systematic review of the literature and methods of the field.

**453 Doctoral Research Seminar in African-American History (3)**

Prerequisite: Consent of the instructor and advanced graduate standing. Discussion and presentation of research on a special topic within the field.

**455 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.

**466 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.

**History (continued)****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 doctoral level.

**Mathematics and Computer Science****Faculty**

**Raymond Balbes**, Professor\*, Chairperson  
Ph.D., University of California, Los Angeles

**Chal Benson**, Professor\*  
Ph.D., Yale University

**Charles Chui**, Distinguished Professor\*  
Ph.D., University of Wisconsin

**William Connett**, Professor\*  
Ph.D., University of Chicago

**Richard Friedlander**, Professor\*, Associate Chairperson  
Ph.D., University of California, Los Angeles

**Deborah Tepper Haimo**, Professor Emerita\*  
Ph.D., Harvard University

**Wayne L. McDaniel**, Professor\*  
Ph.D., Saint Louis University

**A Prabhakar Rao.**, Professor\*  
Ph.D., University of California, Berkeley

**Gail Ratcliff**, Professor\*  
Ph.D., Yale University

**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

**Sanjiv K. Bhatia**, Associate Professor\*  
Ph.D., University of Nebraska-Lincoln

**Haiyan Cai**, Associate Professor\*  
Ph.D., University of Maryland

**Ronald Dotzel**, Associate Professor\*  
Ph.D., Rutgers University

**Cezary Janikow**, Associate Professor\*  
Ph.D., University of North Carolina at Chapel Hill

**Kyungho Oh**, Associate Professor\*  
Ph.D., Purdue University

**Joachim Stöckler**, Associate Professor\*  
Ph.D., Universität Duisburg

**Frederick Wilke**, Associate Professor Emeritus\*  
Ph.D., University of Missouri-Columbia

**Shiyong Zhao**, Associate Professor\*  
Ph.D., University of South Carolina

**Wenjie He**, Assistant Professor\*  
Ph.D., University of Georgia

**Chengjun Liu**, Assistant Professor\*  
Ph.D., George Mason University

**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

**Mary Kay McKenzie**, Senior Lecturer  
M.S., Saint Louis University

**Shahla Peterman**, Senior Lecturer  
M.S., University of Wisconsin-Madison

**Gillian Raw**, Senior Lecturer Emerita  
M.A., Washington University

**Paul Schneider**, Senior Lecturer  
M.A., Saint Louis University

**Cynthia Siegel**, Senior Lecturer Emerita  
M.A., University of Chicago

\*members of Graduate Faculty

**General Information****Degrees and Areas of Concentration**

The Department of Mathematics and Computer Science offers work leading to the B.A. in mathematics, the B.S. in applied mathematics, the B.S. in computer science, and in cooperation with the College of Education, the B.S. in secondary education with a major in mathematics. The applied mathematics program has three emphasis areas: statistics, classical applied mathematics, and computational mathematics. The department also offers minors in computer science, mathematics, and statistics.

The program leading to the B.A. in mathematics is flexible, providing a broad introduction to the important branches of mathematics while giving students the depth necessary to pursue graduate study successfully. The B.S. in applied mathematics provides a solid foundation for the student interested in applications of mathematics, including computer-related mathematics. The B.S. in computer science prepares students for employment in modern computing technology and applications of computer science. The B.S. in secondary education introduces students to those branches of mathematics most relevant to teaching secondary-school mathematics.

The Department of Mathematics and Computer Science also offers a master's of arts (M.A.) degree in mathematics, a master of science (M.S.) degree in computer science and a Ph.D. in applied mathematics. Students pursuing the M.A. degree in mathematics may choose an emphasis in either pure or applied mathematics. The pure mathematics emphasis is well-suited for students preparing to teach at the high school, junior college, or four-year liberal arts college level. Those who concentrate on applied courses in the M.A. program build a foundation for the application of mathematics in industry and the continuation of their education in the Ph.D. program in applied mathematics. The M.S. degree in computer science emphasizes practical aspects of the field. Students may enroll in any of these graduate programs on a part-time basis.

**Department Scholarships**

The Department of Mathematics and Computer Science offers two scholarships for students who are majoring in mathematics or computer science.

## Mathematics and Computer Science (continued)

The **Mathematical Sciences Alumni Scholarship** is a monetary award for outstanding undergraduates at the junior or senior level. The **Donald Hankinson Memorial Scholarship** is a monetary award for outstanding students at the sophomore level or higher, including graduate students. Applicants for each of these scholarships must have a grade point average of 3.5 or higher in at least 24 hours of graded course work at the University of Missouri-St. Louis, and show superior achievement in courses in the mathematical sciences. Application forms may be obtained from the Department of Mathematics and Computer Science. The deadline for application for both scholarships is March 15, and the scholarships must be used for educational fees or for books at UM-St. Louis starting in the fall semester following the application.

### Undergraduate Studies

#### General Education Requirements

All majors must satisfy the university and appropriate school or college general education requirements. All mathematics courses may be used to meet the university's general education breadth of study requirement in natural sciences and mathematics.

#### Satisfactory/Unsatisfactory Restrictions

Majors in mathematics and computer science may not take mathematical sciences or related area courses on a satisfactory/unsatisfactory basis. Students considering graduate study should consult with their advisers about taking work on a satisfactory/unsatisfactory basis.

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.

### Degree Requirements

All mathematical sciences courses presented to meet the degree requirements must be completed with a grade of C- or better. At least four courses numbered 250 or above must be taken in residence. Students must have a 2.0 grade point average in the mathematical sciences courses completed.

Students enrolling in introductory mathematics courses should check the prerequisites to determine if a satisfactory score on the Mathematics Placement Test is necessary. The dates on which this test is administered are given in the *Schedule of Classes*. Placement into introductory courses assumes a mastery of two years of high school algebra.

A minimum grade of C- is required to meet the prerequisite requirement for any course except with permission of the department.

Note: Courses that are prerequisites for higher-level courses may not be taken for credit or quality points if the higher-level course has been satisfactorily completed.

### Bachelor of Arts in Mathematics and Bachelor of Science in Education Majoring in Secondary Education with Emphasis in Mathematics

Candidates for either the B.A. degree or the B.S. in Education are required to complete the following course work:

#### 1) All of the following mathematics courses:

- 80, 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
- 255, Discrete Structures

#### 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, Combinatorics

**Mathematics and Computer Science (continued)**

**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 Computing

**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
- 180, Analytic Geometry and Calculus III
- 202, Introduction to Differential Equations
- 245, Elementary Linear Algebra
- 255, Discrete Structures
- 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 Computing

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 Computing
- 225, Programming and Data Structures

Two related courses should be chosen with the approval of the adviser.

**c) Computational Mathematics Option**

The following courses in mathematics and computer science are required:

- 125, Introduction to Computing
- 225, Programming and Data Structures
- 278, Design and Analysis of Algorithms
- 323, Numerical Analysis I
- 324, Numerical Analysis II
- 355, Combinatorics

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**

**1) Computer Science**

- 125, Introduction to Computing
- 225, Programming and Data Structures
- 240, Computer Systems: Architecture and Organization
- 241, Computer Systems: Programming
- 255, Discrete Structures
- 274, Object-Oriented Programming with C++
- 275, Advanced Programming with Unix
- 278, Design and Analysis of Algorithms
- 325, Programming Languages
- 328, Program Translation Techniques
- 376, Operating Systems

**2) Mathematics and Statistics**

- 80, Analytic Geometry and Calculus I
- 175, Analytic Geometry and Calculus II
- 180, Analytic Geometry and Calculus III
- 245, Elementary Linear Algebra
- 132, Applied Statistics I

**3) Philosophy**

- 258, Ethics and the Computer

**4) Five more elective courses, numbered above 300 if in computer science, and above 200 if in mathematics or statistics. At least three of these elective courses must be in computer science, and at least one must be in mathematics or statistics.**

**Related Area Requirements**

To broaden student understanding of the sources and uses of mathematics, the department requires all candidates for the B.A. in mathematics, B.S. in education, B.S. in applied

**Mathematics and Computer Science (continued)**

mathematics, and B.S. in computer science to complete all courses in any two of the groups below with a grade of C- or better.

**Restrictions** Related area requirements may not be taken on a satisfactory/ unsatisfactory (s/u) basis. Students in either the computer science degree program or the statistics or computational mathematics emphasis areas for the applied mathematics degree program may not choose group 5; students in the classical applied math emphasis area may not choose group 8. Candidates for the B.S. in applied mathematics and the B.S. in computer science who choose group 9 must satisfy group 9 requirements with Physics 221, 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:**

220, General Ecology  
222, General Ecology Laboratory

**2) Biology:**

224, Genetics  
342, Population Biology

**3) Chemistry:**

11, Introductory Chemistry I  
12, Introductory Chemistry II

**4) Chemistry:**

231, Physical Chemistry I  
and another 200-level, or above, chemistry course.

**5) Computer Science**

225, Programming and Data Structures  
and one of either  
240, Computer Systems: Architecture and Organization I, or  
278, Design and Analysis of Algorithms

**6) Economics:**

365, Introduction to Econometrics, and one of either:  
366, Applied Econometrics, or  
367 Econometric and Time Series Forecasting

**7) Philosophy:**

160, Formal Logic  
260, Advanced Formal Logic  
280, Philosophy of Science

**8) Physics:**

111, Physics: Mechanics and Heat  
112, Physics: Electricity, Magnetism, and Optics

**9) Physics:**

221, Mechanics  
and another 200-level, or above, physics course

**10) Business Administration:**

Two of the following courses  
308A, Production and Operations Management  
308B, Production and Operations Management - Logistics  
308C, Production and Operations Management -  
Manufacturing  
308D, Production and Operations Management - Service  
Systems  
329, Business Forecasting  
330, Quality Assurance in Business  
375, Operations Research  
385, Operations Research II

**11) Engineering:**

144, Statics  
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, programming and Data Structures, will be granted credit for Computer Science 125, Introduction to Computing, 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 Computing  
225, Programming and Data Structures  
240, Computer Systems: Architecture and Organization

**Mathematics and Computer Science (continued)**

and two additional courses in Computer Science numbered above 240. At least one of these must be either Computer Science 241, Computer Systems: Programming, or Computer Science 278, Design and Analysis of Algorithms. 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

A minimum of two statistics courses numbered above 200 must be taken in residence in the Department of Mathematics and Computer Science at UM-St. Louis.

**Graduate Studies**

The Department of Mathematics and Computer Science offers an M.A. degree in mathematics, Ph.D. degree in applied mathematics, and an M.S. degree in computer science. Candidates for the M.A. degree may choose to concentrate in either **pure** or **applied** mathematics. Individuals may apply for direct admission to either the M.A. or Ph.D. program. In addition, a student in the M.A. program may petition the department for transfer to the Ph.D. program upon successful completion of 15 credit hours.

**Admission to Graduate Programs**

Applicants should have at least a bachelor's degree in mathematics or in a field with significant mathematical content. Examples of such fields include computer science, economics, engineering and physics. In addition to meeting the general admission requirements of the Graduate School, described elsewhere in this *Bulletin*, an applicant's record should demonstrate superior achievement in undergraduate mathematics. Additionally, students intending to enter the Ph.D. program must have a working ability in modern programming technologies. A student with a deficiency in this area may be required to take courses at the undergraduate level in computer science.

Applicants to the M.A. program must submit their academic transcripts. Foreign applicants 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 TOEFL scores. Applicants to the Ph.D. program must, in addition, submit three letters of reference and scores from the Graduate Record Exam general aptitude test and the subject test in mathematics. Applicants who did not major in mathematics may substitute the subject test in another field.

**Admission to Computer Science Program**

Applicants must have at least a bachelor's degree, preferably in computer science or in a related area. Students with bachelor's degrees outside computer science must demonstrate significant proficiency in computer science. This can be shown by a GRE subject test score in computer science of at least the 60<sup>th</sup> percentile or explicitly by showing competence in four computing areas as listed below. Any of the area requirements can be satisfied by suitable experience (at the discretion of the graduate director), or by passing computer science courses equivalent to the following UM-St. Louis courses with a grade of C or better:

- Two semesters of programming courses, and knowledge of a modern C-based language (e.g., C, C++, or Java). (CS 125 and CS 225, or CS 273, or CS 275).
- A course in data structures (CS 225).
- A course in assembly language programming, computer architecture, or computer organization. (CS 240 or CS 241).
- An elementary course in algorithms and analysis (CS 278).

Students must also have completed mathematics courses equivalent to the following UM-St. Louis courses, with a grade of C or better:

1. Two semesters of calculus (Math 80 and Math 175).
2. A course in linear algebra (Math 245).
3. A course in discrete mathematics (CS/Math 255).
4. An elementary course in probability or statistics (Stat 31 or Stat 132).

Students not meeting the above requirements must pass appropriate courses (as indicated).

**Preliminary Advisement**

Incoming students are assigned advisers with whom they should consult before each registration period to determine an appropriate course of study.

If necessary, students may be required to complete undergraduate course work without receiving graduate credit.



**Mathematics and Computer Science (continued)****Degree Requirements****Master of Arts in Mathematics**

Candidates for the M.A. degree must complete 33 hours of course work. All courses numbered below 400 must be completed with grades of at least B. The courses taken must include those listed below in either group A) or group B), together with additional courses discussed in C). Students who have already completed courses equivalent to those in A) or B) may substitute other courses numbered above 300. All substitutions of courses for those listed in A) or B) require the prior approval of the graduate director.

**A) Pure mathematics core:**

- 310, Advanced Calculus
- 316, Functions of a Complex Variable
- 340, Introduction to Abstract Algebra I
- 345, Linear Algebra
- 380, Introduction to Topology

**B) Applied mathematics core:**

- 310, Advanced Calculus
- 316, Functions of a Complex Variable
- 320, Mathematical Statistics
- 323, Numerical Analysis I
- 345, Linear Algebra

C) M.A. candidates must also complete 18 hours of course work numbered 400 or above, chosen with the prior approval of the graduate director. Courses may be chosen to develop expertise in either pure or applied mathematics.

**Thesis Option** Part of C) may consist of an M.A. thesis written under the direction of a faculty member in the Department of Mathematics and Computer Science. A thesis is not, however, required for this degree. A student who wishes to write a thesis should enroll in 6 hours of Math 490, M.A. Thesis. Students writing an M.A. thesis must defend their thesis in an oral exam administered by a committee of three department members which includes the thesis director.

M.A. degree students may have several of the courses in B) as part of their undergraduate record. Those who anticipate enrolling in the Ph.D. program are advised to use the opportunity to replace courses in B) they have had at the undergraduate level with courses such as

- 311, Advanced Calculus II
- 380, Introduction to Topology **and if possible**
- 331, Analysis of Variance and Design of Experiments
- 340, Introduction to Abstract Algebra I
- 364, Introduction to Differential Geometry

**Doctor of Philosophy in Applied Mathematics**

The requirements for the Ph.D. degree include the following:

1. Course work
2. Ph.D. candidacy
3. Doctoral dissertation

The requirements are described in detail below.

**1. Course Work**

A minimum of 60 hours of courses numbered 300 or above. At least 33 hours must be in courses numbered 400 or above. All courses numbered below 400 must be completed with a grade of at least B. In addition to course work, all Ph.D. students are expected to attend and participate in applied mathematics seminars.

**Distribution Requirement**

Among the courses presented for the degree there must be two courses from each of three of the following groups:

**I. Analysis and Applied Mathematics**

- 402, Classical Applied Mathematics
- 403, Topics in Applied Mathematics
- 410, Theory of Functions of a Real Variable
- 416, Functions of a Complex Variable
- 418, Topics in Analysis
- 430, Partial Differential Equations

**II. Numerical Analysis**

- 404, Topics in Computation
- 423, Topics in Numerical Analysis
- 427, Numerical Linear Algebra

**III. Optimization and Operations Research**

- 435, Operations Research - Deterministic Models
- 436, Operations Research - Stochastic Models
- 437, Quality Management
- 460, Calculus of Variations

**IV. Probability and Statistics**

- 420, Probability Theory
- 428, Topics in Probability Theory
- 432, Applied Statistics

**2. Advancement to Ph.D. Candidacy**

Advancement to Ph.D. candidacy is a four-step process consisting of:

- A) Completing distribution requirement.
- B) Passing the comprehensive examinations.
- C) Selecting a Ph.D. committee and preparing a dissertation proposal.
- D) Defending the dissertation proposal.

## Mathematics and Computer Science (continued)

### Comprehensive Examinations

Comprehensive examinations are offered in the following eight areas:

*Applied Mathematics*

*Real Analysis*

*Complex Analysis*

*Numerical Analysis*

*Optimization*

*Operations Research*

*Probability*

*Statistics*

The examinations are given on a rotating basis through the academic year; more detailed information on the individual examinations can be found in the *Department of Mathematics and Computer Science Graduate Student Handbook*. Each student must pass five comprehensive examinations. Students must apply to take each examination at least 45 days before the first day of the month in which the examination is offered. A student may attempt a particular comprehensive examination no more than two times; the second attempt must be within 13 months of the first attempt.

### Selection of a Ph.D. Committee and Preparation of a Dissertation Proposal.

The student is required to identify a dissertation adviser and an area of specialization for the dissertation. The area of specialization can be in a discipline complementary to mathematics. Usually, students select an adviser from contacts made through course work or in the seminar series. The adviser and student will then form a Ph. D. committee which may include faculty from other departments at UM-St. Louis. The committee advises the student on course work and research.

Each student must prepare a dissertation proposal. This is a substantial document describing the problem to be worked on and the methods to be used. It should also demonstrate the student's proficiency in written communication. The proposal is to be submitted to the Ph.D. committee for approval.

**Dissertation Proposal Defense.** If the Ph.D. committee finds the student's dissertation proposal acceptable, a defense is scheduled. This is a public event in which the student demonstrates mastery of the necessary skills to begin research.

### 3. Dissertation and Dissertation Defense

Each Ph.D. candidate must write a dissertation which is an original contribution to the field on a topic approved by the candidate's Ph.D. Committee and the department, and which meets the standards and requirements set by the Graduate School including the public defense of the dissertation. Students working on a dissertation may enroll in Math 499, Ph.D. Dissertation Research; a maximum of 9 hours in Math

499 can be used toward the required hours of work in courses numbered 400 or above.

### Master of Science in Computer Science

Candidates for the M.S. degree in Computer Science must complete 30 hours of course work, subject to the Graduate School regulations. All courses numbered below 400 must be completed with grades of at least B. Outside computer science, up to 6 hours of related course work is allowed upon permission of the graduate director.

Students must pass the following core requirements. Waiving or substituting for a specific requirement can be done on the basis of prior course work or experience (at the discretion of the graduate director), but it will not reduce the total hours required for the degree.

- Operating Systems (CS 376 or CS 476)
- Programming Languages (CS 325)
- Computer Systems (CS 470)
- Software Development (one of CS 450, CS 452, CS 454, or CS 456)
- Advanced Data Structures and Algorithms (CS 413)

### Financial Assistance

Financial support is available to full-time graduate students in the form of teaching and research assistantships. These are awarded on a competitive basis. For further information, contact the chair 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, computer science, and applied mathematics is greater than the available supply. In addition, a number of graduates in mathematics have elected careers in business and other related fields where they have found their logical and analytical skills to be well-rewarded.

## Mathematics and Computer Science (continued)

### 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- is 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\*, 70, 80, 100, 102, 105, 151\*, 175, 180, 202, 203, 245, 255, 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, 101, 122, 125, 170, 201, 224, 225, 240, 241, 255, 273, 275, 278, 301, 302, 304, 305, 314, 325, 328, 330, 314, 344, 350, 352, 354, 356, 361, 362, 373, 374, 376, 377, 378, 379, 388, 389. 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 satisfactory ACT Math score, or a grade of A or B in high school algebra II, or a grade of C or better in a two or four year intermediate algebra course, or a satisfactory score on the university's mathematics placement examination. This course presents methods of problem solving, centering on 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, 100 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 satisfactory ACT Math score, or 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 university's 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 either a satisfactory ACT Math score or a satisfactory score on the university's 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.

#### 70 Applied Mathematics of Interest (2)

Prerequisites: Math 30. An introduction to the role of interest in applied mathematics. Topics include simple and compound interest, mathematics of annuities, amortization bonds, sinking funds, and mortgages.

#### 80 Analytic Geometry and Calculus I (5)

Prerequisites: Math 30 and 35, or a satisfactory ACT Math score along with a satisfactory score on the university's trigonometry examination, or a satisfactory score on both the university's mathematics proficiency examination and the university's trigonometry examination. Introduction to analytic geometry, differential calculus, and integral calculus. Math 80, 175, and 180 form the calculus sequence.

#### 100 Basic Calculus (3)

Prerequisite: Math 30, or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. Introduction to plane analytic geometry and basic differential and integral calculus with application to various areas. No credit for Mathematics majors. Credit not granted for both Math 80 and 100.

#### 102 Finite Mathematics I (4)

Prerequisite: Math 30, or a satisfactory ACT Math score, or a satisfactory score on the university's proficiency examination. Introductory logic and set theory, partitions and counting problems, elementary probability theory, stochastic processes, Markov chains, vectors and matrices, linear programming, and game theory.

**Mathematics and Computer Science (continued)****105 Basic Probability and Statistics (3)**

Prerequisites: Math 30, or a satisfactory ACT Math score, or a satisfactory score on the university's mathematics proficiency examination. An introduction to probability and statistics.

Topics include the concept of probability and its properties, descriptive statistics, discrete and continuous random variables, expected value, distribution functions, the central limit theorem, random sampling and sampling distributions. Credit not granted for more than one of Stat 31, Stat 132 and Math 105.

**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. 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 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.

**245 Elementary Linear Algebra (3)**

Prerequisites: Math 100 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.

**255 Discrete Structures (3)**

Prerequisite: Math 175 or 100, and CS 125 or equivalent. (Same as CS 255) Treats fundamental ideas in discrete structures and serves as a foundation for subsequent course in both Mathematics and Computer Science. Provides an introduction to techniques of mathematical reasoning with examples derived from computer science. Topics include logic, set algebra, equivalence relations and partitions, functions, mathematical induction, elementary number theory, cardinality, recurrence relations, basic combinatorial methods, trees and graphs. Credit not granted for more than

one of CS 255, Math 250, and Math 255.

**303 Applied Mathematics I (3)**

Prerequisites: Math 202 and 245. Topics chosen from Fourier series, special functions, partial differential equations, and boundary value problems.

**306 Applied Differential Equations (3)**

Prerequisite: Math 202 and 245. The study of ordinary differential equations and partial differential equations is continued with applications in such areas as physics engineering and biology.

**310 Advanced Calculus I (3)**

Prerequisite: Math 255 and 180. 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 both CS/Math 255 and Math 180. 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)**

(Same as Statistics 320) See Statistics 320 Probability and Statistics section that follows.

**321 Mathematical Statistics II (3)**

(Same as Statistics 321) 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. 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.

**335 Theory of Numbers (3)**

Prerequisite: CS/Math 255 and Math 180 or consent of instructor. Properties of integers, multiplicative functions, congruences, primitive roots, and quadratic residues.

**Mathematics and Computer Science (continued)****340 Introduction to Abstract Algebra I (3)**

Prerequisite: CS/Math 255 and Math 180 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: CS/Math 255, Math 180 and Math 245. 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: CS/Math 255, Math 180 and consent of instructor.

**355 Combinatorics (3)**

Prerequisite: CS/Math 255 and Math 180. Advanced counting methods are introduced, including the use of generating functions for the solution of recurrences and difference equations. Additional topics may include: graphs and trees, combinatorial designs, combinatorial games, error-correcting codes, and finite-state machines.

**362 Projective Geometry (3)**

Prerequisites: CS/Math 255, Math 180 and Math 245. 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: CS/Math 255 and Math 180. Geometry of curves and surfaces in Euclidean three-space. Calculus on a surface. Intrinsic geometry of surfaces.

**366 Foundations of Geometry (3)**

Prerequisite: CS/Math 255 and Math 180 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: CS/Math 255 and Math 180 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: CS/Math 255 and Math 180 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.

**402 Classical Applied Mathematics (3)**

Prerequisites: Math 310, 316, and 345 or consent of instructor. The course gives the derivation of equations of mathematical physics such as Navier-Stokes' equations, Euler's equations, equations of elastic materials, and equations of electrodynamics, using scaling and conservation principles. The course also includes elements of the calculus of variations, the Euler-Lagrange equations and Hamiltonian theory.

**403 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.

**405 Computational Curves and Surfaces (3)**

Prerequisite: Math 310, 323 and 345, or consent of instructor. Construction of curves and surfaces using subdivision algorithms. Iterative refinement of discrete data in an easily programmable manner. Discussion of issues of convergence, shape control, relation to spline functions with uniform knots, multi resolution analysis, and wavelets.

**406 Computational Harmonic Analysis (3)**

Prerequisites: Math 303, Math 310, and Math 345. The course covers the basic of Fourier analysis and wavelet analysis. Topics include Fourier transforms and series, discrete Fourier transform, discrete cosine transform and their fast computational schemes, fast wavelet transform, and the lifting scheme. Additional topics include industrial standards for image compression and several aspects of signal processing.

**407 Time-Frequency Analysis (3)**

Prerequisites: Math 406. The course covers theoretical and practical aspects of several time-frequency methods. Included are linear transformations such as filtering, Zak, Gabor and wavelet transforms; bilinear transformations include the Winger-Ville distribution and other distributions of Cohen's class. Statistical methods of feature extraction and applications to signal compression are outlined as well.

**Mathematics and Computer Science (continued)****408 Advances in Wavelet Analysis (3)**

Prerequisite: Math 406. The course describes recent developments in several research areas connected with wavelet analysis. Included are frames, wavelet vectors, wavelet packets, wavelets on compact intervals and manifolds, adaptive (nonlinear) methods, and methods of computational physics. Applications include the sparsification of matrices, denoising and compression of signals.

**410 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.

**427 Numerical Linear Algebra (3)**

Prerequisite: Math 323 and Math 345 or consent of the instructor. The course includes solution of general and special linear systems. Techniques include methods (such as splitting or Krylov subspaces). Additional topics are the

eigenvalue problem and the method of least squares.

**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.

**432 Applied Statistics (3)**

Prerequisites: Statistics 321 or consent of instructor. The course studies classical and recently developed statistical procedures selected from areas including analysis of variance, multivariate analysis, nonparametric or semiparametric methods and generalized linear models. Emphasis is on application of procedures, including the rationale underlying choice of procedures.

**435 Operations Research-Deterministic Models (3)**

Prerequisites: Math 345 or equivalent. (Same as MSIS 428). A study of deterministic methods and models in operations research. This course provides an introduction to operations research and focuses on model building, solution and interpretation of results. Topics include formulation, solution, duality and sensitivity analysis in linear programming, integer programming, network flow models, nonlinear optimization, and dynamic programming.

**436 Operations Research-Stochastic Models (3)**

Prerequisites: Stat 320 or equivalent. (Same as MSIS 429). A study of stochastic methods and models in operations research. Provides an introduction to probabilistic models for decision making under uncertainty. Topics include stochastic processes, queuing theory and models, probabilistic inventory theory and models, Markovian decision problems, simulation and reliability.

**437 Quality Management (3)**

Prerequisite: MSIS 481 or Stat 320 or consent of instructor. (Same as MSIS 430.) An applied course on total quality management. Quality improvement approaches are presented and the managerial implications and responsibilities in implementing these approaches are discussed. Topical coverage includes the construction and interpretation of control charts, graphical methods, quality function deployment, robust experiments for product design and improvement, mistake-proofing (poke-yoke), the Deming approach, Baldrige award criteria, quality cost audits, worker empowerment and reward systems. Cases involving both business processes and physical processes are used to illustrate successful quality improvement efforts.

**439 Topics in Number Theory (3)**

Prerequisite: Consent of instructor. Topics selected from elementary, algebraic, analytic, and other branches of number theory. Examples of topics include the distribution of primes, the Riemann Zeta function, averages of arithmetic functions, the theory of partitions, ideal theory, and representations of integers by quadratic forms.

**Mathematics and Computer Science (continued)****442 Algebra (3)**

Prerequisites: Math 340 and 345. Basic fundamentals of the theory of groups, rings and fields.

**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 Calculus of Variations (3)**

Prerequisites: Math 202, 310 and 345. Classical functionals, minimization of functionals, Euler-Lagrange equations, appropriate function spaces, weak solutions, existence of solutions, approximation theory, practical applications and finite element approach to solutions will be covered.

**470 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.

**499 Ph.D. Dissertation Research (1-9)**

Prerequisites: Completion of comprehensive exams. May be taken for no more than nine hours.

**Computer Science****101 Introduction to Computers and the Internet (3)**

Prerequisites: Same as for Math 20 and Math 30. Covers basic concepts and components of a PC, including

microprocessor, disk, display, multimedia, printers, scanners, backup; survey of popular applications including e-mail, personal information managers, word processors, spreadsheets; brief discussion of computer languages; networking, terminology, methods for accessing information on remote computers; dialup access to computers including use of modems; overview of the Internet, popular browsers, World Wide Web, search engines, FTP, utilities, Hyper Text Markup Language, tools for Web page construction, security, privacy. Credit not granted for both CS 101 and BA 103.

**122 Computers and Programming (3)**

Prerequisite: Math 80 or 100, or a grade of at least B 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 CS 122.

**125 Introduction to Computing (3)**

Prerequisite: Math 80 or 100, or a grade of at least B 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.

**170 User Interface Design and Event-Driven Programming with Visual Basic (3)**

Prerequisite: Computer Science 125 or knowledge of some programming language and consent of the instructor. This course explores programming in Visual Basic for event-driven applications. Design and implementation of graphical user interfaces (GUI) are explored as primary examples. Additional topics may include DDE, OLE, and interactions with databases.

**201 An Introduction to Java and Internet Programming (3)**

Prerequisite: Math 30. Introduces the Java programming language and its use in Internet programming. This course will involve programming assignments in Java and their interface with browsers using applets. Students will also be exposed to the Java's windows toolkit - the AWT. A brief introduction to object-oriented programming concepts will be provided. Other topics will include threads, virtual machines, byte code, and the Java security model.

**225 Programming and Data Structures (3)**

Prerequisite: CS 125. A continuation of CS 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.

**Mathematics and Computer Science (continued)****240 Computer Systems: Architecture and Organization (3)**

Prerequisite: CS 225. Introduces details of computer systems from architectural and organizational points of view. Topics discussed may include data representation, digital logic and basic circuits such as ALU, multiplexers, decoders, flip-flops, registers, RAM and ROM memory, memory hierarchies, I/O devices, pipelining, parallel and RISC architectures, etc.

**241 Computer Systems: Programming (3)**

Prerequisite: CS 240. Continues introduction of computer systems, with assembly programming and its application. Topics covered may include addressing modes, stack manipulations and applications for reentrant and recursive modules, memory interfacing, I/O device interfacing, and serial and parallel communication.

**255 Discrete Structures (3)**

Prerequisites: Math 175 or 100, and CS 125 or equivalent. (Same as Math 255). Treats fundamental ideas in discrete structures and serves as a foundation for subsequent course in both Mathematics and Computer Science. Provides an introduction to techniques of mathematical reasoning with examples derived from computer science. Topics include logic, set algebra, equivalence relations and partitions, functions, mathematical induction, elementary number theory, cardinality, recurrence relations, basic combinatorial methods, trees and graphs. Credit not granted for more than one of CS 255, Math 250, and Math 255.

**273 The C Programming Language (3)**

Prerequisite: CS 225 or the equivalent without C. The C language is introduced together with the associated tools which make up the UNIX C programming environment. The course is project-oriented and a portion of the practical work will involve UNIX systems programming. This course is intended for students who have completed the equivalent of CS 125 and CS 225 but without the C language. It may not be taken for credit if the student has taken CS 225 with C.

**274 Object Oriented Programming with C++ (3)**

Prerequisite: CS 225. Introduces object-oriented concepts, terminology, and notation. The C++ language is explored, including topics such as dynamic memory, exception handling, function and class templates, operator overloading, inheritance, polymorphism, and generic programming with the standard template library. Additional topics may include GUI libraries.

**275 Advanced Programming with Unix (3)**

Prerequisite: CS 225. Exploration of the Unix operating system, including its tools and utilities for program development, such as makefile, piping and redirection, shell scripts, regular expressions, and symbolic debuggers. In addition, this course explores advanced features of the C programming language, including various file processing,

command-line and variable arguments, exception handling and generic interfacing.

**278 Design and Analysis of Algorithms (3)**

Prerequisites: CS 225, CS/Math 255, Math 245 and Sta: 132. Addresses the design and mathematical analysis of fundamental algorithms in computer science. Algorithms studied may involve search, sorting, data compression, string manipulation, graph traversal and decomposition, and algebraic and numeric manipulation.

**301 Web Programming Techniques (3)**

Prerequisites: CS 275. Provides an introduction to Web page development using current technologies such as HTML and XML. Programming in such languages as Perl, CGI scripting, Java script and Java. The current Web servers are compared for issues such as technology, capacity planning, and installation.

**302 Java and Internet Programming (3)**

Prerequisites: CS 301. A projects-oriented course using the Java programming language for Internet programming. The course focuses on current technologies in Java such as GUI toolkits, threads, the Java security model, and JavaBeans. Other topics may include sockets, IO Streams, server-side Java, and remote method invocation.

**304 Electronic Commerce Protocols (3)**

Prerequisites: CS 275 and Math 245. Provides a technical introduction to electronic commerce over the Internet, examining topics such as electronic data interchange, digital currency, and electronic catalogs. The course discusses technical issues such as telecommunications infrastructure, data warehousing, software agents, and storage retrieval of multimedia information. Other topics may include cryptographic techniques as applicable to web-site development, management of data in a secure manner, authentication and confidentiality, different levels of security (transaction, network, and protocol), and digital signatures.

**305 User Interface Development (3)**

Prerequisites: CS 275. Focuses on user interface design standards as a programming problem. It covers topics such as functional vs. aesthetic concerns, elegance and simplicity, interference between competing elements, visual variables, perceptual organization for visual structure, grid-based design of module and program, semiotics with images and representation.

**314 Theory of Computation (3)**

Prerequisites: CS 274. Covers finite state machines and pushdown automata, and their relationship to regular and context-free languages. Also covers minimization of automata, Turing machines, and undecidability. Other topics may include Church's Thesis, uncomputability, computational complexity, propositional calculus and predicate calculus.



**Mathematics and Computer Science (continued)****325 Programming Languages (3)**

Prerequisites: CS 274. A study of the principles of modern programming languages. The students perform a comparative study of syntax, semantics, and pragmatics of high-level programming languages. Also provides a discussion of list-processing, object-oriented, functional, procedural, or other programming paradigms.

**328 Program Translation Techniques (3)**

Prerequisites: CS 240, CS 274, CS/Math 255, Math 245. Looks at the theory of programming languages as well as the theory of program translation as a means for dealing with the conceptual gap introduced by the levels of abstraction. Program translation mechanisms are studied as a means to explore the tradeoff between language expressiveness, translation, and execution effectiveness. Particular attention is paid to compilers, with emphasis on constraints induced by syntax and semantics.

**330 Introduction to Artificial Intelligence (3)**

Prerequisites: CS 274, CS 275 and CS 278. An overview of AI applications is presented. An AI programming language, such as Prolog or Lisp, is introduced. Fundamental AI problem solving techniques are applied to heuristic search and game playing. An introduction to knowledge representation and expert systems is given. Topics such as theorem proving, neural networks, and natural language processing may also be studied.

**341 Computer Graphics (3)**

Prerequisites: CS 274, CS 275 and CS 278. The basic architecture of various types of graphics systems is presented. Also presents a detailed description of the basic algorithms for 2-dimensional and 3-dimensional graphics systems. Algorithms for shading, hidden line removal, and rendering in the 3-D systems will be examined. The course involves significant project work.

**344 Digital Image Processing (3)**

Prerequisites: CS 274, CS 275 and CS 278. Focuses on low-level image processing data structures and algorithms for binary image processing, region and texture analysis, image filtering, edge detection, and contour following. Other topics include coding for storage, retrieval, transmission, and image restoration.

**350 Software Engineering (3)**

Prerequisites: CS 274, and CS 275. Introduces software engineering as a discipline, discusses stages of software lifecycle, compares development models such as waterfall, prototyping and incremental/iterative, and compares structured and object-oriented methods. It also discusses software documentation, both internal and external verification/validation, quality assurance, testing methods, maintenance, project management and team structure, metrics, and available tools.

**352 Object-Oriented Analysis and Design (3)**

Prerequisites: CS 350. Concentrates on modeling using a visual language such as UML, in the context of a generic object-oriented development process. Discusses the object world, analysis/design goals as the driving development force, different system views, use cases, static and dynamic models, diagrams, modeling with patterns, and principles of responsibility assignments. The course may be supplemented with a CASE tool.

**354 Software System Architectures (3)**

Concerned with the design, modeling, and evaluation of complex software systems at the architectural level of abstraction. Covers basic principles of architectural system design, and may cover topics such as multi-tiered and packaged architectures, model-view and model-service separation, design supports for distributed and client-server applications, design patterns, package interfaces, notation, persistence, and GUI frameworks.

**356 Software Development Processes (3)**

Prerequisites: CS 350 or CS 352. This course is an in-depth study of software development processes, in the context of an actual project. Discussion includes object-oriented processes such as Rational Unified Process, as well as process management issues such as scheduling, risk-assessment, various metrics, and the selection of appropriate development methodology and tools.

**361 Database Management Systems (3)**

Prerequisites: CS 275 and CS 278. Presents the foundations, concepts and principles of database design. Various models of data representation are considered, including the hierarchical and relational models. Also considers some of the implementation issues for database systems.

**362 Information Retrieval (3)**

Prerequisites: CS 275 and CS 278. Presents deterministic models of information retrieval systems, including conventional Boolean, fuzzy set theory, p-norm, and vector space models. Other topics include probabilistic models, text analysis and automatic indexing, automatic query formulation, system-user adaptation and learning mechanisms, evaluation of retrieval, review of new theories and future directions, and intelligent information retrieval.

**373 Computer Networks and Communications (3)**

Prerequisite: CS 275 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.

**374 Client-Server Architectures (3)**

Prerequisites: CS 275 and Math 245. Studies communications systems in the context of the ISO standard for systems interconnection. There is hands-on exposure to development of client-server applications.

**Mathematics and Computer Science (continued)****376 Operating Systems (3)**

Prerequisites: CS 275, CS 240, Statistics 132 and Math 245. Studies the structure of a generic operating system, considering in detail the algorithms for interprocess communication, process scheduling, resource management, memory management, file systems, and device management. Topics in security may also be examined. Examples from pertinent operating systems are presented throughout, and use of the algorithms in modern operating systems is examined. Substantial practical work, using the UNIX operating system is required.

**377 Operating Systems for Telecommunications (3)**

Prerequisites: CS 372 or MS/IS 423. The structure of a general operating system will be studied. The various components, including the interface with the underlying hardware, will be considered in detail. UNIX and Windows/NT will be considered as case studies throughout the course. The course will also emphasize hands on experience as a power user of at least one modern operating system.

**378 Systems Administration and Computer Security (3)**

Prerequisites: CS 275. Identifies and studies major issues of relevance to systems and networks management. Covers a wide range of topics from a basic primer on networking topics from the systems perspective to advanced technical issues of user authentication, encryption, and mail privacy. Discusses the latest advances in network management tools and computer security protocols.

**388 Individual Studies (1-3)**

Prerequisites: CS 275 and consent of instructor. Allows a student to pursue individual studies under the supervision of a faculty member. May include development of a software project. May be repeated for credit.

**389 Topics in Computer Science (3)**

Prerequisite: Consent of instructor. A seminar on special topics in computer science to be determined by recent developments in the field and the interests of the instructor. May be repeated for credit with departmental consent.

**413 Advanced Data Structures and Algorithms (3)**

Prerequisites: An elementary course in analysis of algorithms or consent of the instructor. This course covers analysis of time and space complexity of iterative and recursive algorithms along with performance bounds, design of data structures for efficient performance, sorting algorithms, probabilistic algorithms, divide and conquer strategies, various algorithms on graphs, and NP completeness.

**427 Systems Administration (3)**

Prerequisite: (CS 376 or 377) and MSIS 496. The course will identify and study major issues of relevance to systems and networks management. It covers a wide range of topics from a basic primer on networking topics from the systems perspective to advanced technical issues of user authentication, encryption, and mail privacy. The course will discuss the latest advances in network management tools and computer security protocols.

**432 Introduction to Evolutionary Computation (3)**

Prerequisite: CS 330, or consent of instructor. This course introduces the concepts of nature-inspired problem solving population dynamics, Darwinian selection, and inheritance. It discusses problems applicable to evolutionary algorithms, overviews the existing models and instances, and analyzes specific instances such as genetic algorithms and genetic programming.

**434 Introduction to Machine Learning (3)**

Prerequisite: CS 330, or consent of instructor. This course introduces both symbolic and sub-symbolic approaches to machine intelligence. Specific topics covered may include data mining, supervised learning such as decision trees, and approximate methods such as fuzzy reasoning.

**436 Expert Systems (3)**

Prerequisites: CS 330, or consent of instructor. This course concentrates on issues related to building expert systems mimicking human-level expertise, including knowledge engineering processes leading to the design, construction, and evaluation of systems, relevant languages, tools, and shells, as well as representation, quality, and inference methods.

**438 Introduction to Neural Networks (3)**

Prerequisites: CS 330 or consent of instructor. This course introduces the concepts of connectionism, along with algorithms for simulating neural networks, discussion of alternative networks architectures and training algorithms.

**440 Computer Vision (3)**

Prerequisites: Graduate standing and consent of instructor. This course introduces computational models of visual perception and their implementation on computer systems. Topics include early visual processing, edge detection, segmentation, intrinsic images, image modeling, representation of visual knowledge, and image understanding.

**442 Visual Data Processing (3)**

Prerequisites: Graduate standing and consent of instructor. This course introduces low-level concepts and techniques used in image processing, including methods for image capture, transformation, enhancement, restoration, and encoding.

**Mathematics and Computer Science (continued)****444 Pattern Recognition (3)**

Prerequisites: Graduate standing and consent of instructor. This course provides an introduction to statistical decision theory, adaptive classifiers, and supervised and unsupervised learning. Different types of pattern recognition systems are introduced, including transducers, feature extractor, and decision units. Students are exposed to the application of the techniques to optical character recognition, speech processing, and remote sensing.

**450 Software Engineering (3)**

Prerequisites: Graduate standing and consent of the instructor. This course introduces software engineering as a discipline, discusses stages of the software lifecycle, compares development models such as waterfall, prototyping and incremental/iterative, and compares structured and object-oriented methods. It also discusses software documentation, both internal and external, verification/validation, quality assurance, testing methods, maintenance, project management and team structure, metrics, and available tools. Topics are the same as CS 350 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 350 and CS 450.

**452 Object Oriented Analysis and Design (3)**

Prerequisites: CS 350, CS 450, or consent of the instructor. This course concentrates on modeling using a visual language such as UML, in the context of a generic object-oriented development process. It introduces the object world, analysis/design goals as the driving development force, different system views, use cases, static and dynamic models, diagrams, modeling and patterns, and principles of responsibility assignments. The course may be supplemented with a CASE tool. Topics are the same as CS 352 but material is covered at a greater depth and additional projects are required. Credit not granted for both CA 352 and CS 452.

**454 Software Systems Architectures (3)**

Prerequisites: One of the following: CS 350, CS 450, CS 352, CS 452, or consent of the instructor. This course is concerned with the design, modeling, and evaluation of complex software systems at the architectural level of abstraction. It covers basic principles of architectural system design, and may cover topics such as multi-tiered and packaged architectures, model-view and model-service separation, design support for distributed and client-server applications, design patterns, package interfaces, notation, persistence and GUI frameworks. Topics are the same as CS 354 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 354 and CS 454.

**456 Software Development Processes (3)**

Prerequisites: One of the following: CS 350, CS 450, CS 352, CS 452, or consent of the instructor. This course is an in-depth study of software development processes, in the context of an actual project. Discussion will include object-oriented processes such as the Rational Unified Process, as well as process management issues such as scheduling, risk-assessment, various metrics, and the selection of appropriate development methodology and tools. Topics are the same as CS 356 but material is covered at a greater depth and additional projects are required. Credit not granted for both CS 356 and CS 456.

**461 Advanced Databases (3)**

Prerequisites: Graduate standing and consent of instructor. This course is an in-depth study of database techniques, including normalization theory, object-oriented databases, statistical databases, distributed databases, and failure recovery. The course will also involve substantial readings from the current literature.

**462 Intelligent Information Retrieval (3)**

Prerequisites: CS 330, CS 430 or consent of instructor. This course studies the use of AI techniques for the development of adaptive information retrieval systems. Techniques for analysis of information by statistical syntactical, and logical methods are also studied. Topics related to multimedia information are also discussed.

**464 Multimedia Information Systems (3)**

Prerequisites: CS 341 or CS 440. This course studies the technical and human issues related to the design, construction, and use of computer programs that combine text, audio, video, graphics, animation, and graphical user interfaces. It also surveys applications and tools.

**470 Computer Systems (3)**

Prerequisites: Background in computer organization or architecture or consent of instructor. This course focuses on parallel computing architectures, including RISC, pipelining, vector processing, SIMD, MIMD, and array processing. It introduces different memory and I/O subsystems, hardware description languages, and it demonstrates performance enhancement using different architectures studied.

**473 Client/Server Computing (3)**

Prerequisite: CS 377 or MSIS 496. The course will study communications systems in the context of ISO standards for systems interconnection. There will be hands on exposure to development of client-server applications.

**474 Parallel and Distributed Computing (3)**

Prerequisites: Background in computer organization or architecture, or consent of instructor. This course introduces the fundamentals of parallel computation and algorithm design. It discusses general techniques for designing efficient parallel algorithms for fixed-connection parallel network architectures such as arrays, trees, and hypercubes.

**Mathematics and Computer Science (continued)****476 Advanced Operating Systems and Network Management (3)**

Prerequisites: CS 376 or consent of instructor. This course provides a survey of contemporary operating systems principles, including overall design strategies for operating systems. The course also discusses communication and synchronization techniques for concurrent processes, and statistical analysis of job scheduling, process scheduling, I/O scheduling, and memory management.

**487 Computer Science Seminar (1-3)**

Prerequisites: Graduate standing and consent of instructor. This is a seminar on various topics. Substantial student reading and participation is expected. It may be taken more than once for credit with the consent of the department.

**488 Computer Science Independent Project (1-3)**

Prerequisites: Graduate standing and consent of instructor. This course offers the student an opportunity to work on an adviser-supervised project, individually or in a group. A student may repeat the course for up to 6 credit hours total, but at most 6 hours can be accumulated for CS 488 and CS 490.

**489 Topics in Computer Science (1-3)**

Prerequisites: Graduate standing and consent of instructor. This course offers various topics not offered on a regular basis. It may be taken more than once for credit with the consent of the department.

**490 Thesis (1-6)**

Prerequisites: Completion of at least 12 graduate credits and approval of research topic by thesis adviser. This course is designed for those students intending to present a thesis as part of their M.S. program. At most 6 hours can be accumulated for CS 488 and CS 490.

**Probability and Statistics****31 Elementary Statistical Methods (3)**

Prerequisite: Math 30. An introduction to the basic ideas and tools of statistics. Introductory data analysis, statistical modeling, probability and statistical inference. Includes topics in estimation, prediction, and hypothesis testing. A major focus of the course is the analysis of data using a computer software package such as SAS. A student may not receive credit for more than one of Statistics 31, Statistics 132, and Math 105.

**132 Applied Statistics I (3)**

Prerequisite: Math 80 or 100. An introduction to the basic ideas and tools of statistics. Introductory data analysis, statistical modeling, probability and statistical inference. Includes topics in estimation, prediction, and hypothesis testing. A major focus of the course is the analysis of data using a computer software package such as SAS. A student may not receive credit for more than one of Statistics 31, Statistics 132, and Math 105.

**232 Applied Statistics II (3)**

Prerequisite: Statistics 132, or equivalent. Focuses on data analysis using a number of statistical tools. Topics will be chosen from regression, analysis of variance, contingency tables, and various non-parametric techniques. The emphasis is on practical applications. A computer software package such as SAS will be used for the analysis of data.

**320 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. Sampling distributions, estimation theory, properties of estimators, hypothesis testing, Neyman-Pearson Theorem, likelihood ratio tests, introduction of analysis of variance and linear models. Basics of some nonparametric procedures.

**326 Introduction to Stochastic Processes (3)**

Prerequisite: Statistics 320. Basic theory and applications of stochastic processes. Markov chains, martingales, recurrent and transient states, stationary distributions, ergodic theorem, renewal processes, discrete martingales and stationary processes.

**330 Multivariate Analysis (3)**

Prerequisites: Math 245 and Statistics 320, or consent of instructor. Multivariate normal distribution and related sampling distributions. Procedures of statistical inference for the multivariate normal distributions, such as hypothesis testing, parameter estimations, multivariate regression, classification and discriminant analysis and principal components analysis.

**331 Analysis of Variance and Design of Experiments (3)**

Prerequisites: Math 245 and Statistics 320 or consent of instructor. An introduction to the analysis of variance with applications in completely randomized designs, randomized block designs, factorial experiments and split-plot type designs.

**Mathematics and Computer Science (continued)****332 Regression Models in Statistics (3)**

Prerequisites: Statistics 232 or consent of instructor. A rigorous course focused on the applications of regression. The course is rigorous in that the basic regression models in one and several variables are carefully developed using matrix notation. Topics such as the extra sums of squares principle, the general linear hypothesis, and partial and sequential F-tests are carefully presented. The course will focus on using these tools to analyze many different data sets.

**333 Nonparametric Methods in Statistics (3)**

Prerequisite: Statistics 320 or consent of instructor. An introduction to nonparametric statistical procedures. Order statistics, rank order statistics and scores, tests of goodness of fit, linear rank tests for the location and scale problems and applications.

**339 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
- Gearoid O'hAllmhurain**, Jefferson Smurfit Professor of Irish Studies (Social Anthropology, Ethnomusicology)  
Ph.D., The Queen's University of Belfast
- Douglas Turpin**, E. Desmond Lee Professor of Music Education\*  
D.Ed., Washington University
- Kenneth E. Miller**, Professor Emeritus  
Ph.D., Northwestern University
- Evelyn Mitchell**, Professor Emerita
- Arnold Perris**, Professor Emeritus  
Ph.D., Northwestern University
- James Richards**, Professor\*  
Ph.D., University of Rochester, Eastman School of Music
- Diane Touliatos**, Professor\*  
Ph.D., Ohio State University
- Fred Willman**, Professor\*  
Ph.D., University of North Dakota
- Mark Madsen**, Associate Professor\*  
D.M.A., University of Arizona
- Leonard Ott**, Associate Professor and Interim Associate Dean, College of Arts and Sciences\*  
Ph.D., Michigan State University
- Don N. Parker**, Associate Professor  
D.M.A., The University of Texas, Austin
- Robert J. Ray**, Associate Professor\*  
B.M., Northwestern University
- Alan C. McClung**, Assistant Professor  
Ph.D., Florida State University
- William Richardson**, Assistant Professor\*  
Ph.D., University of Kansas
- Kurt S. Baldwin**, Artist in Residence (Violincello)  
Performers' Certificate, Northern Illinois University
- Mahoko Eguchi**, Artist in Residence (Viola)  
D.M.A., Yale University
- John McGrosso**, Artist in Residence (Violin)  
Performers' Certificate, Northern Illinois University
- Rebecca Rhee**, Artist in Residence (Violin)  
M.A., Northern Illinois University
- Terry Martin**, Adjunct Associate Professor (World Music/Music Appreciation)  
Ph.D., Washington University
- David Bruenger**, Adjunct Assistant Professor, Director, Premiere Performance Concert Series  
D.M.A., University of North Texas
- Kathryn Haggans**, Adjunct Assistant Professor (Voice)  
Ph.D., University of Arizona
- Joan Whittemore**, Adjunct Assistant Professor (Music History, Conducting)  
D.M.A., University of Illinois-Urbana/Champaign
- Ivy Allen**, Lecturer (String Techniques)  
M.M.E., St. Louis Institute of Music
- Darwyn Apple**, Lecturer (Violin)\*\*  
M.M., University of Michigan
- Glen Blattman**, Lecturer (Clarinet)  
B.M., University of Missouri-St. Louis
- Michael Buerke**, Lecturer (Saxophone)
- Eileen Burke**, Lecturer (Oboe)  
M.M., University of Michigan
- Roger Davenport**, Lecturer (Trombone)\*\*  
B.M., Millikin University
- Thomas Drake**, Lecturer (Trumpet)\*\*  
B.M., University of Rochester, Eastman School of Music
- Jan Gippo**, Lecturer (Flute)\*\*  
M.M., New England Conservatory of Music
- Leonid Gotman**, Lecturer (Viola)\*\*
- William Hammond**, Lecturer (French Horn)  
D.Ed., Boston University
- Suzanne Harlamert**, Lecturer (Cello)  
M.M., University Of Michigan
- Eric Harris**, Lecturer (String Bass)\*\*  
M.M., The Juilliard School of Music
- Jeffrey Hoard**, Lecturer (Tuba)  
B.A., California State University
- Doris Hylton**, Lecturer (Music Education)  
M.A., Lindenwood University
- Joseph Kaminsky**, Lecturer (Viola)  
M.M., Southern Illinois University-Edwardsville
- Carol Koch**, Lecturer (Music Ed./Piano)  
M.M.E., University of Missouri-St. Louis
- Kenneth Kulosa**, Lecturer (Cello)\*\*  
M.M., New England Conservatory of Music
- Robert Lauver**, Lecturer (French Horn)\*\*  
B.M., Peabody Institute of Music, Johns Hopkins University
- Katharine Lawton-Brown**, Lecturer (Voice)  
M.M., James Madison University
- James Martin**, Lecturer (Tuba)  
M.M., University of Rochester, Eastman School of Music
- James Meyer**, Lecturer (Clarinet)\*\*  
M.A., Southern Illinois University-Edwardsville
- Robert Mottl**, Lecturer (Bassoon)\*\*  
M.M., Indiana University
- Maria Pinckney**, Lecturer (Harp)
- Alan Rosenkoetter**, Lecturer (Guitar)  
B.S., Washington University
- Faye Siegel**, Lecturer (Clarinet)  
B.M.E., The University of Kansas
- Janice Smith**, Lecturer (Flute)\*\*  
B.M.E., University of Rochester, Eastman School of Music
- Robert Souza**, Lecturer (Trumpet)  
B.M.E., University of Missouri-St. Louis
- Sue Stubbs**, Lecturer (Double Bass)  
M.M., University of Missouri-Columbia
- Takaoki Sugitani**, Lecturer (Violin)\*\*
- John Walsh**, Lecturer (Organ)  
M.M., Washington University
- Tina Ward**, Lecturer (Clarinet)\*\*  
M.A., Case Western Reserve University

**Music (continued)**

**Catherine Warner**, Lecturer (Flute)  
M.M.E., Temple University  
**Carolyn White-Buckley**, Lecturer (String Bass)\*\*  
B.M., Indiana University  
**Milton Zoth**, Lecturer (Directing)  
MFA, Webster University  
**Amanda Kirkpatrick**, Specialist (Piano)  
M.M., University of Missouri-Columbia  
**Martha Shaffer**, Specialist (Piano)  
M.L.S., Drexel University  
**Sharon Tash**, Specialist (Piano)  
B.A., University of Missouri-St. Louis  
**Alla Voskoboynikova**, Specialist (Piano)  
M.M., Gnesin's Academy of Music (Russia)  
**Susan Wells-Souza**, Specialist (Piano)  
M.M., Washington University

\*members of graduate faculty

\*\*member, St. Louis Symphony Orchestra

Music faculty members have received recognition for distinguished achievements in conducting, composition, and performance. The faculty is also recognized for research in musicology and music education. Part-time applied music lecturers are all professional musicians.

The music department is accredited by the National Association of Schools of Music.

**General Information****Degrees and Areas of Concentration**

The Department of Music offers programs of study leading to the B.M. degree in music education (and state teaching certification in grades K-12); the B.M. degree with an emphasis in performance; the B.M. degree with elective studies in business; and the B.A. degree in music.

Instruction in piano, organ, voice, and all band and orchestral instruments is given by full-time faculty and part-time professional musicians, many of whom are members of the St. Louis Symphony Orchestra. Faculty recitals are regularly scheduled.

**Music Minors** Three minors in music are available: a minor in music; a minor in music education (choral/vocal, grades K-9); and a minor in jazz studies.

**Facilities** 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. All music courses presented to meet degree requirements must be completed with a grade of C or better

Students may complete any number of hours of applied music (private lesson) toward a degree. Non-music majors may complete no more than 8 hours in music-performing organizations (Music 40, University Chorus; 41, University Singers; 50, University Orchestra; 52, University Band, et. seq.) toward graduation, including credit transferred. Courses in applied music (private lessons and performing organizations) do not fulfill the humanities general education requirement. Department courses which meet the non-Euro-American study requirement are Music 9, Non-Western Music I, 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. In addition to the applied music audition, placement examinations in music theory and music history must be taken to confirm students' prior experience in these areas. Auditions are scheduled from January to May for the fall semester; a limited number are held in December for the winter semester. 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

**Music (continued)**

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  
09, Non-Western Music I, or 10, Non-Western Music II

**Applied Area** 8 credit hours of private lessons

**Ensemble** 4 hours maximum credit

**Bachelor of Music in Music Education**

In addition to the required core curriculum, candidates must complete the following:

**Applied Area** 7 credit hours of private lessons

**Practicum**

151, Conducting I  
152, Conducting II  
161, Elementary School Materials-Conducting Laboratory  
162, Junior-Senior High School Materials Laboratory



**Music (continued)****Instrumental Certification**

- 25, 26, 27, and 28, Instrumental Techniques  
 123, Intermediate Vocal Techniques, or  
 44T, Applied Music-Voice  
 124, Intermediate Vocal Techniques, or  
 45T, Applied Music-Voice  
 268, Curriculum and Methods of Teaching Instrumental Music I  
 270, Curriculum and Methods of Teaching Instrumental Music II

**Vocal Certification**

- 125, Singer's Diction: Italian and German  
 126, Singer's Diction: French, Latin and English  
 25, 26, 27, or 28, Instrumental Techniques (2 credit hours required)  
 119, Intermediate Piano Proficiency  
 120, Intermediate Piano Proficiency  
 142, Choral Arranging  
 143, Instrumentation and Score Technique  
 269, Curriculum and Methods of Teaching Middle School/Junior High School General Music  
 271, Curriculum and Methods of Teaching Secondary Choral Music

For students whose applied area is not voice, the following courses are also required:

- 123, Intermediate Vocal Techniques  
 124, Intermediate Vocal Techniques

Ensemble 4 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  
 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  
 SP ED 313, The Psychology and Education of Exceptional Individuals

**SEC ED 386**, Teaching Reading in Secondary School Content Area

**Bachelor of Music with an Emphasis in Performance**

In addition to the required core curriculum, candidates must complete the following:

- 311, 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)  
 09, Non-Western Music I, or 10, Non-Western Music II  
 156 Piano Pedagogy (Keyboard students only)

**Music History and Literature**

An additional 300-level course is required.

**Applied Area**

12 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

**Foreign Language** Candidates pursuing this emphasis area with an applied area in voice must complete two semesters of one foreign language selected from French, German, or Italian 1 and Italian 2.

**Bachelor of Music with Elective Studies in Business**

In addition to the required core curriculum, candidates must complete the following:

**Applied Area** 8 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** 4 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

**Music (continued)**

**Business Administration** The following courses in business administration are required:

- 140, Fundamentals of Financial Accounting
- 145, Managerial Accounting
- 206, Basic Marketing
- 210, Management as a Behavioral Science I

Two courses selected from the following list must also be taken:

- 103, Computers and Information Systems
- 156, Legal Environment of Business
- 204, Financial Management
- 256, Business Law: Contracts, Sales, Secured Transactions, Bankruptcy
- 270, Management of Promotion
- 301, Consumer Behavior
- 309, Human Resource Management
- 311, Advanced Management and Organizational Behavior
- 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 (26 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** 4 credit hours of private lessons

**Ensemble** 2 credit hours (4 hours maximum credit)

Six additional credit hours to be chosen from courses such as the following:

- 130A, 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

\*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.

**Practicum**

- 14/15, Piano Proficiency
- 116/118, Intermediate Piano Proficiency
- 151, Conducting I
- 161, Elementary School Materials: Conducting Laboratory
- 162, Junior-Senior High School Materials Laboratory

**Ensemble**

- 40/41, Chorus or University Singers

**Applied Music**, voice (at least 2 hours must be private rather than class voice)

The student must receive at least a C in each music course and maintain a 2.5 GPA in all music courses (Chorus/Singers is not included in the GPA).

**Music (continued)**

**Minor in Jazz Studies** Candidates must complete 31 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 History and Literature**

7, Introduction to Jazz  
102, History of Western Music II

**Applied Area** 4 credit hours of private lessons

**Jazz Improvisation**

20, Jazz Improvisation Laboratory (2 credit hours/Music 20 repeated)

**Piano Proficiency**

14/15, Piano Proficiency  
116, Intermediate Piano Proficiency  
117, Jazz Keyboard Harmony

**Ensemble** 2 credit hours minimum, to be selected from:

54b, Jazz Combo  
54e, Voice  
55, Jazz Ensemble

**Graduate Study****Master of Music Education**

The master of music education degree is designed to enable music specialists in grades K-12 to pursue continued professional growth in an emphasis area of their choice: choral, general music, instrumental, or music technology.

**Admission Requirements**

Admission to the program requires a bachelor of music in music education (or equivalent) degree, admission to the Graduate School, and three letters of recommendation.

A written examination in music education (including applications of music history and music theory/ear-training) will be taken during the first semester or term of enrollment in the program for advising purposes and to identify the possible need for review in the areas of music theory and history.

The program requires completion of 32 hours of graduate credit, 22 of which must be earned in residence.

**Required Courses and Options:**

Each candidate will choose one of the following emphasis areas:

Choral music education  
Instrumental music education  
General music education  
Music education and technology

The minimum 32-hour program includes the following requirements.

**Major Area (9 credit hours)**

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)

**Choose 9 credits from the following:**

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)  
462 Guitar in the Classroom (3)  
475 Micro-Computer Applications in Music (3)  
476 Micro-Computer Assisted Instruction: Curriculum Development in Music (3)  
477 Advanced Micro-Computer Applications in Music (3)  
492 Psychology of Music (3)

**Cognate in Education****Choose one 3-credit curriculum course such as:**

Sec Ed 415 The Secondary School Curriculum (3)  
Ele Ed 422 Curriculum Construction in Elem Schools (3)

**Choose one other 3-credit education course such as:**

Ed Rem 420 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 5 credits from elective courses such as:**

301 Marching Band Techniques (3)  
401 Studies in Style and Performance (3)  
402 Choral Literature (3)

**Music (continued)**

- 403 Band Literature (3)
- 404 Orchestra Literature (3)
- 406 Graduate Workshop in Music Education (1-3)
- 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)
- 444 Applied Music I (1)
- 445 Applied Music II (1)
- 446 Applied Music III(1)
- 447 Applied Music IV(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)
- 475 Micro-Computer Applications in Music (3)
- 476 Micro-Computer Assisted Instruction: Curriculum Development in Music
- 477 Advanced Micro-Computer Applications in Music (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 410 Foundations of Pre-School Education (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****(Undergraduate)**

A music degree builds the foundation for a career in professional performance, for teaching in a school or private studio or for serving as a church music director. A music degree may also prepare one for positions in the music industry (recording, publishing, radio programming, manufacturing, or music retail). A trained artistic mind can also be valuable in the fields of advertising, public relations, and consumer services.

A number of UM-St. Louis music graduates have been readily accepted into outstanding graduate programs, including that at UM-St. Louis. Many are pursuing successful careers in music education, business, and industry, or as professional performers.

**(Graduate)**

Many graduate students in music education will already hold full-time music teaching positions. A graduate degree in music education allows for continued professional growth. Music specialists may refine their teaching expertise, add to their understanding and knowledge about music and educational processes, become more specialized in a specific emphasis area of music education (choral, instrumental, general music or music technology), or any combination of these professional growth areas.

Graduate-level work in music education is often required to renew a teacher's certificate or to satisfy professional growth requirements specified by an employing school or school district or to advance to new positions within the field of music education.

**Music (continued)****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, 202, 300, 321, 322, 323, 324, 325, 326, 327, 375, 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.

**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.

**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.

**449 Graduate Ensemble (1)**

Prerequisite: Graduate standing in music or consent of department. Study, preparation, and performance of ensemble literature from the choral, orchestral, or band/wind ensemble repertory. May be repeated for a total of four hours of credit.

**Music (continued)****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 elementary school music curriculum emphasizing the objectives, methods of teaching and staffing music classes, and analysis of instructional materials and resources. This course must be completed in residence.

**267 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/Sec Ed 276 and Music 270/Sec 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. This course must be completed in residence.

**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. This course must be completed in residence.

**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. This course must be completed in residence.

**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. This course must be completed in residence.

**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 school choral music program: curriculum, methods, teaching techniques, organization, and administrative procedures for choral performance classes. This course must be completed in residence.

**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.

**306 Advanced Workshop in Music Education (1-5)**

Prerequisite: Junior Standing and consent of the instructor. An intensive variable-topic workshop in music education presenting knowledge and skills to supplement specific areas in existing courses.

**400 Directed Research in Music: Variable Topic (1-5)**

Prerequisite: Consent of instructor. Directed independent research in music through readings, conferences, writings, and projects. This course may be repeated, but no more than 5 hours may be applied toward a degree.

**406 Graduate Workshop in Music Education (1-5)**

Prerequisite: Graduate standing and consent of instructor. Intensive workshop in music education. Variable topics. To gain skills and knowledge in specific areas not readily available in existing courses.

**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.

**Music (continued)****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 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.

**475 Microcomputer Applications in Music Education (3)**

(Same as ED 475.) Prerequisites: Graduate Standing in Music. An examination of the potential of microcomputers in the music education field. Experiences with available hardware and software suitable for applications that include inventory, budget, music library cataloging, digital music synthesis, and computer-assisted instruction at all levels.

**476 Microcomputer-Assisted Instruction Curriculum Development in Music (3)**

(Same as ED 476.) Prerequisites: Graduate Standing in Music. Design and development of Computer-Assisted Instruction (CAI) lessons in music. Commercial courseware and various CAI models will serve as the basis for creating original programs that can be used effectively to implement objectives of the music curriculum for a specific school or school district. The design, refinement, and production of a major CAI program for use in an elementary, secondary or postsecondary setting is required.

**477 Advanced Microcomputer Applications in Music (3)**

(Same as ED 477.) Prerequisite: Graduate Standing in Music. The study of complex microcomputer applications including music synthesis, MIDI, music-oriented graphics, voice and pitch recognition, administrative applications and computer-assisted instruction.

**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.

**Music (continued)****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.

**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 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.

**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.



**Music (continued)****327 A History of Byzantine Music and Hymnography (3)**

Prerequisite: Music 102 or consent of department. A study of the liturgical and secular music of the Byzantine Empire and post-Byzantine period during the Ottoman occupation; a historical investigation of the Oriental and Ancient Greek origins of the music along with an evolution of the types of music and poetical forms. A study of the types of notation and transcription analyses from the Medieval neumes into Western staff notation is included.

**375 Musical Aesthetics (3)**

Prerequisite: Music 101, or 102, or consent of instructor. (Same as Philosophy 375) Study of such issues as the nature of a musical work, musical expression and representation, interpretation, the conductor's role, the musical canon, audience reception.

**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.

**Music Theory and Composition****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.

**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.

**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 (3)**

Prerequisite: Music 131 or consent of department. Study of the instruments of the brass, woodwind, percussion, and string families; scoring, transcription, and arranging for various instrumental ensembles.

**142 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.

**Music (continued)****143 Instrumentation and Scoring Technique (2)**

Prerequisite: Music 131 or consent of department. Study of the modern orchestral instruments; scoring for various instrumental ensembles with emphasis on idiomatic technique and transcription from keyboard models. This course will not fulfill the music degree requirement for students with instrumental or keyboard emphases.

**300 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.

**Pedagogy****25 Brass Techniques (2)**

Prerequisite: Consent of the department. The objective of this course is to familiarize students with materials and techniques for teaching all brass instruments including trumpet, horn, trombone, euphonium, and tuba in the school setting.

**26 Woodwind Techniques (2)**

Prerequisite: Consent of the department. The objective of this course is to familiarize students with materials and techniques for teaching all woodwind instruments including flute, clarinet, oboe, bassoon, and saxophone in the school setting.

**27 String Techniques (2)**

Prerequisite: Consent of the department. The objective of this course is to familiarize students with materials and techniques for teaching all string instruments including violin, viola, cello, and bass in the school setting.

**28 Percussion Instrument Techniques (2)**

Prerequisite: Consent of the department. The objective of the course is to familiarize students with materials and techniques for teaching all percussion instruments including snare drum, tom-tom, bass drum, cymbals, drumset, timpani, mallet instruments and miscellaneous percussion instruments in the school setting.

**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: Consent 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.

**Practicum****12 Introduction to Modern Dance (2)**

Study of the basic techniques of modern dance.

**14, 15 Piano Proficiency (2)**

Prerequisite: Permission of department. Group instruction for music majors who do not meet beginning keyboard requirements.

**Music (continued)****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: Italian and German (1)**

Prerequisite: Music 44 or Music 124. A study of Italian and German pronunciation using the International Phonetic Alphabet.

**126 Singer's Diction: French, Latin and English (1)**

Prerequisite: Music 44 or Music 124. A study of French, Latin and English pronunciation using the International Phonetic Alphabet.

**151 Conducting I (2)**

Prerequisite: Music 130, Concurrent registration in Music 161 required for bachelor of music in music education program. Techniques and problems in conducting.

**152a Conducting II—Instrumental (2)**

Prerequisite: Music 151. Concurrent registration in Music 162 required for bachelor of music in music education program. 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 for bachelor of music in music education program. 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.

**Music (continued)**

**421 Advanced Conducting (3)**

Prerequisite: Graduate standing in music. Conducting techniques, score reading, and interpretation of choral, orchestral, and band literature.

**448 Graduate Applied Conducting (1-2)**

Prerequisite: Music 421 and consent of the department. Private conducting study of the choral, orchestral, or band repertoire. Does not fulfill the applied music requirement for the master of music education degree.

## Philosophy

### Faculty

**Paul A. Roth**, Professor\*, Chairperson  
Ph.D., University of Chicago

**James F. Doyle**, Professor Emeritus\*  
Ph.D., Yale University

**Peter Fuss**, Professor Emeritus\*  
Ph.D., Harvard University

**Robert M. Gordon**, Professor\*  
Ph.D., Columbia University

**Ronald Munson**, Professor\*  
Ph.D., Columbia University

**Jack Nelson**, Professor\*  
Ph.D., University of Chicago

**Lynn Hankinson Nelson**, Professor\*  
Ph.D., Temple University

**Stephanie A. Ross**, Professor\*  
Ph.D., Harvard University

**John E. Clifford**, Associate Professor Emeritus\*  
Ph.D., University of California-Los Angeles

**David A. Conway**, Associate Professor Emeritus\*  
Ph.D., Princeton University

**Lawrence H. Davis**, Associate Professor\*  
Ph.D., University of Michigan

**Piers Rawling**, Associate Professor\*  
Ph.D., University of California-Berkeley

**Jon McGinnis**, Assistant Professor  
Ph.D., University of Pennsylvania

**Eric Wiland**, Assistant Professor  
Ph.D., University of Chicago

**Thaddeus Metz**, Assistant Professor\*  
Ph.D., Cornell University

**Henry L. Shapiro**, Assistant Professor Emeritus\*  
Ph.D., Columbia University

**Donald W. Mertz**, Adjunct Assistant Professor  
Ph.D., Saint Louis University

**Robert Oakes**, Adjunct Professor  
Ph.D., University of Pennsylvania

**David J. Griesedieck**, Senior Lecturer  
M.A., Princeton University

**Andrew Block**, Lecturer  
Ph.D., University of Massachusetts - Amherst

\*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.

**Philosophy (continued)****Degree Requirements****Bachelor of Arts in Philosophy**

Students must complete one of the following programs. At least 30, but not more than 45, hours are required for a major. A minimum of 18 hours must be taken in residence from the Philosophy Department at UM-St. Louis, including all courses for the major at or above the 200 level.

**Option One** 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 any combination of:  
**Philosophy 101 - 107** sequence and **one course** from  
**Philosophy 201- 210** sequence  
 b. **Philosophy 10**, Western Philosophy I, and  
**Philosophy 11**, Western Philosophy II; and  
**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

**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 combination of:  
**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 **12 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 **9 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 6 hours, but not more than 9, of **Philosophy 350**, Special Readings.

2) Submitting an acceptable thesis before the end of the senior year.

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

## Philosophy (continued)

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. The fifteen hours must be distributed as follows: Philosophy 60 or Philosophy 160, and four other courses numbered above 100, including two numbered above 200. All course work for the minor except Philosophy 60 or 160 must be taken in residence from the Philosophy Department at UM-St. Louis.

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.

### Graduate Studies

#### Master of Arts in Philosophy

To earn an M.A. in philosophy, students must complete at least 36 hours of graduate-level work and pass two comprehensive exams. For students writing a thesis, six of these hours may be devoted to research and writing. Certain distribution requirements will also be in effect. Students must take at least one course in each of the following areas: epistemology/metaphysics, history of philosophy, value theory, and logic/philosophy of science.

In consultation with their advisor, students will select two of these four emphasis areas for their comprehensive exams. Ordinarily, one exam will be taken at the end of the first year, and the other by the end of the second year. When appropriate, up to two graduate-level courses offered by other UM-St. Louis departments can be counted toward the required 36 hours.

Students will be encouraged to design a program of study that meets their interests and needs. Those hoping eventually to

earn a Ph.D. in philosophy will be counseled to follow a more stringent program than those who seek a terminal M.A. to explore particular intellectual interests.

#### The cooperative arrangement with Saint Louis University.

The strengths of the UM-St. Louis Philosophy Department are nicely complemented by those of the Saint Louis University Philosophy Department, which has strengths in the history of philosophy as well as in philosophy of religion. To enhance students' opportunities for instruction and expertise, the two departments have worked out a cooperative arrangement that permits graduate philosophy students on each campus to take up to four courses at the partner institution. In any given semester, UM-St. Louis graduate students must take at least half of their courses at their home institution. Students admitted to the M.A. program on a probationary basis must take all their courses at UM-St. Louis during their first semester.

#### Degree Requirements:

No specific courses are required. Entering students must demonstrate a competence in logic, either by having passed the relevant course(s) prior to admission or by passing a departmental exam. Every student will be required to pass comprehensive examinations in two basic areas of philosophy. These areas will be determined by the student in consultation with the departmental Graduate Advisory Committee.

Students will be required to complete thirty-six hours of graduate work. No more than six hours of these can be thesis research. At least half the credits must be in 400-level graduate courses. Two-thirds (24 credit hours) of the degree program, including the thesis for those students taking that option, must be completed in residence at UM-St. Louis.

The Master of Arts in Philosophy will offer two options, one which permits completion of degree requirements through course work and comprehensive examinations alone, the other requiring a thesis in addition.

## Philosophy (continued)

### 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, 152, 153, 154, 156, 158, 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, 307, 310, 315, 330, 350, 353, 365, 369, 370, 374, 375, 378, 379, 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.



**Philosophy (continued)****152 Philosophical Foundations of Criminal Justice (3)**

(Same as CCJ 152). Addresses fundamental conceptual and ethical issues that arise in the context of the legal system. Questions may include: How does punishment differ from pre-trial detention? How, if at all, can it be justified? Is the death penalty ever justified? When is it morally permissible for juries to acquit defendants who are legally guilty? Is plea bargaining unjust? Why might people be morally obligated to obey the laws? Are laws restricting civil liberty (e.g., laws against abortion, homosexuality, or drug use) permissible?

**153 Philosophy and Feminism (3)**

A critical survey of what various philosophers have said about issues of concern to the women's movement. 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 Bioethics (3)**

(Same as Gerontology 156.) An examination of ethical issues in health care practice and clinical research and in public policies affecting health care. Topics include: abortion, euthanasia, health care, experimentation, informed consent, and the right to health care.

**158 Medicine, Values, and Society (3)**

Social, conceptual, and policy issues connected with medicine form the focus of the course. Topics may include: role played by race and gender in design of research and distribution of care; whether diseases are socially constructed categories reflecting the values of society; development of social policies that offer universal access to health care; the legitimacy of using psychotropic drugs to enhance life, rather than treat disease. The course differs from Bioethics by emphasizing policy issues and their conceptual basis. Content of this course may vary.

**160 Formal Logic (3)**

An introductory study of logical truth and deductive inference, with emphasis on the development and mastery of a formal system.

**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.

**Philosophy (continued)****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.

**251 Feminism and Science (3)**

Prerequisite: 6 hours of philosophy, 6 hours of science or consent of instructor. This course will explore major themes and issues in feminist science scholarship, a body of research that focuses on the relationship between science and gender. Feminist research in the philosophy and history of science, and in the biological sciences, are emphasized. Issues include: the nature of objectivity, evidence, and truth; the factors that contribute to the acceptance or rejection of research hypotheses and theories; the nature and consequences of science's cognitive authority; and the relationship between science and values.

**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.

**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.

**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)**

Prerequisite: CCJ 010 and three (3) hours of Philosophy. 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.

**Philosophy (continued)****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.

**307 Topics in American Philosophy (3)**

Prerequisite: 9 hours of philosophy, graduate standing, or consent of instructor. Topics vary, but might include, for example, the fusion of moral and metaphysical perspectives in the thought of Jonathon Edwards; the distinctive contributions of the Federalist Papers to the classical republican tradition; C.S. Peirce's original critiques of rationalism and determinism; the core concepts of the twentieth century analytic tradition; feminism and deconstructionism in America.

**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 Nodding and Virginia Held. The course explores as well differences among female, feminist, and lesbian ethical standpoints.

**357 Media Ethics (3)**

Prerequisite: nine hours of philosophy or nine hours of communication or consent of instructor. (Same as Communication 357). This course is concerned with some of the issues that arise from the intersection of ethics and modern media communications. Attention is given to some of the more specific concerns of media ethics, such as truth, honesty, fairness, objectivity and bias; personal privacy and the public interest; advertising; conflicts of interest; censorship and offensive or dangerous content (pornography, violence). Particular attention will be given to problems posed by the development of personal computer communications through bulletin boards, on-line services, and the Internet.

**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 equilibria, and Arrow's theorem on the impossibility of a social welfare function. Parts of the course are technical in nature; a prior course in mathematics (e.g., finite mathematics, calculus, statistics or an economics course with a mathematical component), symbolic logic, or some other course with comparable mathematical content is strongly recommended.

**369 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.

**Philosophy (continued)**

**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.

**375 Musical Aesthetics (3)**

(Same as Music Hist. and Lit. 375.) Prerequisite: Six hours of philosophy or consent of the instructor. Study of such issues as the nature of a musical work, musical expression and representation, interpretation, the conductor's role, the musical canon, audience reception.

**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.

**431 The Nature of Punishment (3)**

(Same as CCJ 431.) Prerequisite: Graduate standing. The historical development of punishment philosophies and techniques. Topics include the emergence of the modern prison, the joining of medical and legal treatment, and rationales for alternative forms of punishment.

**433 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 and Astronomy

### Faculty

**Richard D. Schwartz**, Professor\*, Chairperson  
Ph.D., University of Washington

**Ta-Pei Cheng**, Professor\*  
Ph.D., Rockefeller University

**Bernard J. Feldman**, Professor\*  
Ph.D., Harvard University

**Peter H. Handel**, Professor\*  
Ph.D., University of Bucharest

**Bob L. Henson**, Professor\*  
Ph.D., Washington University

**Jacob J. Leventhal**, Curators' Professor\*  
Ph.D., University of Florida

**Frank E. Moss**, Curators' Professor\*  
Ph.D., University of Virginia

**Bruce A. Wilking**, Professor\*  
Ph.D., University of Arizona

**Ricardo Flores**, Associate Professor\*  
Ph.D., University of California-Santa Cruz

**Phil Fraundorf**, Associate Professor\*  
Ph.D., Washington University

**Wilfred H. Sorrell**, Associate Professor\*  
Ph.D., University of Wisconsin

**Mark Spano**, Adjunct Professor  
Ph.D., University of Maryland

**Daniel Leopold**, Adjunct Associate Professor  
Ph.D., Washington University

**Lakshminarayanan Vasudevan**, Adjunct Associate Professor  
Ph.D., University of California-Berkeley

**Lu Fei**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Mary Leopold**, Adjunct Assistant Professor  
Ph.D., Washington University

**Jingye Liu**, Adjunct Assistant Professor  
Ph.D., Arizona State University

**Lucio Mulestagno**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Kimberly A. Shaw**, Adjunct Assistant Professor  
Ph.D., Florida State university

**Peter Török**, Adjunct Assistant Professor  
Ph.D., Roland Eötvös University, Budapest, Hungary

**Aleksandr B. Neyman**, Research Associate Professor  
Ph.D., Dr. Sc., Saratov State University, Russia

\*members of Graduate Faculty

### General Information

**Degrees and Areas of Concentration** The physics department offers course work leading to the B.A. in physics, the B.S. in physics, and in cooperation with the College of Education, the B.A. in physics with teacher certification and the B.S. in education with an emphasis in physics.

The department offers meritorious junior and senior students opportunities to participate in teaching and research to help prepare them for the independent effort required in industry or graduate school. The department's faculty members have a diversity of interests and are active in various experimental and theoretical research areas.

Graduate work leading to the master of science in physics is also offered. The M.S. in physics program combines a sound basis in the fundamental areas of classical and modern physics from both a theoretical and an applied perspective. The program is designed to enable students with undergraduate backgrounds in physics or other technical areas to further their professional development and maintain and improve their technical development. The program is offered almost entirely in the evening to serve students who are employed locally. The department offers the Ph.D. degree in cooperation with the University of Missouri-Rolla physics department. Students must satisfy the UM-Rolla admission standards, and the UM-Rolla Qualifying Exam in Physics is required of UM-St. Louis Ph.D. students. However, all course work and dissertation research may be completed while the student is in residence at UM-St. Louis.

### Undergraduate Studies

**General Education Requirements:** Majors must complete the university and college general education requirements. Any of the following courses may be used to satisfy the physical science requirement:

**Astronomy:** 1, 11, 12, 22, 50, 51, 121, 301, 322.

**Atmospheric Science:** 1.

**Geology:** 1, 2, 53, 201, 290.

**Physics:** 1, 11, 12, 111, 112, 200, 221, 223, 231, 281, 304, 311, 323, 325, 331, 341, 343, 351, 353, 354, 356, 357, 370, 381, 390.

### 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

**Physics and Astronomy (continued)**

**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.

**Bachelor of Science in Physics** The B.S. degree provides students with four options: general physics, astrophysics, engineering physics, or medical physics.

**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:**

- 304, Modern Electronics
  - 311, Advanced Physics Laboratory I
  - 323, Modern Optics
  - 325, Topics in Modern Applied Physics
  - 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
- 303, Applied Mathematics II

**Chem**

- 12, Introductory Chemistry II, or equivalent
- and one elective in math or computer science at or above the 200 level.**

**Astrophysics Option**

This option may be elected by students who have interests in the aerospace sciences or anticipate graduate studies in astrophysics. At least 47 hours, but not more than 51, must be taken. In addition to the core curriculum, the following courses are required:

**Physics**

- 323, Modern Optics
- 331, Introduction to Quantum Mechanics

**Astronomy**

- 50, Introduction to Astronomy I
- 51, Introduction to Astronomy II

**301, Astrophysics****322, Observational Astronomy**

**and two physics electives at the 200 or 300 level.** With consent 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 at or above the 200 level.**

**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****124, Circuits I****144, Statics****145, Dynamics****Physics****304, Modern Electronics****323, Modern Optics****325, Topics in Modern Applied Physics****341, Thermal and Statistical Physics**

**Also required are two additional courses in computer science or numerical analysis at or above the 200 level.**

**Medical Physics Option**

This option is designed for students who are interested in careers in various medical fields or biophysics. This option provides a strong preparation in physics, mathematics, chemistry, and biology for students who intend to apply for admission to medical schools. At least 41 hours of physics and biology combined, but no more than 51, are required. In addition to the physics core curriculum, the following physics and biology courses are required:

**Physics****304, Modern Electronics****Biology****11, Introductory Biology I****12, Introductory Biology II**

**and two additional physics electives at the 200 or 300 level.**

**Also required are:**

**Chem****12, Introductory Chemistry II****261, Structural Organic Chemistry****262, Organic Reactions****263, Techniques of Organic Chemistry**

## Physics and Astronomy (continued)

**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.

### **B.S. degree in secondary education with an emphasis in science-physics and certification in unified science with an endorsement in physics.**

In addition to the general requirements for the B.S. degree in secondary education, students must complete the following:

#### **Science Core Courses:**

**Philosophy 280**, Philosophy of Science

#### **Biology**

**11**, Introductory Biology I

**12**, Introductory Biology II

#### **Chemistry**

**11**, Introductory Chemistry I

**12**, Introductory Chemistry II

**Geology 1**, General Geology

**Atmospheric Science 1**, Elementary Meteorology

**Biology 120**, Environmental Biology or another environmental science

#### **Physics**

**111**, Physics: Mechanics and Heat

**112**, Physics: Electricity, Magnetism, and Optics

#### **Physics Endorsement**

##### **Physics**

**200**, Survey of Theoretical Physics

**221**, Mechanics

**223**, Electricity and Magnetism

**231**, Introduction to Modern Physics

**304**, Modern Electronics

**311**, Advanced Physics Laboratory I

#### **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:

**221**, Mechanics

**223**, Electricity and Magnetism

**231**, Introduction to Modern Physics

#### **304, Modern Electronics**

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 6 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 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 6 credit hours may be counted for thesis research. The writing of a thesis is optional. A comprehensive examination must be passed, which includes a defense of the thesis if the student has chosen to write one. A grade point average of 3.0 must be maintained during each academic year. The requirements must be fulfilled within six years from the time of admission. Two-thirds of required graduate credit must be taken in residence. No language requirement.

##### **Doctorate**

A minimum of 48 hours past the master's degree with satisfactory performance. Residency requirement of three years/six semesters (for those with master's degree, two years/four semesters) at UM-St. Louis and/or cooperating UM-Rolla campus. Ph.D. qualifying exam, dissertation, dissertation exam administered in cooperation with UM-Rolla. Overall requirement of B grades or better. Dissertation may be written in absentia. No language requirement.

##### **Special Equipment, Facilities, or Programs**

The 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 UNIX system and workstations. The department maintains a workstation for image processing. The physics department operates a machine shop and an electronics shop. In addition, the department maintains a library containing some of the most frequently used physics journals.

## Physics and Astronomy (continued)

### 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, and University of Chicago. The many students who elected a career in industry are now working in a variety of settings for such firms as International Business Machines, Emerson Electric, Southwestern Bell, Hewlett-Packard, Boeing, and the National Center for Atmospheric Research. Several former students are currently teaching physics in high schools around the St. Louis area.



## Physics and Astronomy (continued)

### 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, 50, 51, 121, 301, 322.  
**ATMOSPHERIC SCIENCE:** 1.  
**GEOLOGY:** 1, 2, 53, 290. **PHYSICS:** 1, 11, 12, 111, 112, 200, 221, 223, 231, 281, 304, 311, 323, 325, 331, 335, 341, 343, 351, 353, 354, 356, 357, 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.

#### 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.

#### 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.

### 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.

**Physics and Astronomy (continued)****11 Basic Physics (4)**

Prerequisite: Math 80 or 100 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.

**111 Physics: Mechanics and Heat (5)**

Prerequisite: Math 80 or 100. 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 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.

**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.

**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: Physics 111, 112, and Math 202 (may be taken concurrently) and Physics 200 strongly recommended. Photons and the wave nature of particles, wave mechanics, Schroedinger's equations, with applications to atomic physics; and radiation; the physics of solids; elementary particles; relativity; health physics. Three hours of lecture and one discussion section per week.

**280 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 prior to student teaching. This course must be completed in residence.

**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.

**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.

**304 Modern Electronics (3)**

An integrated recitation/laboratory study of modern analog and digital electronics with emphasis on integrated circuits. Topics include circuit elements, operational amplifiers, logic gates, counters, adc/dac converters, noise reduction, microprocessors, embedded microcontrollers, and digital processing. Three hours of lecture/laboratory per week.

**307 Scanning Electron Microscopy (3)**

Prerequisite: Consent of instructor. A lecture/laboratory study of scientific research techniques using scanning electron microscopy (SEM). Course includes electron gun/lens optics, beam-specimen interactions, image formation, associated x-ray techniques, and analysis of images. Two hours lecture and two hours laboratory each week.

**Physics and Astronomy (continued)****308 Transmission Electron Microscopy (3)**

Prerequisite: Physics 307 or consent of instructor. A lecture/laboratory study of transmission electron microscopy (TEM) in conventional, analytical, and phase-contrast (high resolution) applications. Course includes advanced electron optics and image formation, defect structures, specimen preparation, contrast theory, diffraction/periodicity analysis, and electron energy loss/x-ray spectroscopy. Two hours lecture and two hours laboratory per week.

**309 Scanning Probe Microscopy (3)**

Prerequisite: Physics 307 or consent of instructor. A lecture/laboratory study of research techniques using scanning probe microscopy. Topics include atomic force microscopy, scanning tunneling microscopy, feedback control, scanning tip fabrication, scan calibrations, air/solution/vacuum imaging, image processing and analysis, near-field optical probes, metrology, and lateral force/displacement microscopy. Applications in physics, chemistry, biology, engineering, and surface science are discussed. Two hours lecture and two hours laboratory per week.

**311 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 Topics in Modern Applied Physics (3)**

Prerequisites: Physics 304 and Math 202. Topics are taken from modern applications of physics which may include linear analysis, nonlinear analysis, Fourier transform spectroscopy, wavelet analysis, noise and fluctuation phenomena, material science, physical electronics, optical techniques, and scanning tip microscopy. Three hours of lecture and one hour of discussion per week.

**331 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.

**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.

**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.

**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.

**Physics and Astronomy (continued)****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.

**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.

**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.

**Physics and Astronomy (continued)****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

**David B. Robertson**, Associate Professor\*, Chairperson  
Ph.D., Indiana University

**Timothy G. O'Rourke**, Teresa M. Fischer Professor in  
Citizenship Education and Political Science\*  
Ph.D., Duke University

**Werner F. Grunbaum**, Professor Emeritus  
Ph.D., University of Chicago

**Kenneth F. Johnson**, Professor Emeritus  
Ph.D., University of California-Los Angeles

**E. Terrence Jones**, Professor\*  
Ph.D., Georgetown University

**Dennis R. Judd**, Professor Emeritus  
Ph.D., University of Illinois

**Carol W. Kohfeld**, Professor Emerita  
Ph.D., Washington University

**Eugene J. Meehan**, Curators' Professor Emeritus  
Ph.D., London School of Economics

**Joyce M. Mushaben**, Professor\*  
Ph.D., Indiana University

**J. Martin Rochester**, Professor\*  
Ph.D., Syracuse University

**Lyman T. Sargent**, Professor\*  
Ph.D., University of Minnesota

**J. Fred Springer**, Professor Emeritus  
Ph.D., University of California-Davis

**Lana Stein**, Professor\*  
Ph.D., Michigan State University

**Andrew Glassberg**, Associate Professor\*, Director of MPPA  
Program  
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

**Jean-Germain Gros**, Associate Professor\*  
Ph.D., University of California-Berkeley

**Richard L. Pacelle, Jr.**, Associate Professor\*  
Ph.D., The Ohio State University

**G. Eduardo Silva**, Associate Professor\*  
Ph.D., University of California-San Diego

**Kenneth P. Thomas**, Associate Professor\*  
Ph.D., University of Chicago

**Brady Baybeck**, Assistant Professor  
Ph.D., Washington University

**Ruth Iyob**, Assistant Professor\*  
Ph.D., University of California-Santa Barbara

**Bryan W. Marshall**, Assistant Professor\*  
Ph.D., Michigan State University

\*members of Graduate Faculty

Political Science faculty are nationally known scholars in their respective fields, dedicated to high-quality teaching and education. Department faculty members have received distinctions such as the Presidential Award for Research and Creativity, Chancellor's Award for Research and Creativity, Chancellor's Award for Excellence in Teaching, AMOCC Good Teaching Awards, Burlington Northern Faculty Achievement Award, and 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 80 books and 400 articles in scholarly journals and is devoted to using its research findings to improve teaching.

In 1987 the Department of Political Science was designated as a Center of Eminence by the Board of Curators. This makes political science one of only two such programs on the St. Louis campus and ten in the entire University of Missouri system to be so designated. The department was selected because of its excellence in research and teaching 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 course work provides rich opportunities for students to develop a variety of practical skills—such as information-gathering and processing, analysis, research, decision making and oral and written communication—that are transferable to many career paths and job settings after graduation.

### General Information

#### Degrees and Areas of Concentration

The political science department offers undergraduate work leading to the B.A. degree in political science, B.S. degree in public policy and administration, and, in cooperation with the College of Education, the B.A. in political science with teacher certification and the B.S. in education with an emphasis in social studies. (See College of Education section in this *Bulletin* for details.) Minors in political science are available to students who are majoring in another discipline and who have a special interest in law, government, 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

## Political Science (continued)

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. 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. All successful doctoral candidates must complete a dissertation which makes a significant contribution to knowledge in the field.

Most graduate classes are scheduled so those employed outside the university can participate in the programs on a part-time basis.

### Special Interdisciplinary Degree

The Department of Political Science also cooperates with the Department of Economics in the College of Arts and Sciences and the College of Business Administration in offering a master's degree in public policy administration (MPPA). For information on the MPPA degree program, see that section in this *Bulletin*.

### Cooperative Programs

Political science students may also study overseas, or obtain a certificate in international studies, European studies, African Studies, East Asian studies, Latin American studies, women's studies, or writing, in conjunction with their political science major. See Certificate Programs in this *Bulletin* and consult with the Center for International Studies.

Research in political science is encouraged for students at all levels. Assistance is available at UM-St. Louis' Public Policy Research Centers, the Center for International Studies, and the Office of Computing. The department's membership in the Interuniversity Consortium for Political and Social Research provides access to a wide range of survey data on local-state-national, comparative, and international politics. In addition, extensive research opportunities are available within the metropolitan St. Louis area. Financial assistance is

available for qualified students; details can be obtained from the department office.

## Undergraduate Studies

### General Education Requirements

Majors must satisfy the university and college general education requirements. Political science courses may be used to satisfy the social sciences requirement. The foreign language requirement for the B.A. degree may be satisfied in any language.

### Departmental Honors

The department awards honors to students having a grade point average (GPA) of 3.2 in the major, an overall GPA of 3.2 (except in extraordinary circumstances), and successfully completed an honors thesis, project, or report.

## Degree Requirements

### Bachelor of Arts in Political Science

All majors must complete at least 36, but not more than 45, hours of political science. All students are required to take the following core curriculum:

#### Poli Sci

- 11 Introduction to American Politics
- 12, Introduction to Comparative Politics
- 200, Political Analysis
- 395, Senior Seminar in Political Science

Majors are urged to take PolSci 11, 12, and 200 as early as possible since these courses are designed to provide a substantive foundation as well as conceptual and analytical tools for subsequent course work. Because the seminar topics in PolSci 395 change from semester to semester, the course can be repeated. All majors must take at least one Seminar in Political Science.

Students also must complete at least one course in four of the following political science areas:

**Public Law** (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 20-29).

**American Politics** (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 30-39).

**Public Policy and Administration** (chosen from among political science courses at the 100, 200 or 300 level whose last two digits are 40-49).

**Comparative Politics** (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 50-59).

**Political Theory** (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 60-69).

**International Relations** (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 80-89).

**Political Science (continued)**

**Methodology** (chosen from among political science courses at the 100, 200, or 300 level whose last two digits are 00-09).

At least **18 hours** of political science course work must be at the 200 or 300 level, not including PolSci 200. B.A. degree students may take a maximum of 3 hours of political science on a satisfactory/unsatisfactory basis; this can include any course except the required courses in the core curriculum.

**Note:** As early as possible, students should determine their educational objectives and consult with an adviser regarding a plan of study. *Those students who are uncertain of their future plans are urged to include in their 36-45 hours of political science a broad set of courses in American politics, public policy and administration, public law, comparative politics, international politics, political theory, and methodology.* In addition to this general course of study in political science, the department offers B.A. degree students several specialized programs of study in political science geared to various student academic and career interests.

**Graduate School Preparation** This program is designed for students planning to pursue graduate studies in political science, particularly the Ph.D. degree, with the aim of a career as either an academic or practitioner (working as a researcher, policy analyst, or in some other capacity calling for advanced knowledge and skills). In addition to the core curriculum and common requirements for all political science majors, students are advised to (1) take as many political science courses at the 200 and 300 level as possible in a variety of areas (public law, American politics, comparative and international politics, etc.), (2) complete a departmental honors project based on independent research and writing in PolSci 390, Special Readings, and (3) give special consideration to courses in normative political theory (such as PolSci 262, Modern Political Thought) and research methods (such as PolSci 401, Introduction to Policy Research, which is a graduate course open to undergraduates with Graduate School approval). Students are also encouraged to take course work outside the department in microeconomics, macroeconomics, and statistics.

**Legal Studies** This is an ideal program of study for double majors in political science and criminal justice or for any student interested in law school and a career in the law. In addition to the core curriculum and common requirements for all political science majors, students are advised to take PolSci 20, Foundations of Law: An Introduction to Legal Studies, and at least four of the following political science courses:

- 129, Women and the Law
- 165, American Political Thought
- 190, Studies in Political Science (when appropriate)
- 226, Law and the Individual
- 227, State and Local Courts
- 228, The Federal Judicial System: Politics, Process, and

**Behavior**

- 295, Public Affairs Internship (when appropriate)
- 320, Constitutional Law
- 321, Civil Liberties
- 326, Judicial Decision-making
- 329, Studies in Public Law
- 385, International Law
- 390, Special Readings (when appropriate)

Students are also advised to take political science course work that gives them a strong background in American political institutions and processes. Those students considering practicing law in the international arena should take course work in comparative and international politics. Political science course work may be supplemented by course work in criminal justice and criminology.

**American Politics** Designed for those students interested in careers in communications, education, business, social work, political consulting, and other fields requiring knowledge of American urban, state, and national politics and institutions. Education majors planning to teach in the social studies field, communications majors planning on a career in journalism, or business majors thinking about working in corporate relations may especially wish to consider a double major in political science with a focus in this area. In addition to the core curriculum and common requirements for all majors, students are advised to take at least five of the following political science courses:

- 99, The City
- 130, State Politics
- 135, Introduction to Urban Politics
- 165, American Political Thought
- 190, Studies in Political Science (when appropriate)
- 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
- 238, Women in U.S. politics
- 242, Introduction to Public Policy
- 248, Environmental Politics
- 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)

In addition, students may wish to choose other political science courses listed below under the public policy and administration program of study. Given the growing reality of international interdependence, students should not restrict their studies completely to American politics but should take some course work in comparative and international politics



## Political Science (continued)

as well. Depending on their specific career interest, students may wish to round out their program with course work in other social science departments such as criminal justice, communications, economics, or social work.

**Public Policy and Administration** Designed for students interested in working inside or outside government, in a career requiring familiarity with how public policies are formulated and implemented. (Students alternatively may wish to consider the B.S. in public policy and administration degree offered by the political science department.) In addition to the core curriculum and common requirements for all majors, students are advised to take PolSci 242, Introduction to Public Policy, and at least four of the following political science courses:

- 140, Public Administration
- 190, Studies in Political Science (when appropriate)
- 240, Bureaucratic Politics
- 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
- 282, United States Foreign Policy
- 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)
- 394, Leadership and Management in Nonprofit Organizations

Depending on career interests, students should add course work in American, comparative, or international politics. Students are encouraged to develop a policy concentration in a particular policy area, such as urban, labor, health, education, and business studies, with multidisciplinary course work taken in political science and other departments.

**International and Comparative Studies** Designed for students interested in international careers in government service (not only the U.S. State Department but also other federal government agencies), intergovernmental and non-governmental organizations, business, education, and other areas of employment. In addition to the core curriculum and common requirements for all political science majors, students are advised to take PolSci 180, World Politics, or PolSci 150, Comparing Different Worlds, and at least four of the following political science courses (some of which are international politics courses that focus on conflict and cooperation between countries, and some of which are

comparative politics courses that focus on political, economic, and social change within countries):

- 80, Global Issues
- 85, Global Ecology
- 155, East Asian Politics
- 160, Contemporary Political Ideologies
- 190, Studies in Political Science (when appropriate)
- 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
- 269, The Marxist Heritage
- 280, Model United Nations
- 282, United States Foreign Policy
- 283, International Political Economy
- 284, European International Relations
- 285, International Organizations and Global Problem-Solving
- 289, Middle East Politics
- 295, Public Affairs Internship (when appropriate)
- 351, Comparative Public Policy and Administration
- 355, Democratization in Comparative Perspective
- 359, Studies in Comparative Politics
- 385, International Law
- 386, Studies in War and Peace
- 388, Studies in International Relations
- 390, Special Readings (when appropriate)

Students interested in working for the U.S. foreign service, American-based multinational companies, and nonprofit organizations should also take course work that familiarizes them with the American political system and how public policy is made. Students should explore the various interdisciplinary area studies and international studies certificate programs offered through the Center for International Studies.

Note: 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.

**Political Science (continued)****Bachelor of Science in Public Policy and Administration**

The BSPA degree has two emphasis areas. The first is a public administration track which emphasizes management in both the public and nonprofit sectors; it may produce a terminal degree or be a precursor to graduate training. The second is a public policy track in which a student may focus on a particular policy area and also acquire specialized analytic training and research skills, in preparation for relevant entry-level jobs in the public or the voluntary sector as well as in certain parts of the private sector.

All BSPA majors must complete at least 33, but no more than 45, hours in political science. The following core curriculum is required of all BSPA majors:

**Political Science**

11, Introduction to American Politics

12, Introduction to Comparative Politics

140, Public Administration

200, Political Analysis

242, Introduction to Public Policy

295, Public Affairs Internship

395, Senior Seminar in Political Science

Econ 51, Principles of Microeconomics

Econ 52, Principles of Macroeconomics

CCJ 220, Statistical Analysis in Criminology and Criminal Justice or

Sociology 220, Sociological Statistics or

Econ 265, Economic Statistics

In addition, students must provide a demonstration of computer proficiency through one of the following:

BA 103, Computers and Information Systems, extension courses, or other study approved by the BSPA coordinator.

BSPA students may take a maximum of 3 hours of political science on a satisfactory/unsatisfactory basis, except for the following (which may not be taken on a satisfactory/unsatisfactory basis): PolSci 11, 12, 140, 200, 242, 295, and 395.

**Public Administration Emphasis Area**

In addition to the core curriculum requirements for all BSPA majors, students in the public administration emphasis area are required to complete the following courses:

PolSci 342, Public Personnel Management

PolSci 344, Public Budgeting

BA 140, Fundamentals of Financial Accounting

Students in the public administration emphasis area also must take two of the political science courses listed under policy and institutions courses below, as well as take at least two additional elective courses chosen from among that list or any other political science offerings.

**Public Policy Emphasis Area**

In addition to the core curriculum requirements for all BSPA majors, students in the public policy emphasis area must take four political science courses, preferably selected from the policy and institutions courses listed below but which may include other political science course offerings as well.

Students will adopt a policy concentration of at least 15 credit hours. Possible areas of specialization include, but are not limited to, environmental policy, government and business, society and the legal system, urban policy, labor studies, health care, human services, and nonprofit service provision. In fulfilling the concentration requirement, students, in consultation with the BSPA coordinator, will select courses from related disciplines in addition to taking two more political science courses related to the policy area beyond the four political science courses already required.

**Policy and Institutions Courses:**

45, Introduction to Labor Studies

130, State Politics

135, Introduction to Urban Politics

228, The Federal Judicial System: Politics, Process, and Behavior

230, The American Presidency

231, Congressional Politics

240, Bureaucratic Politics

243, Union Leadership and Administration

245, Urban Administration

246, The Politics of Poverty and Welfare

248, Environmental Politics

340, Organizational Politics

343, Studies in Policy Formation

346, Urban Planning and Politics

351, Comparative Public Policy and Administration

394, Leadership and Management in Nonprofit Organizations

**Note:** Students considering the B.S. in public policy and administration should see a political science adviser as early as possible to plan their program.

**Requirements for the Minors**

A general minor in political science can be arranged, as well as specialized minors in eight different subfields of the discipline. Interested students should see a faculty adviser to plan a coherent program of study as a minor field.

Students must achieve a cumulative 2.0 GPA in the political science courses chosen to qualify for the minor. Students may count no more than 3 hours in political science taken on a satisfactory/unsatisfactory basis toward the minor. Students taking an internship (Political Science 295) 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.

**Political Science (continued)****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
- 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:

- 150, Comparing Different Worlds
- 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 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
- 227, State and Local Courts
- 228, The Federal Judicial System: Politics, Process, and Behavior
- 320, Constitutional Law
- 321, Civil Liberties
- 326, Judicial Decision-Making
- 329, Studies in Public Law
- 385, International Law
- 390, Special Readings (when appropriate)

**Political Science (continued)****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
- 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)

**Bachelor of Arts with Teacher Certification**

For information, refer to the College of Education section in this *Bulletin*.

**Bachelor of Science in Education: Emphasis in Social Studies**

The Political Science requirements are the same as for the B.A. degree except students fulfill the College of Education general education requirements rather than those of the College of Arts and Sciences. For information, refer to the College of Education section in this *Bulletin*.

**Graduate Studies****Master of Arts in Political Science**

**Admission Requirements** For admission, a student should have a baccalaureate degree with a minimum grade point average of 2.75 and an undergraduate background in the social sciences. The GRE is required, and scores should be submitted at the time of application. Two letters of recommendation are also requested for each student applying to the program. Students who do not meet these requirements may be admitted upon approval of the department and the

dean of the Graduate School. Application materials may be obtained from and should be returned to the office of the director of admissions. Deadlines are July 1 for the fall semester; December 1 for the winter semester; and May 1 for the summer term.

**Degree Requirements**

Beyond the general requirements of the Graduate School, the department requires a minimum of 27 semester hours of course work, of which 18 hours must be at the 400 level and 12 hours must be in core courses in political science, including:

401, 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.

## Political Science (continued)

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 GRE and d) a statement of objectives for the course of study. Application materials may be obtained from and should be returned to the office of the director of admissions.

Applications for fall semester should be submitted by February 15 and for winter semester by October 15.

**Graduate Assistantships** Stipends for teaching and research assistantships (nine month/20 hours per week) are awarded on a competitive basis. Out-of-state educational fees are waived for graduate assistants.

### Degree Requirements

The department requires 60 credit hours beyond the baccalaureate degree for completion of the Ph.D. To ensure sufficient background for doctoral-level policy courses, students must demonstrate appropriate competence in computing and intermediate economics during their course of study. Course requirements are as follows:

#### Core courses (21 credit hours)

21 credit hours will be required in the areas of research methods, normative and empirical theory, and policy process and institutions. Contact the department for specific courses.

#### Additional Requirements (12 credit hours)

In addition, students will select a minimum of 12 credit hours in public policy, theory, or process.

#### Policy Concentration (15 credit hours)

Students, in consultation with the program director, will develop expertise in a substantive policy area. Policy concentrations (many interdisciplinary) include:

- American National Policy
- Urban Politics and Planning
- Comparative/International Policy
- Policy Analysis and Research
- Public Budgeting and Finance
- Labor and Employment
- Criminal Justice
- Social Welfare

#### Internship (6 credit hours) optional.

The Ph.D. intern program offers an opportunity to gain first-hand experience in select research and administrative positions.

#### General Examination and Dissertation

Upon completion of course work, students are advanced to candidacy by successfully completing two general

examinations, the first covering the fields of public policy institutions, processes, and analysis, and the second covering the student's chosen subfield and area of policy concentration. The degree is awarded upon completion and defense of the Ph.D. dissertation.

### Career Outlook

#### Bachelor of Arts, Bachelor of Science, and Master of Arts in Political Science

Political science graduates have done well in obtaining appropriate employment and in pursuing graduate education. Majors develop communications and decision-making skills, learn to analyze complex policy issues, both domestic and international in scope, and have a thorough understanding of government and politics. Political science is a particularly good undergraduate major for 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 (continued)****Course Descriptions**

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 11, 12, 20, 80, 85, 99, 129, 130, 135, 140, 155, 160, 165, 180, 190, 226, 227, 228, 230, 231, 232, 233, 234, 235, 238, 240, 241, 242, 243, 245, 246, 248, 251, 253, 254, 256, 257, 258, 261, 262, 268, 269,\* 280, 282, 284, 285, 289, 295, 304, 306, 308, 318, 320, 321, 326, 329, 332, 333, 340, 342, 343, 344, 346, 349, 351, 355, 359, 368, 385, 386, 388, 390, 394, 395.

\* Course may fulfill the Humanities [H] or Social Sciences [SS] breadth of study requirement.

**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)**

This course introduces students to the world of comparative systems of governance. It examines similarities and differences in the basic political structures, institutions and governmental processes in advanced industrial and industrializing countries. It also provides an understanding of fundamental comparative methods based on individual country or case studies. Particular attention is paid to ideologies, political parties, legislatures, and public policy.

**15 Women and Politics in the Developing World (3)**

Women play a central role in the transformation of political, economic, cultural and gender relations in developing nations. This course examines the political role of women in these transformations. In particular, the course examines ways that modernity, universal education, the market economy and globalization have widened the scope of women's public activities; the emergence of social movements driven by the transformation of economic and political roles brought about by the inclusion of women in the political arena; the re-interpretation of religious doctrines, especially those that emphasize women's "return" to the private sphere and legitimate the denial of women's political rights. Fulfills the cultural diversity requirement.

**20 Foundations of Law: An Introduction to Legal Studies (3)**

(Same as CCJ 20 and Interdisciplinary 20). As a broad liberal arts approach to the study of law, this course is designed to familiarize students with legal ideas, legal reasoning, and legal processes. It also provides comparative and historical perspectives on law that will help explain legal diversity and legal change. Finally, it offers opportunities to explore some of the persistent issues in law and legal theory: for example, issues about the sources of law, the responsibilities of the legal profession, or the relative merits of the adversary system.

**45 Introduction to Labor Studies (3)**

(Same as Interdisciplinary 45). This course covers many topics important to the role of unions in the American political system and American society from a labor perspective. Topics include the role of workers in current and future times, unions' institutional structure, collective bargaining strategies and obstacles for union organizing, recent union campaigns, labor's political role, and the relationship between labor and the media.

**80 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.

**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.

**99 The City (3)**

(Same as CCJ 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.

**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. Course fulfills the state requirement.

**Political Science (continued)****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.

**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.

**150 Comparing Different Worlds (3)**

This course focuses on the role of political institutions, economic structures and social groups in explaining differences in forms of government and levels of socio-economic development. It explores in detail one or more of these themes in cases drawn from developing and developed nations.

**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.

**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.

**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.

**190 Studies in Political Science (3)**

Selected topics in political science.

**200 Political Analysis (3)**

An introduction to political analysis, emphasizing both the logic of inquiry and practical methods. Students learn about the construction and evaluation of theories that relate to real-world politics. They also have an opportunity for hands-on experience with qualitative and quantitative methods including graphics, descriptive statistics, cross-tabular and correlational analysis, hypothesis testing, and computer applications.

**209 American Government for the Secondary Classroom (3)**

(Same as Sec Ed. 209) Prerequisites: Secondary Education 213 and Political Science 11, Graduate standing or consent of instructor. Adapts the themes and subject matter of American government to the secondary classroom and trains teachers in techniques particularly designed to maximize the use of primary sources, foster critical inquiry, and encourage knowledge of subject matter. Particular emphasis will be placed on defining the broad and connecting themes of American government, on expanding bibliography, and on choosing methods of inquiry for use in an interactive classroom. Either History/Sec Ed 257 or 258 or Political Science/Sec. Ed. 209 must be taken the same semester as History/Sec Ed 255 except with special consent of the Social Studies Coordinator. Can be counted towards the Political Science major requirement, but not the American Politics subgroup. Counts towards Social Studies Certification.

**226 Law and the Individual (3)**

(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.

**227 State and Local Courts (3)**

Prerequisite: PolSci 11 or PolSci 20 or consent of instructor. Analysis of the structure and functions of state and local courts. Emphasis on roles of juries, judges, counsel, litigants, interest groups and other actors and processes in the adjudication process.

**Political Science (continued)****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. 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 policy-making process. Topics include candidate recruitment, campaigns and elections, representation, committees, legislative leadership, roles and norms, voting alignments, lobbyists and interest groups, oversight of administration, and House-Senate comparisons. The role of Congress in foreign policy, economic policy, and social-welfare policy will be examined. 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.

**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.

**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. 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.



**Political Science (continued)****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 society wide constraints. The impact of government regulation and alternative means for accomplishing regulatory goals (e.g., mandatory standards or incentive systems) will also be considered. Bureaucratic incentives and the role of the courts will be emphasized. Selected areas of regulation which may be covered include: equal employment policies, occupational health and safety policies, environmental policies, employment policies, and urban policies.

**242 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.

**243 Union Leadership and Administration (3)**

Prerequisite: Consent of instructor. This course will focus on the roles and challenges of union leadership in a changing environment. Topics will include the union leader's roles as representative, organizer and educator as well as administrative responsibilities within the union and the relationship with enterprise management in both adversarial and participatory situations. Options for leadership style and organizational models will be discussed and explored in both theory and practice. Leaders will develop their skills of motivation, speaking, strategic planning and managing complex campaigns and diverse organizations.

**245 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.

**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.

**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 Gender, Race and Public Policy (3)**

Prerequisite: Pol Sci 11, or 12, or consent of instructor. Raises the question as to whether "more women in politics," stemming from diverse economic, racial, ethnic backgrounds and age groups, will necessarily result in better policies for women and men. Compares gendered and racialized impacts of a wide array of public policies (in the areas of education, employment, health care, welfare, and reproductive technologies) across a broad sample of advanced industrial societies. Analyzes the "empowerment" potential of new equality policies being generated at the international and supranational levels (e.g., in the UN and the European Union).

**Political Science (continued)**

**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.

**259 Politics, Leadership and the Global Gender Gap (3)**

Prerequisites: PoliSci 012 or consent of instructor. Compares women's day-to-day leadership and participation patterns across a wide variety of political-economic contexts, emphasizing their performance as elective and administrative office holders. It examines the experiences of individual female leaders, long-term nomination and recruitment strategies, and the larger political opportunity structure awaiting women beyond the year 2000.

**261 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.

**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 Détente emphasizing such concepts as containment, 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.

**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 6 credit hours may be earned.

**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.

**Political Science (continued)****308 Program Evaluation (3)**

Prerequisites: PolSci 11, or 140, and one of the following: BA 250, Sociology 220, Criminology and Criminal Justice 220, or consent of instructor. Study of techniques and applications for evaluating the impact of public programs.

**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.

**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.

**322 Labor Law (3)**

Prerequisite: Consent of instructor. In this course, participants will examine the role of government in the regulation of labor-management relations in the United States. While the focus of the course will be on federal laws regulating private sector labor relations, parallel issues addressed in the Railway Labor Act and state public sector labor relations law will also be covered. Specific topics include the legal framework for the organization of workers, definition of prohibited or unfair labor practices of employers and unions, legal regulation of the collective bargaining process, regulation of the use of economic weapons in labor disputes, enforcement of collective bargaining agreements and the regulation of internal trade union activities.

**326 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

**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.

**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.

**341 Collective Bargaining (3)**

Prerequisite: Consent of instructor. This course involves a study of collective bargaining processes including contract negotiations, contract administration, and methods for the resolution of bargaining disputes. Both theoretical and applied issues in collective bargaining will be addressed. Specific topics include the economic determination of bargaining power, legal constraints on the bargaining process, negotiations strategies and techniques, and the use of mediation and arbitration in the resolution of bargaining disputes.

**342 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.

**Political Science (continued)**

**344 Public Budgeting (3)**

Prerequisite: PolSci 11 or consent of instructor. Budgeting is the study of "who gets what" and who pays for it. This course examines the administration and politics of federal, state, and local government budgets. Students gain experience in interpreting budget documents and making budget choices, using electronic and other resources.

**346 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.

**347 Introduction to Environmental Law and Policy (3)**

Prerequisite: Senior or graduate standing or consent of instructor. Survey of the most prominent federal laws governing environmental compliance and pollution control. Examines laws applicable to environmental impact statements, air pollution, water pollution, and hazardous waste. Addresses policy concerning the relative merits of using technological capabilities as compared with health risks in setting environmental standards. Discusses the need for environmental regulation to protect societal resources.

**349 Studies in Public Administration (3)**

Prerequisite: PolSci 11, or 140, or consent of instructor. Selected topics in public administration. May be repeated.

**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.

**368 Studies in Political Theory (3)**

Prerequisite: PolSci 11, or 12, or consent of instructor. Selected topics in political theory. May be repeated.

**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.

**390 Special Readings (1-10)**

Prerequisite: Consent of instructor. Independent study through readings, reports, and conferences. May be repeated.

**391A Management Issues in Nonprofit Organizations: Staff Management Issues (1)**

Prerequisite: Junior Standing. (Same as Social Work 391A and Public Policy Administration 391A). This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; and legal issues that affect these processes.

**391B Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)**

Prerequisite: Junior Standing. (Same as Social Work 391B and Public Policy Administration 391B). This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

**Political Science (continued)****391C Management Issues in Nonprofit Organizations: Financial Issues (1)**

Prerequisite: Junior Standing. (Same as Social Work 391C and Public Policy Administration 391C). This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

**394 Leadership and Management in Nonprofit Organizations (3)**

(Same as Public Policy Administration 394, Social Work 394, and Sociology 308.) Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

**395 Senior Seminar in Political Science (3)**

Prerequisites: Senior standing and consent of instructor. Required of all political science majors in their last year of course work as an integrative capstone experience. Emphasis is on student-faculty interaction in a seminar format designed to engage upper-level students in a critical examination of a broad theme in political science, leading to the production of a major research paper. Topics vary. May be repeated. This course is not available for graduate student credit.

**396 American Philanthropy and Nonprofit Resources Development (3)**

Prerequisite: Junior standing or consent of instructor. (Same as Social Work 396 and Public Policy Administration 396). This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, from planning through donor relations.

**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.

**406 Survey Research Methods (3)**

Prerequisites: An introductory statistics course (such as Soc. 220) or consent of instructor. A course on the principles and procedures for conducting survey research. Topics include: forming questions and scales, survey design, sampling methods, data preparation and analysis, and presentation of results.

**410 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.

**Political Science (continued)****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.

**416 Family Policy (3)**

Prerequisites: SW 410 or equivalent or consent of instructor and graduate standing. (Same as Social Work 452 and Sociology 452). Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

**417 Income and Pension Policy for the Aged (3)**

Prerequisite: Graduate standing or consent of Instructor. (Same as GER 417 and PPA 417 and SW 417.) (MSW student normally take the social policy foundation course prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

**418 Social and Economic Development Policy (3)**

Prerequisites: W 410 or equivalent or consent of instructor and graduate standing. (Same as SW 462). Examines major trends and alternatives in social and economic development policy in state, national, and international perspectives. Students will develop skills in policy analysis and development.

**419 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).

**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.

**Political Science (continued)****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)**

Prerequisite: Graduate standing or consent of instructor. (Same as PPA 443, GER 443 and SW 443). (MSW students will normally take the social policy foundation course before enrolling in this course). Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

**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 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)**

Prerequisite: PPA 460 or consent of instructor. (Same as SW 469 and PPA 449.) Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

**450 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.

## Political Science (continued)

### 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 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.



**Political Science (continued)**

**491 Strategic and Program Planning for Nonprofit Organizations (3)**

Prerequisites: Graduate standing or consent of instructor. (Same as PPA 455 and SW 455). Strategic and program planning enable an organization to concentrate on efforts and set priorities guided by a mission, a vision, and an understanding of its environment. Focus is on preparing a strategic plan and a program plan for a nonprofit organization and analyzing an organization's ability to deliver goods and/or services to its constituents in today's economic, social and political climate.

**494 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

**James A. Breugh**, Professor\* +  
Ph.D., Ohio State University

**Robert J. Calsyn**, Professor\*, Director of Gerontology  
Ph.D., Northwestern University

**Michael Harris**, Professor\* +  
Ph.D., University of Illinois-Chicago

**Edmund S. Howe**, Professor Emeritus  
Ph.D., University of London

**Alan G. Krasnoff**, Professor Emeritus  
Ph.D., University of Texas

**Miles L. Patterson**, Professor\*  
Ph.D., Northwestern University

**Patricia A. Resick**, Curators' Professor\*, Director, Center for Trauma Recovery  
Ph.D., University of Georgia

**Jayne E. Stake**, Professor\*, Director, Doctoral Program in Clinical Psychology  
Ph.D., Arizona State University

**George T. Taylor**, Professor\*, Director, Doctoral Program in Experimental Psychology  
Ph.D., University of New Mexico

**Brian Vandenberg**, Professor\*  
Ph.D., University of Rochester

**James T. Walker**, Professor Emeritus  
Ph.D., University of Colorado

**Dominic J. Zerbolio, Jr.**, Professor Emeritus  
Ph.D., Michigan State University

**Carl Bassi**, Associate Professor\*§  
Ph.D., Vanderbilt University

**Therese M. Macan**, Associate Professor\*  
Ph.D., Rice University

**Samuel J. Marwit**, Associate Professor\*  
Ph.D., State University of New York at Buffalo

**Paul W. Paese**, Associate Professor\*  
Ph.D., University of Illinois

**Ann M. Steffen**, Associate Professor\*  
Ph.D., Indiana University

**Vetta L. Sanders Thompson**, Associate Professor\*  
Ph.D., Duke University

**Mark E. Tubbs**, Associate Professor\*, Director, Doctoral Program in Industrial/Organizational Psychology  
Ph.D., University of Houston

**Jeffrey N. Wherry**, Associate Professor#, Director, Kathy J. Weinman Children's Advocacy Centre  
Ph.D., University of Southern Mississippi

**Joel Ellwanger**, Assistant Professor  
Ph.D., Northwestern University

**Michael G. Griffin**, Assistant Professor\*  
Ph.D., University of Missouri-St. Louis

**William L. Kelemen**, Assistant Professor\*  
Ph.D., Baylor University

**Donald D. Lisenby**, Assistant Professor, Associate Chairperson  
Ph.D., Washington University

**Paul C. Notaro**, Assistant Professor  
Ph.D., University of Michigan

**Michael J. Stevens**, Assistant Professor +  
Ph.D., Purdue University

**Robert N. Harris**, Clinical Associate Professor\*  
Ph.D., University of Kansas

**Gretchen Clum**, Assistant Research Professor  
Ph.D., University of Georgia

**Mindy Mechanic**, Assistant Research Professor  
Ph.D., University of Illinois- Urbana Champaign

**Pallavi Nishith**, Assistant Research Professor  
Ph.D., Washington State University

**Allan G. Barclay**, Adjunct Professor  
Ph.D., Washington University

**Larry O'Leary**, Adjunct Associate Professor  
Ph.D., Saint Louis University

**John W. Rohrbaugh**, Adjunct Associate Professor  
Ph.D., University of Illinois-Urbana Champaign

**David E. Smith**, Adjunct Associate Professor  
Ph.D., Colorado State University

**Mark E. Bardgett**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Alene S. Becker**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Ruth Davies**, Adjunct Assistant Professor  
Ph.D., Washington University

**Timothy J. Jovick**, Adjunct Assistant Professor  
Ph.D., Saint Louis University

**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

**Michael J. Schneider**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Sandra K. Seigel**, Adjunct Assistant Professor  
Ph.D., Saint Louis University

**Linda Sharpe-Taylor**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**Mary K. Suszko**, Adjunct Assistant Professor  
Ph.D., University of Missouri-St. Louis

**James H. Wallhermfachtel**, Adjunct Assistant Professor  
Ph.D., Saint Louis University

**Terri Weaver**, Adjunct Assistant Professor  
Ph.D., Virginia Polytechnic Institute & State University

**Audrey T. F. Wiener**, Adjunct Assistant Professor  
Ph.D., Saint Louis University

**David F. Wozniak**, Adjunct Assistant Professor  
Ph.D., Washington University

\* members of graduate faculty

+ Primary appointment in the College of Business Administration

§ Primary appointment in School of Optometry

# Primary appointment in Kathy J. Weinman Children's Advocacy Centre

## Psychology (continued)

### General Information

**Degrees and Areas of Concentration** The psychology department offers work leading to the B.A. degree in psychology. In conjunction with course work in the department, students have the opportunity to do research in a variety of areas, including animal and human learning, physiological, industrial/organizational, cognitive, personality-social, developmental, clinical, and community psychology. Students should consult with their adviser in selecting a program of study. However, the department offers a number of focused areas of study as an aid to students in selecting courses.

These include developmental psychology, community mental health, and industrial/organizational psychology.

The department also offers a terminal M.A., as well as three Ph.D. programs: clinical psychology, experimental psychology, and industrial/organizational psychology.

**Facilities** Among the department's physical facilities are animal and human experimental laboratories and a wide range of research equipment, including portable videotaping systems. The department also has an electronics technician.

**Minor in Psychology** The department offers a minor in psychology to students who have a special interest in this field but wish to major in another discipline.

### Undergraduate Studies

#### General Education Requirements

Majors must satisfy the university and college general education requirements. Courses in psychology may be used to meet the social sciences requirement.

Majors may not take psychology courses on a satisfactory/unsatisfactory basis.

#### Undergraduate Psychology Office

Advisers in the Undergraduate Psychology Office (108 Stadler Hall, 516-6676) are available to 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  
**201**, Psychological Statistics  
**219**, Research Methods

**Note** Students must fulfill the university's mathematical skills requirement 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 9 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 6 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

**Psychology (continued)**

Students are also encouraged to become involved in independent research (Psych 390, Directed Studies).

**Developmental Psychology** This focus area is ideal for double majors in education and psychology and for psychology majors with a general interest in the area of development. In addition to the core curriculum, students are advised to take at least five of the following psychology courses with at least two at the 300 level:

- 216, Personality Theory
- 268, Human Growth and Behavior
- 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
- 373, Psychology of Aging
- 376, Mental Health and Aging

**Community Mental Health** Designed for students interested in counseling and community programs. This focus area is especially suitable for double majors in another social science, particularly in social work and sociology. In addition to the core curriculum, students are advised to take at least five of the following courses in psychology, with at least two at the 300 level:

- 160, Social Psychology
- 161, Helping Relationships
- 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
- 376, Mental Health and Aging

**Industrial/Organizational** This focus area is designed for students interested in human resource management, performance assessment, personnel training, organizational behavior, and related fields. This area would be suitable for psychology majors pursuing either a double major or a minor in business administration. In addition to the core curriculum, students are advised to take the following five psychology courses and at least two at the 300 level.

- 160, Social Psychology
- 222, Group Processes in Organizations
- 318, Industrial and Organizational Psychology
- 320, Personnel Assessment
- 365, Psychological Tests and Measurement

Students interested in this area might also wish to consider one or two of the following courses which are offered outside the psychology department:

- BA 210, Management as a Behavioral Science I
- BA 311, Management as a Behavioral Science II
- BA 312, Industrial and Labor Relations
- BA 319, Employee Training and Development
- Sociology 304, Survey Research Practicum

**Requirements for the Minor**

Candidates must take a minimum of 15 hours in courses taught by or cross listed with the psychology department, including at least 6 hours at the 300 level.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Psychology courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

**Graduate Studies****Admission Requirements**

In addition to meeting the general admission requirements of the Graduate School, applicants should have completed undergraduate courses in general psychology, psychological statistics, and research methods. Each doctoral program has additional admission requirements specific to the program.

**Teaching Assistantships** Stipends for teaching assistantships are available for the doctoral programs only. Educational fees are waived for teaching assistants.

**Applications** Each program has its own deadline for completed applications. They are as follows:

**Ph.D. in Psychology:**

- Clinical Psychology—January 15
- Industrial/Organizational Psychology—February 1
- Experimental Psychology—February 1

M.A. in General Psychology—February 1

**Master of Arts in Psychology**

The University of Missouri-St. Louis offers a flexible program of studies leading to the master of arts degree in general psychology. Course work is possible, depending upon student demand, in several areas of experimental and applied psychology (e.g., psychobiology and behavioral neuroscience; human learning, memory, and cognition;

## Psychology (continued)

personnel and industrial and organizational psychology). The M.A. degree does not constitute a license to practice in Missouri or elsewhere as a professional psychologist. The M.A. program does not offer course work in either counseling or clinical psychology.

There is no thesis or language requirement. Part-time or full-time enrollment is permissible. The M.A. degree is a terminal degree and is separate from the Ph.D. program in psychology.

The M.A. in psychology requires a total of 32 semester hours of course work. Students must take the following set of quantitative courses:

421, Quantitative Methods I, and  
422, Quantitative Methods II

Elective courses will constitute the remaining hours needed for the degree. All programs of study for M.A. students require the approval of a member of the departmental M.A. advisory committee.

### Ph.D. in Psychology

The doctoral program is organized around courses and directed research experience that emphasize the scientific approach to the study of psychology. Courses in the areas of quantitative methods, design and methodology, personality, motivation, social psychology, learning, and cognition are focal in the program.

### Ph.D. Programs

There are three distinct programs within the Ph.D. Each has its own specific course and research requirements. Handouts describing these requirements are available from the department on request. The following briefly describes each program.

**Clinical Psychology** The clinical psychology program has been fully accredited by the American Psychological Association since 1977 and is patterned upon the scientist-practitioner model of clinical training. The clinical psychology program requires five years of full-time study. Students are not considered for admission on a part-time basis. Through the medium of courses, practicum, and research experiences, this emphasis area prepares clinical psychologists for careers in research, teaching, and clinical practice.

Students in the clinical psychology program participate for three and one-half years in the psychology department's Community Psychological Service. This facility provides psychological services to the public and consultation to outside agencies. Students also receive clinical experience in clerkships and during a full-time year-long internship.

Research requirements include an initial independent research project, a major critical review of research in a specialty area, and a dissertation.

**General Experimental Psychology** The general experimental program provides opportunities for study and research in the areas of cognitive psychology and behavioral neuroscience. Full-time enrollment is encouraged, although part-time enrollment is possible.

**Industrial/Organizational Psychology** The industrial/organizational psychology program is offered in cooperation with selected faculty from the College of Business to prepare students for careers in industry or academia. This emphasis provides "industrial" training in areas such as personnel selection, training, and test development/validation, as well as "organizational" training in areas such as work motivation, leadership, and group processes. Research and other training experiences in various settings are also incorporated.

### Clinical Psychology Respecialization-Advanced Graduate Certificate Program

This program is designed for graduates of accredited doctoral programs in psychology who wish to receive training in the specialty field of clinical psychology. Respecialization students are trained within the context of the UM-St. Louis clinical psychology doctoral program, which is accredited by the American Psychological Association. The program provides an integrated sequence of training experiences, including didactic course work and practicum placements. Core graduate-level psychology educational requirements not completed elsewhere are included in the respecialization student's course of study.

### Career Outlook

The undergraduate major in psychology can lead to further training at the graduate level, function as a major within a general liberal arts degree, or offer some degree of specialization in such areas as developmental psychology, industrial/organizational psychology, and community mental health. Job opportunities with a bachelor's degree include working in business, social welfare, and probation and parole. For more career information see an adviser in the Undergraduate Psychology Office (Room 108 Stadler). To function specifically as a psychologist, requires a graduate degree and students with such an interest should plan for this additional training.

## Psychology (continued)

### Course Descriptions

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 3, 140, 160, 161, 162, 200, 201, 211, 212, 213, 215, 216, 219, 220, 222, 225, 230, 232, 235, 240, 245, 256, 268, 269, 270, 271, 272, 280, 295, 300, 301, 302, 305, 306, 308, 310, 311, 312, 314, 318, 320, 340, 345, 346, 349, 356, 357, 361, 365, 370, 373, 374, 375, 376, 390, 392, 398.

The following course fulfills the Natural Science and Mathematics [SM] breadth of study requirements: 140.

### 3 General Psychology (3)

A broad introductory survey of the general principles of human behavior.

### 140 Female Sexuality (3)

(Same as Biology 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.

### 160 Social Psychology (3)

(Same as Sociology 160.) Prerequisite: Psych 3 or Sociology 10. Study of interaction between individuals and their social environment. Examination of basic principles, concepts, and methods.

### 161 Helping Relationships (3)

Prerequisites: Psych 3 and consent of instructor. Exploration of the basic elements contributing to effective helping skills. Course assignments include keeping a journal, writing papers, and a final exam. Readings, discussion, and guided experiences will be used to instill active listening and communication skills. Ethics of helping relationships will be emphasized.

### 200 Drugs and Behavior (3)

Prerequisites: Psych 3 and three other hours in psychology or biology. The course is designed to provide an introduction to the relationship between drugs and behavior. The emphasis will be on psychoactive drugs, alcohol, nicotine, as well as drug-like substances produced naturally in the body.

### 201 Psychological Statistics (4)

Prerequisites: Psych 3 and satisfaction of the university's mathematical skills requirement. (With laboratory.) Statistical methods in psychological measurement and analysis of psychological data. Frequency distribution analysis, sampling, test of significance, and correlation methods.

### 211 Physiological Psychology (3)

Prerequisites: Psych 3 or equivalent and Biology 1. A survey of the major areas of physiological psychology with an emphasis on their historical development.

### 212 Principles of Learning (3)

Prerequisite: Psych 3. A consideration of critical findings in learning.

### 216 Personality Theory (3)

Prerequisite: Six hours of psychology. Structural and dynamic aspects of the human personality considered in the context of selected theoretical systems.

### 219 Research Methods (3)

(With laboratory.) Prerequisite: Psych 201. Research methods and analysis techniques used in psychological inquiry. Special emphasis placed on the logic of research design. Includes laboratory study of, and analysis of, selected methods.

### 222 Group Processes in Organizations (3)

Prerequisite: Psych 3 or BA 210. Topics include theory, research, and practice in coordination, conflict, and decision making in groups and organizations, as well as the role of influence, power, and leadership effectiveness in understanding interpersonal and group relations.

### 225 Behavior Modification (3)

Prerequisite: Nine hours of psychology or consent of instructor. Methods, applications, and ethics of the use of behavior theory (primarily Skinner's operant conditioning) to the control of human behavior in a variety of settings including mental institutions, grade schools, universities, individual treatment, and communal living.

### 230 Psychology of Women (3)

Prerequisite: Psych 3. Evaluation of psychological theories and research regarding physiological, cognitive, and personality sex differences, female problems in adjustment, and clinical interventions for women.

### 232 Psychology of Victims (3)

Prerequisite: Psych 3. A review of the effects of crime, violence, natural disasters, and other traumas on psychological functioning with attention to the relationship between gender and victimization. Prevention and therapy techniques will also be discussed.

### 235 Community Psychology (3)

Prerequisite: Psych 3. The analysis of psychological problems in terms of the social and situational forces that produce them. Community psychology analyzes the situational problems in living. Epidemiology of mental illness; group, family, and crisis intervention; mental health-care delivery; program evaluation and demonstration project research; role of psychologist as consultant and change agent; and utilization of nonprofessional manpower.

**Psychology (continued)****245 Abnormal Psychology (3)**

Prerequisite: Psych 3. Introduction to major symptom complexes, theories of etiology, and treatment of behavior disorders.

**256 Environmental Psychology (3)**

Prerequisite: Psych 160 or Sociology 160. Analysis of environmental influences on behavior and man's influence, in turn, on the environment. Topics will include a consideration of both individual processes relating to the environment (such as the perception, evaluation, and adaptation to the environment) and social processes relating to the environment (such as privacy, territoriality, and crowding).

**268 Human Growth and Behavior (3)**

Prerequisite: Psych 3. A survey of development over the life span, with an emphasis on the developmental tasks and hazards of each period.

**270 Child Psychology (3)**

Prerequisite: Psych 3. Principles of biological, behavioral, and personality development from conception to puberty.

**271 Adolescent Psychology (3)**

Prerequisite: Psychology 3. Principles of biological, behavioral, and personality development from puberty to maturity.

**272 Adult Development and Aging (3)**

(Same as Gerontology 272.) Prerequisite: Psych 3. Personality, social, and physiological development from the onset of early adulthood through maturity and old age.

**280 The Psychology of Death and Dying (3)**

(Same as Gerontology 280.) Prerequisite: Psych 3. This course will address the psychological aspects of death and dying for both adults and children. The psychological reactions of terminally ill patients and their families will also be examined, and therapeutic interventions will be discussed.

**295 Selected Projects in Field Placement (3)**

Prerequisites: Junior standing, fifteen hours of psychology, and departmental approval. Selected options in field work placement experiences in various local agencies with training and supervision by faculty. May be repeated once for credit.

**300 Neuropharmacology and Behavior (3)**

Prerequisites: Psych 200 plus 6 additional hours of Psychology. The course is designed for advanced undergraduate students interested in a career in psychopharmacology or related fields in the health sciences. Emphasis will be on (1) underlying neural processes, (2) traditional laboratory methods as they have been adapted to the study of drugs, and (3) the unique contributions made by psychopharmacologists to both areas.

**301 Advanced Statistics and Experimental Design (3)**

Prerequisites: Twelve hours of psychology, including Psych 201. Statistical methods which are particularly useful in psychological research and the design of experiments appropriate to these methods.

**302 Computers in Psychology (3)**

Prerequisites: Nine hours of psychology including Psych 201 and junior or senior standing. The course is organized around computer applications in the behavioral sciences for the Macintosh machine. The goals for the course include familiarization with (1) MAC environment to prepare the student for the explosion of computer applications now and in the future, (2) the hardware and software products available for the working psychologist, and (3) the software programs of choice in the field through hands-on, individual use of the MAC. Some modest level of computer (MAC, PC, or mainframe) experience is recommended.

**305 Cognitive Development (3)**

Prerequisites: Junior standing and Psych 270, or consent of instructor. Data and theory concerned with development of perceptual, language, and symbolic abilities in infants and young children, including discussion of deprivation and enrichment of cognitive development.

**306 Social Development (3)**

Prerequisites: Junior standing and Psych 270, or consent of instructor. Data and theory concerned with development of social behavior in infants and young children. Discussion will include the formation and interruption of attachment, the effects of social isolation, sex-role development, identification, and development of moral judgments in children.

**307 Psychology of Oppression (3)**

Prerequisite: Nine (9) hours of psychology. Surveys the concept of oppression and psychology's contribution to an understanding of this human reality. Definitions and the assumptions, liabilities, and contributions of specific theories of oppression are considered. Finally, the course examines the psychological and mental health consequences of the individual's experience of oppression.

**308 African American Psychology (3)**

Prerequisites: 9 hours of psychology or 6 hours of Black Studies minor, or consent of instructor. Provides an overview of the emergence of contemporary African American psychology. It explores the implications of a psychological perspective specific to African Americans. Traditional research theories are explored from a historical perspective. African American identity, socialization, personality, cognitive development, and mental health are discussed. Contemporary issues which impact African American behaviors and attitudes are also addressed.

**Psychology (continued)****310 Motivation Theory (3)**

Prerequisites: Junior standing and twelve hours of psychology, or consent of instructor. Survey of current theoretical material in the area of motivation.

**311 Psychology of Nonverbal Behavior (3)**

Prerequisite: Psych 160 or Sociology 160. Psychological perspective on the role of nonverbal behavior in social settings. Primary concerns of the course will include an analysis of a) functions of nonverbal behavior (e.g., communication, intimacy exchange, control), b) factors influencing nonverbal expression (e.g., culture, personality, relationships), and c) various theoretical views on nonverbal behavior and communication. Applications to various problems and settings in everyday life will also be pursued.

**312 Social Cognition (3)**

Prerequisites: Psych 160 or Sociology 160. Research and theory on the role of cognitive processes in social behavior. Topics include attitudes and attitude change, social inference, schemas, and cognitive links to behavior and affect.

**314 Physiological Psychology (3)**

(With laboratory.) Prerequisites: Psych 219, Biology 1, and Biology 3, or consent of instructor. The biological and physiological correlates of behavior. Special emphasis placed on the neural and endocrine systems.

**317 Social Psychology of Conflict and Negotiation (3)**

(Same as Sociology 317.) Prerequisite: nine (9) hours of psychology or nine (9) hours of sociology, including Psych 160 or Soc 160. The purpose of this course is to understand how social psychological phenomena affect the processes and outcomes of negotiation and other forms of social conflict. The course is designed to be relevant to the broad spectrum of conflict situations people face in their work and daily lives. A basic premise of this course is that while analytical skills are needed to discover solutions to social problems, negotiation skills are needed in order for these solutions to be accepted and implemented.

**318 Industrial and Organizational Psychology (3)**

(Same as BA 318.) Prerequisites: Bus 210 and Math 105 or Psych 201. This course introduces the student to psychological research and theories pertaining to human behavior in the work setting. Topics covered include: selection, performance appraisal, training, leadership, motivation, job satisfaction, and organizational design.

**320 Personnel Assessment (3)**

Prerequisite: Psych 318 or BA 309. This course will provide an in-depth study of several topics in the area of personnel psychology. Consideration will be given to issues such as assessment centers, employment interviewing, personnel appraisal, employment test validity, and legal issues relevant to personnel assessment.

**340 Clinical Problems of Childhood (3)**

Prerequisites: A total of twelve hours of psychology including Psych 3 and Psych 270. This course will address the clinical disorders and difficulties of children and the treatment of these disorders. Topics that will be addressed include autism, childhood schizophrenia, behavior disorders, drug abuse, enuresis, encopresis, and childhood co-compulsive and phobic reactions. Treatments designed for specific use with children, including behavioral, drug, and community mental health approaches will be addressed.

**346 Introduction to Clinical Psychology (3)**

Prerequisites: Nine hours of psychology, including Psych 216 or Psych 245. A conceptual framework for research, description, and understanding of clinical phenomena. Assessment, interviewing, the clinical use of tests, and psychological approaches to treatment.

**349 Human Learning and Memory (3)**

Prerequisites: Nine hours of psychology or consent of instructor. A survey of contemporary research, theory, and facts pertaining to the acquisition, retention, and forgetting of information.

**356 Thinking and Cognition (3)**

Prerequisites: Nine hours of psychology or consent of instructor. An introduction to modern analytical approaches to the psychology of thinking: problem solving, reasoning, categorizing, judgment, attention, and consciousness. Particular attention is paid to the mental structures and operations involved in the encoding, abstraction, representation, transformation, and retrieval of knowledge.

**357 Psychology of Learning (3)**

(With laboratory.) Prerequisite: Psych 219. Major theoretical positions and experimental conditions of learning. Includes laboratory study of selected problems.

**361 History and Systems of Psychology (3)**

Prerequisites: At least fifteen hours of psychology. The course should be taken no sooner than the winter term of the junior year. Historical antecedents of contemporary psychology, including a survey of systems and schools of psychology.

**365 Psychological Tests and Measurements (3)**

(With laboratory.) Prerequisites: Psych 201 and Psych 219, or consent of instructor. Survey of psychological testing and principles of test construction and evaluation. Laboratory experience in construction, administration, and interpretation of selected tests.

**373 Psychology of Aging (3)**

(Same as Gerontology 373.) Prerequisite: Nine hours of psychology or consent of instructor. This course focuses on the developmental changes associated with aging including sensation, memory, emotions, and attitudes.



**Psychology (continued)****374 Introduction to Clinical Neuropsychology (3)**

Prerequisite: Nine hours of psychology. A survey of neuropsychological findings concerning relationships between brain and behavior. Topics will include brain function, neuroanatomy, neurological syndromes, and methods of neuropsychological assessment.

**375 The Social Psychology of Disabilities (3)**

Prerequisite: Sociology 160 or Psych 160 or consent of instructor. (Same as Sociology 375). A social psychological and micro-sociological examination of attitudes and behaviors affecting persons with disabilities. Topics include stigma and empowerment, adaptive behaviors, stereotypes and prejudices, and images of disabilities in popular culture and mythology. The course will address the experience of disability and its social consequences for the lives of persons with disabilities.

**376 Mental Health and Aging (3)**

Prerequisites: Consent of instructor plus one of the following: Psych 272, Psych 373, or graduate standing. (Same as SW 376 and GER 376.) (MSW students normally take all foundation courses prior to enrolling in this course). A survey of recent theory and research in mental health issues for older populations. The primary focus is on major psychological disorders prevalent among the elderly and on treatment approaches for elders.

**390 Directed Studies (1-5)**

Prerequisite: Consent of instructor. Directed reading and research. May be repeated for a maximum total of ten hours.

**392 Selected Topics in Psychology (1-3)**

Prerequisites: Twelve hours of psychology and consent of instructor. A seminar of selected issues and methods in psychology. May be repeated once for credit.

**398 Child Maltreatment: A Multidisciplinary Approach (3)**

(Same as SW 398). Focuses on clinical aspects of child abuse with attention to identification, reporting, intervention, and prevention. Perspectives from the disciplines of psychology and social work are provided.

**399 Seminar: Child Sexual Abuse (1)**

(Same as SW 399) Provides intensive study in interviewing, legal issues, assessment, medial issues, and therapeutic intervention in cases of child sexual abuse.

**403 Psychopathology (3)**

Prerequisite: Admission to Clinical Psychology program or permission of instructor. A critical examination of the clinical-experimental literature on psychopathology. Etiologies of cognitive/affective functions and dysfunctions are explored, and implications for therapeutic intervention are considered.

**404 Introduction to Clinical Assessment I (3)**

Prerequisite: Admission to Clinical Psychology program. Fundamentals of clinical assessment with emphasis on interviewing and the measurement of cognitive functioning.

**405 Personality (3)**

Prerequisite: Admission to Clinical Psychology program or permission of instructor. Current theories and research in personality. Major psychodynamic, trait, phenomenological, cognitive, and social learning approaches are covered, with a focus on personality structure and individual differences, personality processes and dynamics, development, psychopathology, and change.

**406 Introduction to Clinical Assessment II (3)**

Prerequisite: Psych 404. Theory and techniques of personality assessment with emphasis on projective personality tests.

**407 Psychopharmacology (3)**

Prerequisite: 12 units of graduate-level psychology courses and consent of instructor. An examination of the effects of drugs on the brain and on behavior. Primary emphasis is on those drugs used in the treatment of affective disorders, schizophrenia, and anxiety.

**410 Women and Mental Health (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will focus on contemporary research on the psychology of women pertaining to mental health issues. Etiology and treatment of disorders disproportionately affecting women will be emphasized.

**412 Social Psychology (3)**

Prerequisite: Consent of instructor. A review of key areas in contemporary theory and research in social psychology.

**418 Seminar in Human Sexuality (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Review of theory and research in human sexuality from physiological, psychological, and social perspectives. Implications for the assessment and treatment of sexual dysfunction are considered.

**419 Existential Issues in Clinical Psychology (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. This course will review existential thought in psychology and its application to understanding clinical problems and treatment. Particular attention will be given to how psychotherapy can be understood within an existential framework that focuses on the issues of death, freedom, responsibility, and isolation.

**Psychology (continued)****421 Quantitative Methods I (4)**

(With laboratory.) A comprehensive study of the use of analysis of variance procedures in analyzing data. Topics include completely randomized designs, randomized blocks, factorial designs, and the analysis of covariance.

**422 Quantitative Methods II (4)**

(With laboratory.) A comprehensive study of the use of multivariate statistics in data analysis. Topics include multiple regression, canonical correlation, factor analysis, discriminant analysis, and the multivariate analysis of variance.

**429 Psychometric Theory (3)**

Prerequisite: Consent of instructor. A consideration of test reliability, validity, and construction from the standpoint of modern psychometric theory and a survey of unidimensional and multidimensional scaling procedures.

**431 Clinical Supervision (1-3)**

Prerequisite: Admission to Clinical Psychology program. Supervised experience in clinical practice. May be repeated six times for credit.

**432 Clerkship I (1)**

Prerequisites: Admittance to Clinical Psychology program. Supervised experience in a clinical placement.

**433 Clerkship II (1)**

Prerequisites: Psych 432. Supervised experience in a clinical placement.

**434 Seminar: Introduction to Psychotherapy (3)**

Prerequisite: Admittance to Clinical Psychology program and Psych 406. This course considers theories of personal change and their practical application in psychotherapy. Topics include the development of the therapist-client relationship, case management, process and outcome research, and ethical principles for the psychotherapist.

**435 Clerkship III (1)**

Prerequisites: Psych 432 and 433. Supervised experience in a clinical placement.

**439 Summer Supervision (1)**

Prerequisite: Psych 431. Supervision experience in clinical practice at all graduate year levels during the summer months. Can be repeated for credit.

**440 Principles of Family Therapy (3)**

Prerequisite: Psych 434. Survey of research and theory underlying models of family interaction. Practical application of specific techniques to the family system is emphasized.

**441 Seminar: Cognitive and Behavior Theories (3)**

Prerequisite: Admission to Clinical Psychology program or permission of instructor. A course on cognitive and

behavioral theories and their applications to clinical populations. Emphasis is on a critical review of research on cognitive and behavioral therapy procedures.

**442 Seminar: Cognitive and Behavior Therapy (3)**

Prerequisites: Admittance to doctoral program in Clinical Psychology and Psych 441. The practice of behavior therapy. Students will learn to implement behavioral assessment and therapy strategies in clinical settings.

**444 Clinical Geropsychology (3)**

Prerequisite: Graduate Standing or consent of instructor. This course examines major predictors of psychosocial functioning in older adults. The emphasis is on assessment and research methods appropriate to studying developmental issues in late life. Topics include interpersonal relationships, mental health, and a critique of interventions designed to increase life satisfaction.

**448 Multicultural Issues in Clinical Psychology (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. A survey of theoretical perspectives utilized in the treatment of various cultural groups. Their relationship to and implications for the treatment of members of various cultural groups will be explored. Strategies and ethical concerns in diagnosis, test interpretation, and treatment are considered.

**449 Research Methods in Applied Psychology (3)**

Prerequisite: One graduate course in statistics. This course focuses on the basics of conducting research in applied psychology. Topics include: philosophy of science; reliability and validity; experimental, quasi-experimental, and nonexperimental designs; power; and meta-analysis.

**450 Clinical Internship I (1)**

Prerequisite: Consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

**451 Clinical Internship II (1)**

Prerequisites: Psych 450 and consent of adviser. Supervised training in an affiliated agency or organization following completion of two years of course work.

**454 Seminar: Personnel Psychology (3)**

An analysis of theories and research in personnel and industrial psychology. Topics include testing, assessment centers, performance appraisal, and interviewing.

**455 Seminar: Organizational Psychology (3)**

An analysis of theories and research in organizational psychology. Topics include theories of motivation, leadership, job design, group process decision making, organizational effectiveness, and the relation between organizations and their environment.

**Psychology (continued)****457 Seminar: Special Topics in Industrial Psychology (3)**

A seminar of selected issues and methods in personnel psychology.

**458 Seminar: Special Topics in Organizational Psychology (3)**

A seminar of selected issues and methods in organizational psychology.

**459 Practicum in Industrial/Organizational Psychology (1-4)**

Supervised experience in personnel or human resource management.

**460 Internship in Industrial/Organizational Psychology (1-4)**

Prerequisite: Consent of adviser and admission to the graduate program in I/O psychology. Supervised field experience in human resource management or organizational psychology areas following completion of at least two years of course work.

**461 Seminar: Learning (3)**

A critical examination of contemporary problems in learning.

**465 Seminar: Physiological Psychology (3)**

A critical examination of contemporary problems in physiological psychology.

**466 Seminar: Developmental Psychology (3)**

A critical examination of contemporary problems in developmental psychology.

**468 Seminar: Cognitive Processes (3)**

A critical examination of contemporary problems in cognitive processes.

**472 Special Topics in Psychology (3)**

A seminar of selected issues and methods in psychology.

**474 Clinical Research in Applied Settings (3)**

Prerequisite: Psychology 421 and 422. This course provides information on the design and implementation of research in applied settings (e.g., human service agencies). Topics include program evaluation, consultation models, risk factor analysis, presentation and health promotion, and quality control.

**475 Introduction to Evaluation Research Methods (3)**

(Same as Sociology 475, Public Policy Administration 475, and CCJ 475.) Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

**476 Seminar in Clinical Child Psychology (3)**

Prerequisite: Admission to the doctoral program in Clinical Psychology or consent of instructor. Introduction to principles, theory, and methods of study in the field of clinical child psychology. Emotional and behavioral dysfunctions are considered from developmental and socialization perspectives.

**477 Principles of Child Psychotherapy (3)**

Prerequisites: Psych 434 and 476. The course will focus on treatments for children with clinical problems. Play therapy, family therapy, and behavioral therapy techniques will be reviewed. Special attention will be given to differentiating when to use each modality, as well as how they can be effectively combined.

**478 Directed Research in Industrial/Organizational Psychology (1-4)**

Independent study of an issue in industrial/ organizational psychology through the application of research techniques.

**479 Directed Readings in Industrial/Organizational Psychology (1-4)**

Independent literature review of a topic in industrial/ organizational psychology.

**480 Research Methods in Clinical Psychology (3)**

Prerequisite: Psychology 421 or equivalent. An overview of research methods that are appropriate for clinical and other nonlaboratory settings.

**482 Ethics for Psychologists (1)**

Prerequisite: Admittance to doctoral program in Clinical Psychology. A study of ethical standards as they relate to teaching, research, and professional practice.

**483 Directed Research (1-10)****484 Directed Readings (1-10)****485 Research Team I (2)**

Prerequisite: Admittance to doctoral program in Clinical Psychology. Group supervision of beginning research leading to the Independent Research Project.

**486 Research Team II (1)**

Prerequisite: Completion of Independent Research Project or Third Year standing in doctoral program in clinical psychology. Group supervision of advanced research leading to the dissertation proposal.

**491 M.A. Thesis Research (1-10)****492 Ph.D. Thesis Research (1-10)**

**Psychology (continued)**

**494 Integrative Research Seminar in Gerontology (3)**

(Same as Gerontology 494.) Prerequisite: A graduate level research methods course (e.g., PPA 401) This seminar requires students to critically examine research in gerontology in terms of methodology. Topics covered include: reliability and validity of measures; internal and external validity; needs assessment; treatment implementation and process evaluation; and qualitative methods.

**495 Practicum in Gerontology (3)**

(Same as Gerontology 495.) Prerequisite: Consent of instructor. This course provides supervised work experience in an agency that serves the elderly.

**496 Gerontology Colloquium (1)**

(Same as Gerontology 496.) Presentation of current topics in gerontology by faculty and invited speakers. May be repeated for a total of three credits.

## Social Work

### Faculty

**Roosevelt Wright Jr.**, Professor, Chairperson  
Ph.D., University of Wisconsin at Madison

**Norman Flax**, Associate Professor Emeritus\*  
Ph.D., Saint Louis University

**Joan Hashimi**, Associate Professor Emeritus\*,  
Ph.D., Washington University

**Lois Pierce**, Associate Professor\*  
Ph.D., Washington University

**Uma Segal**, Associate Professor\*  
Ph.D., Washington University

**Margaret Sherraden**, Associate Professor\*  
Ph.D., Washington University

**Ann Dinan**, Assistant Professor\*  
Ph.D., Washington University

**Sharon Johnson**, Assistant Professor  
Ph.D., Washington University

**Lia Nower**, Assistant Professor  
Ph.D., Washington University

**Patricia Rosenthal**, Lecturer  
M.S.W., Washington University

**Cynthia Sanders**, Assistant Professor  
Ph.D., Washington University

**Beverly Sporleder**, Lecturer  
M.S.W., Washington University

**John McClusky**, Visiting Associate Professor  
Ph.D., University of California-Berkeley

\* members of Graduate Faculty

The social work faculty members are committed to excellence in teaching and scholarly research in a wide range of specialties. These include child welfare, gerontology, community organization, addictions, and social service policy. Faculty, also serve on the executive and advisory boards of many area social service agencies.

### General Information

**Degrees and Areas of Concentration** The Department of Social Work offers courses leading to a bachelor of social work degree (B.S.W.), a master of social work (M.S.W.), and a minor in social work. The B.S.W. program is fully accredited, and the M.S.W. is in the first phase of accreditation (candidacy) by the Council on Social Work Education. The programs stress the critical, empirical, and applied aspects of social work, incorporating a liberal arts perspective throughout the curriculum. There is a strong accent on community and agency field work as an integral part of the program. Professional social work education enables students to integrate the knowledge, values and skills of the profession into competent practice.

Undergraduate social work majors and Master's students should obtain a copy of the *Student Handbook* (also available

on the social work department's Web page <http://www.umsl.edu/~socialwk>). BSW students must see a social work adviser for advisement each semester. Students in the B.S.W. or the M.S.W. program must set up an appointment with the practicum office one semester prior to enrolling in the practicum and attend a series of prepracticum orientation sessions.

### Undergraduate Studies

#### General Education Requirements

Majors must satisfy the university and college general education requirements, except that proficiency in a foreign language is recommended but not required.

Courses required for the B.S.W. degree may not be taken on a satisfactory/unsatisfactory basis except Social Work 320 and Social Work 321.

#### Admission Requirements

Students entering UM-St. Louis as freshman and as transfer students should indicate a pre-social work major. Students must apply to the program concurrent with SW 210. Admission to the program is conditional upon the successful completion of all necessary requirements.

#### Requirements for Admission to the Social Work program:

- Junior standing
- Submission of:
  - Application for admission to social work program.
  - Transcript of all university work.
  - Two letters of reference: one from a college or university professor and one other, preferably from a work or volunteer experience supervisor.
- Completion of Social Work 100, 150, and 151 or their equivalents or completion of an A.A. in Human Services.
- Satisfactory completion of all courses listed as prerequisites for Social Work 210, 280, and 285.
- Applicants may be asked to meet with the social work admissions committee.

### Degree Requirements

#### Undergraduate Studies

##### Bachelor of Social Work

Students must have a minimum GPA of 2.5 in social work and related-area requirement courses to enter field practicum. Candidates for this degree program must complete the core requirements including the following social work courses:  
**100**, Introduction to Social Service  
**150**, Social Welfare as a Social Institution  
**151**, Social Welfare as a Social Institution Laboratory  
**210**, Introduction to Interventive Strategies  
**280**, Human Behavior in the Social Environment

**Social Work (continued)**

- 285, Social Issues and Social Policy Development  
 300, Interventive Strategies for Social Work with Individuals, Families, and Groups  
 305, Interventive Strategies for Social Work with Organizations and Communities  
 320 and 321, Supervised Field Experience in Social Work I and II  
 320a and 321a, Integrative Field Experience Seminar I and II

A minimum of 34 hours and a maximum of 50 hours may be taken in social work. A minimum of 36 hours is required in related area departments.

Evaluation of social work transfer credits will be done by a social work adviser on an individual basis.

**Related Area Requirements**

The following courses, or their alternatives, are required:

**Biology**

- 1, General Biology, or  
 11, Introductory Biology I  
 and one additional **biology** course from the following:

- 110, Human Biology  
 113, Human Physiology and Anatomy I  
 114, Human Physiology and Anatomy II  
 115, Human Heredity and Evolution  
 120, Environmental Biology  
 140, Female Sexuality

**Econ**

- 40, Introduction to the American Economy

**PolSci**

- 11, Introduction to American Politics

**Psych**

- 3, General Psychology

**Sociology**

- 10, Introduction to Sociology  
 160, Social Psychology  
 220, Sociological Statistics

**Either****Sociology**

- 230, Research Methods and  
 231, Research Methods Lab or

**Social Work**

- 330, Research Design in Social Work

At least 9 additional hours must be taken in social work, sociology, political science, psychology, women's and gender studies, anthropology, criminology and criminal justice, or economics at the 100 level or above. Hours taken in social work will apply toward the maximum of 50 hours that may be taken in social work courses.

After fulfilling the general education and specific major degree requirements, students are to take the remaining 29 hours at the university level required to complete the bachelor of social work degree in university courses 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, women and gender studies, business, education, engineering, and interdisciplinary. The social work department may require students to pass a placement test to enroll in the next level course, provided this test or its equivalent is administered to all students seeking to enroll in that course.

Social work majors must have a cumulative grade point average of 2.5 or better in all course work specifically required for the major, with satisfactory grades in practicum.

**Note** Taking anthropology, biological sciences, economics, and Spanish courses is strongly recommended by graduate social work schools.

**Requirements for the Minor in Social Work**

Candidates must complete the following **social work** courses:

- 100, Introduction to Social Service  
 150, Social Welfare as a Social Institution  
 210, Interventive Strategies in Social Work Practice  
 285, Social Issues and Social Policy Development  
 and one course at the 200 level or above.

**Graduate Studies****Master of Social Work****Admission Requirements**

Admission to the M.S.W. Program requires admission to the University of Missouri-St. Louis Graduate School and acceptance by the Department of Social Work. Applicants to the program must meet the following requirements to be considered for admission: (1) completion of a bachelor's degree from a college or university accredited by a recognized regional accrediting organization; (2) completion of a liberal arts education including courses in the humanities, the social and behavioral sciences, and the physical sciences, including a course in human biology or one that had substantial human biology content; (3) attainment of a cumulative grade point average of at least 2.75 on a 4.0 scale for all undergraduate course work and attainment of a grade point average of 2.75 on a 4.0 scale in the major field; (4) submission of the following documents by the admission deadline: (a) a completed application to the UM-St. Louis Graduate School and a completed M.S.W. supplemental application, (b) three letters of reference, (c) three written essays, (d) official transcripts from all colleges and university attended, and (e) applicable fees.

## Social Work (continued)

### Application Deadline

The deadline for application to the MSW program is March 15 for admission in the following fall semester.

### Admissions to the Advanced Standing Program

Applicants with a B.S.W., B.A.S.W., or B.S.S.W., from an accredited social work program may be given up to 24 credit hours of advanced standing for foundation social work courses. Admissions to the advanced standing program is available to applicants who meet the general admission requirements and who: (1) have earned a bachelor's degree in social work accredited by the Council on Social Work Education within five years of applying to the M.S.W. Program, and (2) have earned a grade point average of at least 3.0 on a 4.0 scale in the social work foundation curriculum, and no less than a B in all courses that are applicable.

### Course Waivers

A student who does not have a bachelor's degree in social work but who can document successful completion (with at least a B) of foundation courses from an accredited B.S.W. program within the last five years will be given course waivers and be allowed to take electives instead of these courses.

Students from nonaccredited B.S.W. programs or students who have taken comparable course work in other undergraduate programs may take place-out examinations for select foundation courses; waivers will be given if students successfully pass place-out examinations. The waiver does not provide graduate credit; it is a mechanism for allowing elective courses to be substituted for required foundation courses.

Academic credit cannot be given for life experience and previous work experience, in whole or in part, in lieu of field practicum or foundation year courses.

### Degree Requirements

The M.S.W. is a two-year program comprising a foundation year and a concentration year. All students are required to take the foundation year courses. These provide a common base of knowledge across all practice settings and populations. Beyond the general requirements of the Graduate School, the department requires a minimum of 60 semester hours of course work, of which 45 must be at the 400 level and 45 must be in social work or crosslisted with social work, including the following foundation courses:

- 315, Diversity and Social Justice
- 410, Social Policy and Social Services
- 418, Foundations of Human Behavior in the Social Environment
- 430, Generalist Social Work Practice
- 431, Social Work and Human Service Organizations

- 432, Community Practice and Social Change
- 440, Research Methods and Analysis I
- 449, Research Methods and Analysis II
- 489, Graduate Field Practicum Seminar
- 490, Graduate Field Practicum I

Upon completion of the 30 credits of foundation year requirements, students move into a year of specialization, called the concentration. The concentration year requires 30 hours of course work that includes 9 hours of elective graduate-level courses approved by the adviser. Students plan their degree program to reflect their career interests in the following concentration areas:

- Children, Youth and Families
- Aging and Gerontology
- Organizations and Communities

To remain in good standing, students must maintain a cumulative GPA of 3.0 or better.

The field practicum is an integral part of the concentration year. Students will complete 240 hours (two days of full-time work each week) of M.S.W.-supervised practice in an agency during the Winter semester of the foundation year, and 660 hours (three days of full-time work per week) in both the fall and winter semesters in the concentration year.

A student must receive a grade of satisfactory on a satisfactory/unsatisfactory basis in the first-year field instruction course in order to be eligible to enter the second year field practicum.

### Part Time Status

Students who enter the program as part-time students complete the foundation year in two years and the concentration course work in an additional two years.

All students must complete the M.S.W. in four years.

### Career Outlook

The bachelor of social work program prepares persons for entry-level employment in social welfare agencies, schools, hospitals, correctional institutions, social action and community organizations, and day care, geriatric, or rehabilitation and residential centers. The master of social work program prepares professionals for advanced social work practice with individuals, families, groups, organizations, and communities. Individuals currently working in social welfare can develop skills and increase employment and job advancement opportunities with the B.S.W. and M.S.W. degrees.

**Social Work (continued)****Course Descriptions**

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 100, 150, 210, 265, 275, 280, 285, 290, 312, 314, 316, 322, 350, 390.

**100 Introduction to the Social Services (3)**

Prerequisite: Sociology 10 or Psychology 3. Examination of the network of social programs and services presently operating in modern urban communities and the various roles and functions performed by the helping professions. Students will be introduced to basic values, skills, and training involved in a helping relationship, as well as the characteristics of both clients seeking help and of professionals and paraprofessionals engaged in the helping process.

**150 Social Welfare as a Social Institution (3)**

Prerequisite: Social Work 100 or consent of instructor. A study of the: 1) development of social welfare services and the philosophy underlying the present practices and systems; 2) present social welfare programs with particular emphasis given to public income-maintenance provisions; 3) special welfare needs of blacks, elderly, women, Hispanic and Native Americans; and 4) the development of social work as a profession. This course may be taken by non-social work majors.

**151 Social Welfare as a Social Institution Laboratory (1)**

Prerequisites: Simultaneous with Social Work 150. The lab session will be used for field trips to social agencies. This course is required for all Social Work majors.

**210 Introduction to Interventive Strategies for Social Work Practice (3)**

Prerequisites: Social Work 150, Sociology 10 and Psychology 03, or permission of instructor. A presentation of basic knowledge, skills, and theory used for entry-level professional practice, such as problem assessment, interviewing skills, crisis intervention, and referral procedures. The course objectives also will be to teach students how to help clients negotiate systems effectively, and to use resources, services, and opportunities.

**280 Human Behavior in the Social Environment (3)**

Prerequisite: Biology 1 and Sociology 160 or Psych 160 or permission of instructor. This course will focus on the normative stages in the life span, specifically how human development is affected by the physical environment and social status characteristics. Empirical information and theoretical views on human development will be included. Human development will be viewed as a complex interaction of individual developmental stages with family, social, and community systems.

**285 Social Issues and Social Policy Development (3)**

Prerequisites: Social Work 150, PolSci 11, and Econ 40. The identification of issues concerning governmental provisions to meet contemporary social needs, with analysis of the principles and values underlying alternative solutions. A study of the processes by which citizen opinions and public policies evolve and are implemented in areas such as income maintenance, crime and delinquency, employment, family and child welfare, and public mental health.

**290 Selected Topics in Social Work Practice (3)**

Prerequisite: Social Work 210 or Social Work 285, or consent of instructor. A course examining special topics in social work practice. Relative theories, strategies, and skills will be presented for topics selected. Course may be taken more than once for credit as different topics are offered.

**300 Interventive Strategies for Social Work with Individuals, Families, and Groups (3)**

Prerequisites: Social Work 210, and Social Work 280. This course continues the presentation of basic knowledge and practice skills for entry level professional practice begun in Social Work 210. It builds on the generalized helping model, incorporating specialized skills for working with specific groups of clients (e.g., children, aged, mentally ill, and physically handicapped), with families and small groups.

**305 Interventive Strategies for Social Work with Organizations and Communities (3)**

Prerequisites: Social Work 285 taken prior to or concurrently, senior standing. Continuation of basic practice skills with emphasis given to analysis and intervention at the organization and community levels. Includes assessment of available services, organization of client groups, efforts to modify resources for a client group unable to intervene effectively on its own behalf. Also emphasis on helping the practitioner evaluate the impact of intervention.

**310 Abused and Neglected Children (3)**

Prerequisite: Social Work 280 or equivalent. This course explores the major concepts necessary for understanding abused and neglected children and their families. Emphasis is placed on (1) defining the problem, including societal stresses which contribute to the abuse and neglect; (2) examining existing practice methods; and (3) understanding the role of the social worker on interdisciplinary teams.

**312 Women's Social Issues (3)**

Prerequisite: Social Work 280 or equivalent. This course will help students become more sensitive to the social and welfare concerns of women. The topics include work, education, family responsibilities, violence against women, and special health and mental health service needs. Emphasis will be placed on understanding how social action can be used to bring about positive change.



**Social Work (continued)****315 Diversity and Social Justice (3)**

(Same as Sociology 315.) Prerequisite: Sociology 10 or equivalent. Analyzes the structure, dynamics, and consequences of social and economic injustice, and the impact on diverse groups in American society. Examines theoretical models and practice principles for work with diverse groups.

**320 Supervised Field Experience in Social Work I (4)**

Prerequisites: Social Work 300 must be taken prior to or concurrently, Social Work 320a must be taken concurrently, consent of instructor. This course provides students practice experience in social service agencies. Students work at the agencies approximately 20 hours per week. The purpose of this experience is to familiarize students with agency operations. Selection of the agency is based on student education needs.

**320a Integrative Field Experience Seminar I (2)**

Prerequisites: Consent of instructor and concurrent registration in Social Work 320. This seminar provides an opportunity for students to integrate previous course work with their experience in social work agencies. Classroom discussion will emphasize direct practice issues.

**321 Supervised Field Experience in Social Work II (4)**

Prerequisites: Social Work 320, Social Work 320a, and consent of instructor. This is a continuation of agency practice experience. Students work at the agency approximately 20 hours per week and may continue at the same agency as Social Work 320 or change agencies with the consent of the instructor.

**321a Integrative Field Experience Seminar II (2)**

Prerequisites: Consent of instructor and concurrent registration in Social Work 321. This seminar is a continuation of Social Work 320a. Classroom discussion will emphasize administration and community organization issues.

**322 Child Welfare Practicum Seminar (3)**

Prerequisites: Social Work 320 and consent of instructor. This seminar allows students to integrate previous course work with their experience in child welfare agencies. Classroom discussion will emphasize core competencies needed for child welfare practice.

**330 Research Design in Social Work (3)**

Prerequisites: Satisfaction of Math Proficiency requirement and Sociology 220. Students explore research concepts and procedures (hypothesis testing, sampling, measurement, and design) emphasizing issues in social work research. Students learn to collect, analyze and present data.

**350 Special Study (1-10)**

Prerequisite: Consent of instructor. Independent study through advanced readings in method and philosophy on a topic of particular interest, or field research in an agency.

**376 Mental Health and Aging (3)**

Prerequisites: Consent of instructor and Psy 272, 373 or graduate standing. (Same as Psy 376 and GER 376). (MSW students normally take all foundation courses prior to enrolling in this course.) A survey of recent theory and research in mental health issues for older populations. The primary focus is on major psychological disorders prevalent among the elderly and in treatment approaches for elders.

**381a Mechanisms of Aging I: The Aging Body (1)**

Prerequisites: Bio 1 or Bio 110 or equivalent. (Same as GER 300a). (MSW students normally take all foundation courses prior to enrolling in this course). Introduces students with a social sciences/humanities background to the normal changes in the biology and chemistry of the aging human body.

**381b Mechanisms of Aging II: The Aging Brain (1)**

Prerequisites: GER 300a or SW 381a or equivalent or consent of instructor. (Same as GER 300b). (MSW students normally take all foundation courses prior to enrolling in this course). Provides students with a social sciences/humanities background a basic introduction to the biology and chemistry of the aging human brain and nervous system.

**381c Mechanisms of Aging III: Diseases of Aging (1)**

Prerequisites: GER 300a and 300b or SW 381a and 381b or equivalents or consent of instructor. (Same as GER 300c). (MSW students normally take all foundation courses prior to enrolling in this course.) Provides students with a social sciences/humanities background with information on how diseases associated with aging exacerbate the effects of aging on the human body and mind.

**382 Theory and Practice with the Elderly (3)**

(MSW students normally take all foundation courses prior to enrolling in this course.) Examines theory and empirically-based assessment and intervention models for work with the elderly. It includes the life circumstances of older adults and how that differs from younger adult populations; how ethnicity, gender, social class, and sexual orientation interact with age and create special intervention issues; discussion of ethical and value issues (e.g., client autonomy, rationing of health care); examination of family and community resources in providing care, and interventions with physically or mentally disabled elders and elders in residential settings.

**390 Seminar in Social Work Issues (1-3)**

Prerequisite: Consent of instructor. A variable-credit course examining current and future considerations in designing and implementing social work service and delivery arrangements. Issues will be selected according to interests of the class. Course may be taken more than once for credit as different topics are offered.

**Social Work (continued)****391A Management Issues in Nonprofit Organizations: Staff Management Issues (1)**

Prerequisite: Junior Standing. (Same as Political Science 391A and Public Policy Administration 391A). This course addresses issues involved in managing staff in nonprofit organizations. The course will cover the following topics: fundamentals of staff supervision; balancing supervisory processes with counseling and coaching; selecting, hiring, evaluating, and terminating staff; legal issues that affect these processes.

**391B Management Issues in Nonprofit Organizations: Legal Issues in Governing and Managing Nonprofit Organizations (1)**

Prerequisite: Junior Standing. (Same as Political Science 391B and Public Policy Administration 391B). This course addresses legal issues involved in managing and governing nonprofit organizations. The course will cover the following topics: The Board as steward of the organization; Director and officer liability; tax laws concerning charitable giving; legal issues in managing staff and volunteers (e.g., hiring, evaluating, and terminating employees); Missouri nonprofit law.

**391C Management Issues in Nonprofit Organizations: Financial Issues (1)**

Prerequisite: Junior Standing. (Same as Political Science 391C and Public Policy Administration 391C). This course addresses financial issues involved in governing and managing nonprofit organizations. The course will cover the following topics: Cash flow analysis; budgeting; fund accounting; cost accounting (determining costs for programs and services); understanding and using standard financial statements, including balance sheets, cash flow statements, statements of activity, and operating and capital budgets.

**394 Leadership and Management in Nonprofit Organizations (3)**

Prerequisite: Junior standing. (Same as PPA 394, Pol Sci 394, Soc 308.) Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilization; and program development management and evaluation.

**396 American Philanthropy and Nonprofit Resources Development (3)**

Prerequisite: Junior standing or consent of instructor. (Same as Political Science 396 and Public Policy Administration 396). This course addresses the history, philosophy, roles and scope of philanthropy in the United States, including its role in the nonprofit, voluntary sector. It further examines the contemporary forces which impact philanthropy and charitable giving, both by institutions and individuals. The course examines the effective planning and management of development programs (e.g., annual giving), fund raising vehicles (e.g., mail solicitations) and the fund raising process, form planning through donor relations.

**398 Child Maltreatment: A Multidisciplinary Approach (3)**

(Same as Psy 398). Focuses on clinical aspects of child abuse with attention to identification, reporting, intervention, and prevention. Perspectives from the disciplines of psychology and social work are provided.

**399 Seminar: Child Sexual Abuse (1)**

(Same as Psy 399). Provides intensive study in interviewing, legal issues, assessment, medical issues, and therapeutic intervention in cases of child sexual abuse.

**410 Social Policy and Social Services (3)**

Prerequisite: Social Work 285 or PolSci 242 or PolSci 246 or equivalent or admission to the MSW program. Covers the history and development of social welfare policies, legislative processes, and existing social welfare programs. Examines frameworks for social policy analysis, analyzes how social and economic conditions impact the process of social policy development and implementation, and introduces policy practice in social work.

**417 Income & Pension Policy for the Aged (3)**

Prerequisites: Graduate standing or consent of instructor. (Same as PPA 417, GER 417 and Pol Sci 417). (MSW students normally take the social policy foundation course prior to enrolling in this course.) Examination of federal, state, and local policies that affect the economic well-being of the elderly. The development of social security programs and pension programs is explored within a historical context. Emphasis is placed on the analysis of current policy problems and proposed solutions.

**418 Foundations of Human Behavior in the Social Environment (3)**

Prerequisites: Social Work 280 or Psych 268 or equivalent or admission to the MSW program. Focuses on theoretical and empirical understanding of human behavior in the social environment using a life-span perspective. Introduces biological, behavioral, cognitive, and socio-cultural theories of individuals, families, and small groups, and their implications for the professional social worker's understanding of socioeconomic status, gender, disability, ethnicity, race, and sexual orientation.

**Social Work (continued)****430 Generalist Social Work Practice (3)**

Prerequisite: Social Work 300 or equivalent or admission to the MSW program. Using a problem-solving approach, students develop theoretical and empirical understanding and practical application of generalist social work methods. Students gain knowledge and skills that include interviewing, assessment, crisis and short-term intervention, contracting, resource development, and case documentation needed for competent direct practice with diverse populations.

**431 Social Work and Human Service Organizations (3)**

Prerequisites: Social Work 366 or Psych 318 or Bus Admin 311 or equivalent or admission to the MSW program. Students develop theoretical and empirical understanding of groups and organizations, including concepts such as power and authority, structure, goals, membership, leadership, motivation, technology and organizational culture. Using organizations as settings for social work practice and as targets for change, students learn strategies and skills for assessment and intervention.

**432 Community Practice and Social Change (3)**

Prerequisites: Social Work 305 or Sociology 344 or equivalent or admission to the MSW program. Focuses on economic, social, and political theory and research on communities and social change. Examines conceptual models of community practice within the generalist model and develops skills in organizing, advocacy, and planning.

**440 Social Work Research Methods and Analysis I (3)**

Prerequisites: Social Work 330 or Sociology 230 and 231 or equivalent and Sociology 220 or equivalent or admission to the MSW program. The first of a two-course sequence designed to provide students with the knowledge base and skills for using scientific method to advance social practice, knowledge and theory. Focuses on research methods at different levels (e.g., individual, group, organization, and community). Covers quantitative and qualitative methods, research design, sampling, measurement, use of results, impact of research, and ethical considerations.

**443 Health Care Policy (3)**

Prerequisites: Graduate standing or consent of instructor. (Same as Pol Sci 443, GER 443 and PPA 443.) (MSW students will normally take the social policy foundation course prior to enrolling in this course.) Survey course examining current issues in health policy that face the nation. Policies are placed in a historical context to show how issues have been influenced by different political and economic conditions. Secondary consequences and limitations of current trends in health policy are explored.

**449 Social Work Research Methods and Analysis II (3)**

Prerequisites: Social Work 440 or equivalent. Advanced course, focusing on analysis of qualitative and quantitative data to advance social work practice, knowledge and theory.

Students learn to use and interpret various statistical procedures for analyzing quantitative data, including bivariate and multivariate analysis, and content and statistical analysis for qualitative data. Students apply these analytic techniques to social work case material using computer software applications.

**450 Theory and Practice with Children and Youth (3)**

Prerequisite: SW430 or equivalent or consent of instructor and graduate standing. Examines theory and empirically-based assessment and intervention models for work with children and adolescents. The effects of family, peers, and societal context (e.g., poverty, racism) will be stressed in understanding youth problems such as drug abuse, academic failure, delinquency, adolescent pregnancy, and gang participation. The course will emphasize a multi-disciplinary approach using inter-agency collaboration and negotiation skills.

**451 Theory and Practice with Families (3)**

Prerequisites: SW 430 or equivalent or consent of instructor and graduate standing. Examines theoretical approaches to social work with families, including the impact of the social environment. Skills will include assessment, and multidisciplinary intervention with multi-problem families. Special emphasis will be given to poverty, chemical dependency, intra-familial violence, physical and mental illnesses, and working with family members of diverse cultures, socioeconomic backgrounds, races, sexual orientation, and ability. Values and ethics will be emphasized.

**452 Family Policy (3)**

Prerequisites: SW410 or equivalent or consent of instructor and graduate standing. (Same as PolSci 416 and Soc 452). Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

**455 Strategic and Program Planning for Nonprofit Organizations (3)**

Prerequisites: Graduate standing or consent of instructor. (Same as PoliSci 491 and PPA 455). Strategic and program planning enable an organization to concentrate on efforts and set priorities guided by a mission, vision, and an understanding of its environment. Focus is on preparing a strategic plan and a program plan for a nonprofit organization and analyzing an organization's ability to deliver goods and/or services to its constituents in today's economic, social and political climate.

**Social Work (continued)****461 Human Services Leadership and Management (3)**

Prerequisites: Graduate standing. Addresses leadership and management in public and nonprofit human service agencies, focusing on the role of the social work practitioner as administrator. Students will be introduced to theory and practice in human service organization and program planning, management, and development. Specific skill areas include strategic planning, volunteer management, team building and conflict management, fund development, leadership, information technologies, community relations, and evaluation in human service organizations. Attention will be given to social work values and ethics and effective practice with a diverse workforce and constituencies.

**462 Social and Economic Development Policy (3)**

Prerequisites: SW 410 or equivalent or consent of instructor and graduate standing. (Same as PolSci 418). Examines major trends and alternatives in social and economic development policy and practice in state, national, and international perspectives. Students will develop skills in policy analysis and development.

**469 Human Resources in the Public Sector (3)**

Prerequisites: PPA 460 or consent of instructor. (Same as PolSci 449 and PPA 449). Presents an overview of personnel and labor relations in the public sector. Particular emphasis placed on issues which are unique to the public sector, such as the merit system, the questions of representative bureaucracy and the constraints of personnel in the nonprofit sector. The topics include personnel reforms in the federal sector, equal employment and affirmative action policies, testing, selection, hiring, comparable worth, job evaluation, and labor relations including grievance arbitration and collective bargaining.

**473 Practice and Program Evaluation (3)**

Prerequisites: SW 440 and 449 or equivalent or consent of instructor and graduate standing. Provides specialized knowledge in the use of qualitative and quantitative research skills to evaluate the effectiveness of social work practice. Topics will include single system design, group designs, and program evaluation. Students will design and conduct a research project associated with their advanced social work practicum. Results will be presented to the class and the agency. Value and ethical issues, particularly those relevant to client race and gender, will be emphasized as students develop and conduct their research.

**489 Foundation Field Practicum Seminar (3)**

Prerequisite: Graduate standing and consent of instructor. Integrates academic content from foundation course work and experiential learning in field placements. Goals are to conceptualize the problem solving process in field practice, synthesize theory into a social work approach that encourages creative use of self, and underscore ethics and service to diverse groups in practice.

**490 Graduate Field Practicum (4)**

Prerequisites: Graduate standing and consent of instructor. Provides integrative field experience in generalist social work practice.

**491 Graduate Field Practicum II (6)**

Prerequisites: SW 489 and SW 490. Provides integrative field experience in students' graduate social work practice concentration.

**492 Graduate Field Practicum III (6)**

Prerequisites: SW 491. Provides advanced integrative field experience in students' graduate social work practice concentration.

**495 Directed Study in Professional Social Work (1-10)**

Prerequisites: Graduate standing and consent of instructor. Independent graduate-level study on a topic of particular interest through readings, reports, and field work under faculty supervision.

**499 Advanced Seminar in Professional Social Work (1-3)**

Prerequisites: Graduate standing and consent of instructor. Focused study on selected issues, concepts, and methods of professional social work practice. May be taken more than once for credit provided the course topic is different each time.

## Sociology

### Faculty

**Frances Hoffmann**, Associate Professor\*, Chairperson  
Ph.D., University of Oregon, Eugene, Oregon  
**K. Peter Etzkorn**, Professor Emeritus\*,  
Ph.D., Princeton University  
**Jerome Himelhoch**, Professor Emeritus\*  
Ph.D., Columbia University  
**George J. McCall**, Professor\*  
Ph.D., Harvard University  
**Herman W Smith**, Professor\*  
Ph.D., Northwestern University  
**Harry H. Bash**, Associate Professor Emeritus\*  
Ph.D., University of Pennsylvania  
**Sarah L. Boggs**, Associate Professor Emerita\*  
Ph.D., Washington University  
**Nancy M. Shields**, Associate Professor\*  
Associate Dean, UM-St. Louis/Washington University Joint  
Undergraduate Engineering Program  
Ph.D., Southern Illinois University-Carbondale  
**Chikako Usui**, Associate Professor\*  
Ph.D., Stanford University  
**Teresa J. Guess**, Assistant Professor  
Ph.D., University of Missouri-Columbia  
**Susan Tuteur**, Adjunct Assistant Professor  
Ph.D., University of Chicago  
**Miranda Duncan**, Lecturer  
LL.B., University of California-Berkeley  
**Robert Keel**, Lecturer  
M.A., Washington University  
**Adinah Raskas**, Lecturer  
M.A., Saint Louis University

\*members of Graduate Faculty

The faculty prides itself on its commitments to high standards of teaching and sound scholarly research. Systematic course evaluations by students each semester are taken seriously, and individual faculty have been singled out as nominees and recipients of university Excellence in Teaching awards. The ongoing scholarly research of the faculty is reflected in the department's upper-level and graduate courses, as well as in the numerous publication credits of faculty in journals and books or presentations at national and international meetings. Information on current academic activities of the faculty is posted on the departmental Web page <http://www.umsll.edu/sociolog>.

### General Information

#### Degrees and Areas of Concentration

The sociology department offers courses leading to the B.A. in sociology and the B.S. in sociology; in cooperation with the College of Education, the B.A. in sociology with teacher certification; in cooperation with the College of Business Administration, the B.A. in sociology with a business option;

and cooperative minor or certificate programs in American studies, black studies, legal studies, urban studies, religious studies, women's and gender studies, and international studies.

Students completing the B.A. or B.S. degree in sociology are well-prepared for graduate study in sociology or careers in industry, health and social services, and urban, intergroup, political, or community issues.

Since the sociology department also offers work leading to the M.A. degree in sociology (see below), opportunities are available for graduate-level instruction to selected undergraduate students. The graduate emphasis areas include (1) demography and population; (2) social problems and social change; (3) social and family networks; and (4) applied analysis, measurement, and program evaluation. Undergraduate students with exceptional records at UM-St. Louis are encouraged to enroll in graduate-level classes in the last year of their undergraduate program. Graduate credit for such course work is given only in the student's last undergraduate semester, and each course must be approved in advance by the Graduate School on the recommendation of the department.

In addition to a balanced program of basic undergraduate to advanced graduate courses, the department provides a range of opportunities for students to develop specialized research methods seminars, and internship placements are offered in support of this goal and are typically designed around the ongoing research interest of department faculty. The department provides students with opportunities for intensive direction and guidance from faculty. Students and faculty working in particular subject areas consult freely with members working in other areas. Research interests of sociology faculty extend beyond the department into a wide variety of joint projects with faculty in other departments and programs, including criminology and criminal justice, engineering, political science, trauma studies, women's and gender studies, gerontology, public policy research centers, the Bush Center for Law, Social Change and Conflict Resolution, the Center for International Studies, and the Dispute Resolution Program.

A minor in sociology from courses taken in sociology at UM-St. Louis is available to students majoring in related areas.

**Department Honors** The sociology department will award departmental honors to those B.A. and B.S. degree candidates in sociology with an overall grade point average of 3.2 or better. They must also successfully complete an independent study through Sociology 350, Special Study.

**Sociology (continued)****Undergraduate Studies****General Education Requirements**

Students must satisfy the university and college general education requirements. Courses in sociology may be used to meet the social science requirement. The foreign language requirement for the B.A. degree may be satisfied in any language. Not more than 12-15 hours of junior college transfer credit may be applied toward the combined minimum of required credit hours for the B.A. (31 credit hours) or B.S. (37 credit hours) major. No course in which a grade below a C- is received will count toward satisfying the core requirement.

**Satisfactory/Unsatisfactory Restrictions** Sociology majors may not take courses counting toward their major requirements on a satisfactory/unsatisfactory basis.

**Degree Requirements****Bachelor of Arts in Sociology**

In addition to specific baccalaureate degree requirements of the College of Arts and Sciences, candidates must complete 31 hours of sociology course credit including the following required core courses:

- 10, Introduction to Sociology
- 210, Sociological Theory
- 220, Sociological Statistics, or
- Math 31, Elementary Statistical Methods, or
- Math 102, Finite Mathematics I
- 230, Research Methods
- 231, Laboratory in Research Methods

**Note** The core requirements should be completed as early as possible, preferably by the end of the junior year. Sociological Statistics is a prerequisite for research methods. 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: anthropology/archaeology, art (appreciation, history, studio), biology, chemistry, communication, criminology and criminal justice, economics, English, foreign languages/literature, history, mathematics/computer science, music (appreciation, history, performance), philosophy, physics, political science, psychology, social work, sociology, business, education, engineering, and inter-disciplinary. Only 45 hours of sociology can be applied to the 120 hour total required for a degree from the University of Missouri-St. Louis.

**Bachelor of Arts in Sociology**

For the B.A. in sociology candidates are required to take the core courses and at least 18 additional hours of sociology courses, selected according to career objectives, with at least six hours at the 300 level (no more than three hours of either Soc 350, Special Study or Soc 385, Internship in Sociology may be applied to this 300 level requirement). No more than three hours in sociology below the 100 level can count towards this 18-hour requirement. Applied training through one or more research courses may be used as part of the requirement for the major.

**Bachelor of Science in Sociology**

For the B.S. in Sociology candidates are required to take the core courses, and complete the following requirements.

1. Six credit hours from sociology research courses such as:
  - Sociology
  - 298, Practicum in Field and Laboratory Research
  - 304, Survey Research Practicum
  - 330, Field Research in Criminol.
  - 331, Qualitative Methods in Social Research
  - 346, Demographic Techniques
  - 370, Selected Topics in Techniques of Sociological Research

Courses in other departments may be applied to the required six hours of research courses with the written consent of the student's faculty advisor.

2. Six additional sociology courses (18 hours), chosen with the approval of the student's faculty advisor, are required for the B.S. degree in sociology, including a minimum of two courses (six hours) at the 300 level (no more than three hours of either Soc 350, Special Study or Soc 385, Internship in Sociology may be applied to the 300 level requirement). No more than three hours in sociology below the 100 level can count toward this 18-hour requirement.

**Related Area Requirements:**

Candidates for the B.S. in sociology also must complete five courses from at least four of the following nine areas: computer science, economics, mathematics, philosophy, political science, probability and statistics, psychology, public policy administration, and international studies. Specific course selections must be approved by a faculty advisor.

**Combined Degree: Bachelor of Science in Civil Engineering and Bachelor of Science in Sociology**

Students pursuing the combined degree are simultaneously enrolled in the College of Arts and Sciences and the Joint Undergraduate Engineering Program. They have an engineering faculty adviser as well as a faculty adviser in the Department of Sociology.

## Sociology (continued)

A program of 159 semester hours is required for the B.S. in civil engineering and the B.S. in sociology. Earned alone, the B.S. in engineering requires 137 semester hours. Because of the overlap in required courses for the two curricula, the combined degree program requires only 22 additional semester hours.

For additional information, see the section in this *Bulletin* labeled UM-St. Louis/Washington University Joint Undergraduate Engineering Program or contact: Associate Dean of the Joint Undergraduate Engineering Program, 228 Benton Hall, University of Missouri-St. Louis, 8001 Natural Bridge Road, St. Louis, MO 63121.

### B.A. or B.S. in Sociology with Teacher Certification

Students must complete the B.A. or B.S. in sociology requirements, as well as the requirements for teacher certification. (See the College of Education section of this *Bulletin*.)

### B.A. or B.S. in Sociology with an Interest in Business

The following courses are suggested for students seeking careers in sales, market research, and so forth. In addition to the B.A. or B.S. in sociology requirements, the following core courses are suggested:

**Econ 51**, Principles of Microeconomics  
**Sociology 346**, Demographic Techniques  
**BA 140**, Fundamentals of Financial Accounting

Students may then choose to complete one of the following three sets of courses:

#### 1) Marketing Management

**206**, Basic Marketing  
**275**, Marketing Intelligence  
**303**, Industrial marketing

#### 2) Financial Management

**204**, Financial Management  
**334**, Investments  
**350**, Financial Policies

#### 3) Accounting

**145**, Managerial Accounting  
**340**, Intermediate Accounting I  
**345**, Cost Accounting

### Requirements for the Minor

Students must apply for the minor in sociology. Candidates must complete at least 15 hours of departmental course work in sociology, of which at least 9 must be completed at UM-St. Louis' department of sociology and must be beyond those applied to the candidate's major. At least 6 hours must be at the 300 level (no more than 3 hours of either Soc 350,

Special Study, or Soc 385, Internship may be applied to this 300 level requirement).

Candidates who anticipate that their background in sociology may play a substantial role in their career plans are strongly encouraged to take some or all of the core requirements.

Candidates must have a cumulative grade point average of 2.0 or better in all courses pertaining to the minor. Department courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor.

### Department Awards

The department offers several annual awards to outstanding students on the basis of merit.

**The Ray Collins Alumni Award** is given annually by the Sociology Alumni Association to the top graduating senior. The awardee is selected by the faculty on the basis of GPA, and the award consists of first-year membership dues in the Sociology Alumni Association and a cash award.

**Honors Program Student Association Awards** are given annually to exceptional seniors and graduate students. The awards include student affiliate memberships in the Honors Program Student Association of the American Sociological Association to aid the establishment of a network of colleagues who are at similar points in their career development.

**The Alumni Agent Scholarship** and the **Sociology Alumni Scholarship** are given to deserving junior or senior sociology majors annually. The awardees are selected by the faculty on the basis of merit, and the scholarships consist of a stipend for books and educational materials.

A series of undergraduate awards are given to outstanding students. The Freshman Sociology Award is given to the outstanding freshman student in lower-division sociology course work; the Outstanding Junior Sociology Major Award is given to the outstanding junior sociology major; the Outstanding Sociology Minor Award is presented to the graduating student with the most outstanding minor GPA record; and the Outstanding Sociological Statistics and Methods Award is given to the junior sociology major with the best overall record in Sociology 220, 230, and 231. This award carries tuition remission for a 3-credit hour Sociology 350, Independent Study, to act as an undergraduate course assistantship for Sociology 220, 230, and 231.

### Department Honors

The sociology department will award department honors for those B.A. and B.S. degree candidates in sociology with an overall grade point average of 3.2 or better. They must also successfully complete an independent study through Soc 350, Special Study.

**Sociology (continued)****Graduate Studies****Curriculum**

The department offers a flexible program of studies leading to the master of arts degree in sociology with a general orientation toward "Urban Problems and Social Change." Course work combines intensive examination of the core areas of sociology with acquisition of the analytical skills of sociological investigation. A variety of career options are available to the master's-level graduate, including: program evaluation and research; field or case work related to community issues; administrative roles in social agencies and planning organizations; or doctoral studies in sociology or related fields.

The curriculum is designed to serve the needs of full-time students as well as working students who are able to engage only in part-time studies. This design allows pre-career and mid-career students to prepare for employment in education, service agencies, community organizations, government agencies, or businesses. The curriculum also invites students to take advantage of the university's urban setting through integration of selected work experiences with practicum courses and academic seminars under faculty guidance. The curriculum emphasizes theoretical, analytic, and substantive approaches to urban-related problem solving.

**Admission Requirements**

Individuals with at least the equivalent of the department's B.A. or B.S. degree in sociology may be admitted to the Graduate School as candidates for the M.A. degree. Students with bachelor's degrees in fields other than sociology may be admitted to pursue graduate sociology studies under the condition that they make up core deficiencies prior to graduate work.

In addition to meeting the general admission requirements of the Graduate School, a student should ordinarily have

- A baccalaureate degree with a minimum grade point average of 3.00.
- At least 15 hours in the social sciences, of which 12 should be in upper-level courses.
- Three letters of recommendation from persons qualified to judge the candidate's potential for success in the program.
- A statement describing the applicant's interest in graduate study in sociology.

Students who do not meet these requirements may be provisionally admitted upon approval of the department and the dean of the Graduate School. Admission and financial aid decisions are made on the basis of past academic record, program performance, and career commitment. Students wishing to continue regular employment outside the university may enroll on a part-time basis. Requests for

further information about the program should be sent to the:

Director of Graduate Studies  
Department of Sociology  
University of Missouri-St. Louis  
8001 Natural Bridge Road  
St. Louis, MO 63121-4499

Students admitted to the program are assigned a graduate adviser from whom they should obtain a copy of the *Graduate Student Handbook* and with whom they should consult periodically on academic and career considerations.

**Degree Requirements**

**Master of Arts in Sociology** Each student shall prepare an adviser-approved course of study during the first semester of enrollment. Candidates for the M.A. degree shall complete a minimum of 30 hours of approved study, at least 21 of which must be taken in courses offered by the department.

**Core Curriculum**

- 400, Proseminar in Sociology
- 402, Advanced Quantitative Techniques
- 404, Advanced Methodology

The sociology department participates in a joint quantitative techniques and methodology series of courses with the other social sciences which can be substituted for the above.

**Concentration** The department offers opportunities for intensive work in one of the several research areas of department faculty members, which allows the flexibility for comprehensive and coherent exposure to the methods and insights of the discipline. Matriculating students are encouraged to plan, with their advisers, a coherent program of studies consistent with their career interests.

**Exit Requirements** A student's program must include one of the following exit projects: a 6-hour internship (Sociology 480, Individual Study) or a 6-hour preparatory sequence and an approved paper (Sociology 490, Supervised Research, and Sociology 495, Sociological Reporting). Each candidate is given a final oral review conducted by a faculty committee and focused on the course work completed and the student's chosen exit project or thesis.

**Career Outlook**

The following career information is adapted from the American Sociological Society Web site. For more information, see <http://www.asanet.org/>.

A BA or BS in sociology is excellent preparation for graduate work in sociology for those interested in an academic or professional career as a professor, researcher, or applied sociologist.



## Sociology (continued)

The undergraduate degree provides a strong liberal arts preparation for entry level positions throughout the business, social service, and government worlds. Employers look for people with the skills that an undergraduate education in sociology provides. Since its subject matter is intrinsically fascinating, sociology offers valuable preparation for careers in journalism, politics, public relations, business, or public administration fields that involve investigative skills and working with diverse groups. Many students choose sociology because they see it as a broad liberal arts base for professions such as law, education, medicine, social work, and counseling. Sociology provides a rich fund of knowledge that directly pertains to each of these fields.

The MA offers students access to an even wider variety of careers. Sociologists become high school teachers or faculty in colleges and universities, advising students, conducting research, and publishing their work. Over 3000 colleges offer sociology courses. Sociologists enter the corporate, non-profit, and government worlds as directors of research, policy analysts, consultants, human resource managers, and program managers. Practicing sociologists with advanced degrees may be called research analysts, survey researchers, gerontologists, statisticians, urban planners, community developers, criminologists, or demographers. Some MA sociologists obtain specialized training to become counselors, therapists or program directors in social service agencies.

Today, sociologists embark upon literally hundreds of career paths. Although teaching and conducting research remains the dominant activity among the thousands of professional sociologists today, other forms of employment are growing both in number and significance. In some sectors, sociologists work closely with economists political scientists, anthropologists, psychologists, social workers and others reflecting a growing appreciation of sociology's contributions to interdisciplinary analysis and action.

**Sociology (continued)****Course Descriptions**

The following courses fulfill the Social Sciences [SS] breadth of study requirements: 10, 40, 75, 99, 100, 102, 105, 160, 164, 175, 180, 200, 202, 205, 210, 214, 220, 224, 230, 231, 234, 240, 241, 245, 260, 264, 268, 270, 278, 280, 286, 290a, 290b, 290c, 298, 300, 304, 308, 310, 312, 314, 316, 320, 325, 326, 328, 330, 331, 336, 338, 340, 342, 344, 346, 350, 352, 354, 356, 360, 361, 370, 375, 377, 378, 380, 394.

**10 Introduction to Sociology (3)**

An introduction to sociological approaches to human behavior, including types of social organizations, patterns of social interaction, and social influences on individual conduct.

**40 Social Problems (3)**

Conditions defined by society as social problems, as well as potential solutions, are examined from various sociological perspectives. Emphasis is given to problem issues prevalent in metropolitan settings. Analyses focus on victims and beneficiaries of both problem conditions and alternative solutions.

**99 The City (3)**

(Same as Criminology and Criminal Justice 99, Political Science 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 for freshmen and sophomores. It is open to juniors and seniors with the consent of instructor.

**100 Women in Contemporary Society (3)**

Prerequisite: Sociology 10 or Interdisciplinary 50 or consent of instructor. An introduction to the sociological analysis of the status of women in society, including their work, family, and political roles. Socialization, education, and the women's movement will also be considered, as these affect the position and participation of women in a variety of social arenas.

**102 Women, Gender, and Diversity (3)**

Same as Interdisciplinary 102. An introduction to the study of women's roles in a diverse and gendered culture and society. Through a variety of disciplinary perspectives in the humanities, social sciences, and natural sciences, it seeks to understand gender as a concept that affects both women and men. Explores issues of power, identity, and relationships in women's lives.

**103 Sex Roles in Contemporary Society (3)**

Prerequisite: Sociology 10 or Interdisciplinary 50 or consent of instructor. The study of social processes through which sex roles are developed and acquired; the impact of gender and sex roles on personal identity and social conduct; the relationship between sex roles and social inequality; and individual and social consequences of changing sex roles in contemporary society.

**160 Social Psychology (3)**

(Same as Psych 160.) Prerequisite: Sociology 10 or Psych 3. Study of the interaction between the individuals and their social environment. Examination of basic principles, concepts, and methods.

**180 Alcohol, Drugs, and Society (3)**

(Same as Criminology and Criminal Justice 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 Sociology of Deviant Behavior (3)**

Prerequisite: Sociology 10 or consent of instructor. Theories of the nature, causes, and control of deviance as a social phenomenon. Application of theories to specific substantive areas, such as mental disorder, delinquency, drug abuse, suicide, unconventional sexuality, and physical disability.

**202 Urban Sociology (3)**

Prerequisite: Sociology 10 or consent of instructor. Urbanization as a world phenomenon; urban social and ecological structures and changing life styles; the decision-making processes in urban problem-solving.

**210 Sociological Theory (3)**

Prerequisite: Sociology 10 or consent of instructor. The nature of sociological theory. An investigation of theory from Comte through contemporary developments. Contributions made by theorists in related disciplines.

**214 Juvenile Delinquency and Youth Crimes (3)**

Prerequisite: Three hours of 100-level sociology. A theoretical and research-oriented approach to delinquency and youth crime, including types, trends, causation, correction, and prevention.

**220 Sociological Statistics (3)**

Prerequisites: Sociology 10 and Math 20 or 30. Issues and techniques of statistical analyses relevant to quantitative sociological research, e.g., elementary probability, measurements of central tendency and dispersion, measures of relationships including linear regression and correlation, inferential statistics.

**Sociology (continued)****224 Marriage and the Family (3)**

(Same as Nursing 224.) Prerequisite: Sociology 10 or consent of instructor. The study of patterns of close relationships, and how these relationships are influenced by larger social forces. Topics include: love, dating, mate selection, cohabitation, alternative lifestyles, working families, parenting, single mothers, families in crisis, domestic violence, and divorce. Universal and variable aspects of family organization, family role systems, and changes in family social structure.

**230 Research Methods (3)**

Prerequisites: Sociology 10 and satisfaction of mathematics proficiency requirement and Sociology 220 or consent of instructor. Research planning and interpretation, principles of research design, measurement, and sampling. Techniques for the collection, analysis, and presentation of data.

**231 Laboratory in Research Methods (1)**

Prerequisite: Must be taken concurrently with Sociology 230. Laboratory course to accompany Sociology 230. The course will include practical experience in the conduct of research. Required for the B.A. in sociology.

**241 Selected Topics in Macro-sociology (1-3)**

Prerequisite: Sociology 10 or consent of instructor. Examination of a specific topic that focuses on large-scale social systems and the structural relationships among social organizations and institutions. May be taken more than once for credit provided the topic of the course is different each time.

**245 Sociology of South Africa (3)**

Prerequisite: Sociology 10 or consent of instructor. An analysis of South African society as a sociocultural system, with attention to its demographic, ecological, and social structures; its distinctive social institutions and life styles; and the social dynamics of modernization, urbanization, and ethnicity. This course satisfies the Cultural Diversity requirement.

**250 Sociology of Victimization (3)**

Prerequisites: Soc 10. Examines the role of social factors in a wide range of kinds of victimization—crime, violence, natural disasters, accidents, disease, etc. The topic of social reactions to various kinds of victimization is also covered. Sociological theories of victimization are emphasized.

**262 Social Psychology of Urban Life (3)**

Examines how persons experience and give meaning to their lives as urban dwellers. Topics include: cognitive maps, crowding, sensory overload, lifestyle diversity, strangers, urban tolerance, social networks, segmentation of personal life, and quest for identity.

**268 The Sociology of Conflict (3)**

Prerequisite: Sociology 10 or consent of instructor. The conditions under which social conflicts arise, develop, and are terminated (or in some cases resolved) are examined. The functions of different levels of conflict are studied to determine the potential effects and outcomes of planned intervention.

**278 Sociology of Law (3)**

Prerequisite: Sociology 10 or consent of instructor. A study of law and society with emphasis on the sociological analysis of specific problems of legal doctrines and legal institutions. The law is examined as an instrument of social control through study of the courts, the legal profession, the police, and various social institutions. Consideration is given to law as an instrument of social change.

**280 Society and Technology (3)**

Prerequisite: Sociology 10 or consent of instructor. Technology in industrial and post-industrial societies. The social shaping of technological systems. The role of technology in social change.

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

(Same as Anthro 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.

**290a, 290b, 290c Undergraduate Seminar in Sociological Issues (3)**

Prerequisites: Sociology 10 and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by other undergraduate courses. May be taken up to three times for nine hours of credit, provided the subject matter is different each time the seminar is taken.

Note: Any 300-level course taken for major elective credit requires prior completion of two of the following: Sociology 210, Sociology 220, or Sociology 230.

**300 Communities and Crime (3)**

(Same as Criminology and Criminal Justice 300). Prerequisite: Criminology and Criminal Justice 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.

**Sociology (continued)****308 Leadership and Management in Nonprofit Organizations (3)**

(Same as SW 394, PolSci 394, and PPA 394.) Prerequisite: Junior standing. Addresses the role and scope of the independent sector in the United States, as well as the leadership and management of nonprofit organizations within that sector. Topics include the economic and political scope of the independent sector, the role of volunteerism in a democratic society, and the role and scope of philanthropy. Topics in voluntary organization management and leadership include: the dynamics, functions and membership structure of NPOs, especially staff-board and other volunteer relations; governance and management of NPOs; resource mobilizations; and program development management and evaluation.

**310 Selected Topics in Sociological Theory (1-3)**

Prerequisite: Sociology 210. Focused examination of selected issues, the contributions of individual theorists, and methodological implications in the study of sociological theory. May be taken twice for credit.

**312 Sociology of Wealth and Poverty (3)**

Prerequisites: Sociology 10 and junior standing or consent of instructor. Theory and research on social stratification and inequality in contemporary societies.

**314 Social Change (3)**

Prerequisites: Sociology 10 and junior standing, or consent of instructor. Theories of social change applied to the analysis of small and large social systems, including the planning of change and projecting of alternative futures.

**315 Diversity and Social Justice (3)**

(Same as Social Work 315). Prerequisites: Sociology 10 or equivalent. Analyzes the structure, dynamics, and consequences of social and economic injustice, and the impact on diverse groups in American society. Examines theoretical models and practice principles for work with diverse groups.

**316 Power, Ideology, and Social Movements (3)**

Prerequisite: Sociology 10 and Junior Standing or consent of instructor. Effect of events and social processes on thought and action in the twentieth century. Social functions of ideologies as expressed in movements and formal and informal organizations seeking social change.

**317 Social Psychology of Conflict and Negotiation (3)**

(Same as Psychology 317.) Prerequisite: nine (9) hours of psychology or nine (9) hours of sociology, including Psych 160 or Soc 160. The purpose of this course is to understand how social psychological phenomena affect the processes and outcomes of negotiation and other forms of social conflict. The course is designed to be relevant to the broad spectrum of conflict situations people face in their work and

daily lives. A basic premise of this course is that while analytical skills are needed to discover solutions to social problems, negotiation skills are needed in order for these solutions to be accepted and implemented.

**320 Forms of Criminal Behavior (3)**

(Same as Criminology and Criminal Justice 320.) Prerequisite: Criminology and Criminal Justice 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.

**331 Qualitative Methods in Social Research (3)**

Prerequisite: Sociology 220 and Sociology 230, or their equivalent, or consent of instructor. This course is devoted to such qualitative methods as participant observation, intensive interview, content analysis, and oral history, among others. The place of these kinds of techniques in social research, as well as the issues raised by them, will be considered. Students will participate in individual or group research projects using one or more of the methods discussed.

**336 Organizations and Environments (3)**

Prerequisites: Sociology 10 and junior standing or consent of instructor. Internal and external forces that influence the structures, adaptive flexibility, and actions of public and private organizations and agencies are examined. Specific foci include: organizational responses to environmental opportunities, constraints, and contingencies; sources of conflict and impediments to organizational goal attainment; and strategies for increasing organizational effectiveness, efficiency, and chances for survival.

**338 Sociology of Health (3)**

(Same as Nursing 338.) Prerequisites: Sociology 10 and junior standing. Exploration of social dimensions and issues related to health and illness, such as access to the health care delivery system; factors influencing prevention, utilization and compliance; changing relationships among health care providers and consumers; health care costs, trends, and cross-cultural variations.

**340 Race, Crime, and Justice (3)**

(Same as Criminology and Criminal Justice 340.) Prerequisite: Criminology and Criminal Justice 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.

**342 World Population and Ecology (3)**

Prerequisites: Sociology 10 and junior standing or consent of instructor. Sociological theories and research relating people to their ecological environments. Topics include fertility and population change in the non-Western world. Emphasis is directed to population policies in e.g., Africa and India and China.

**Sociology (continued)****344 Problems of Urban Community (3)**

Prerequisites: Sociology 10 and junior standing, or consent of instructor. The urban community as an area of social action and problem solving with emphasis on the sociological aspects of urban problems.

**346 Demographic Techniques (3)**

Prerequisites: Sociology 220 and Sociology 230, or consent of instructor. Practicum experience with computation and analysis of major demographic measures of population size, growth, and shape; fertility; mortality; immigration; emigration; and morbidity. Special attention to comparisons of standard Western and non-Western demographic models, with emphasis on computer modeling.

**350 Special Study (1-10)**

Prerequisite: Consent of instructor. Independent study through readings, reports, and field work.

**354 Sociology of Business and Work Settings (3)**

Prerequisites: Sociology 10 and junior standing, or consent of instructor. The sociology of work and occupations in America, Europe, and Asia; organization structures and worker participation; worker attitude, behaviors, and commitment; the socialization of the worker; determinants of worker behavior; social problems of work and business; and the impact of community on work place and business behavior.

**356 Sociology of Education (3)**

Prerequisite: Sociology 10 and junior standing, or consent of instructor. Education as a social institution, its role as an agent of socialization, and its effect upon the processes of social change and social mobility. The relationship between the school and its community.

**360 Sociology of Minority Groups (3)**

Prerequisites: Sociology 10 and junior standing or consent of instructor. The study of dominant-subordinate group relations. Religion, ethnicity, race, and gender as factors in the unequal distribution of power.

**361 Social Gerontology (3)**

(Same as Gerontology 361.) Prerequisites: Sociology 10 and junior standing, or consent of instructor. Topics include: sociological theories of aging, technological and social change and its effects on the environment of older people, and prejudice and discrimination against the elderly.

**370 Selected Topics in Techniques of Sociological Research (1-3)**

Prerequisite: Sociology 220, 230, or consent of instructor. The study of a specific research technique used in sociological analyses. May be taken more than once for credit provided the course topic is different each time.

**375 The Social Psychology of Disabilities (3)**

Prerequisite: Sociology 160 or Psych 160 or consent of instructor. (Same as Psychology 375). A social psychological and micro-sociological examination of attitudes and behaviors affecting persons with disabilities. Topics include stigma and empowerment, adaptive behaviors, stereotypes and prejudices, and images of disabilities in popular culture and mythology. The course will address the experience of disability and its social consequences for the lives of persons with disabilities.

**378 Selected Topics in Social Psychology (1-3)**

Prerequisite: Psych 160 or Sociology 160, or consent of instructor. Focused examination of selected issues, concepts, and methods in the study of social interaction. May be taken twice for credit.

**380 Selected Topics in Social Policy (1-3)**

Prerequisite: Sociology 10, Junior standing or consent of instructor. Examination of a specific sociological topic of current relevance in the community. May be taken more than once for credit provided the course topic is different each time.

**385 Internship in Sociology (1-6)**

Prerequisite: Junior standing and consent of instructor. Students participate in supervised placements in positions related to the profession of Sociology.

**400 Proseminar in Sociology (3)**

Required of all entering graduate students in the fall semester of the first year of residency. An overview of the field of contemporary sociology, with emphasis on the major theories, issues, research approaches, and ethical problems in the field today, and an introduction to theory construction, measurement, and design strategies.

**402 Advanced Quantitative Techniques (3)**

Prerequisite: Sociology 220 or consent of instructor. A study of advanced quantitative analysis of sociological data, focusing on problems of multivariate analysis, sampling theory and techniques, and the use of electronic data processing in approaching these problems.

**404 Advanced Methodology (3)**

Prerequisite: Sociology 230 or consent of instructor. A study of methodological problems on an advanced level, focusing on contemporary issues in the processes of inquiry with particular emphasis on the applicability of different modes of research to various types of theoretical problems. Consideration of ethical problems in social research.

**Sociology (continued)****406 Research Practicum (3)**

Prerequisites: Sociology 400 and consent of instructor. Involvement of students in an individual or group project culminating in a report, in order to provide firsthand experience in integration of theoretical concerns, methodological principles, and appropriate research techniques in an empirical study, the subject of which shall be determined in collaboration with the instructor.

**410 Comparative Social Structures (3)**

Prerequisite: Sociology 400 or consent of instructor. Social institutions in selected societies are examined in terms of their similarities and differences. Typically, non-American and American social structures such as religion, education, politics, family, and economy are compared, along with population dynamics and change, myths, values, and norms. Societies are selected depending on specialty of faculty and interests of students. May be repeated for credit if the topic is different.

**415 Foundations of Criminological Theory (3)**

(Same as Criminology and Criminal Justice 415.)

Prerequisites: Graduate standing and consent of instructor. Examination of the history of criminological thought incorporating the major works of such theorists as Bentham, Beccaria, Marx, Durkheim, Lombroso, Sutherland, and Merton.

**420 Theories of Conflict (3)**

Prerequisite: Sociology 400 or consent of instructor. The conflict perspective in sociology is contrasted with consensus models of society. Conflict theorizing is traced from the Classical social thought tradition in Western civilization to its modern Marxist and non-Marxist formulations in contemporary sociology. Ethical implications for social conflict intervention are considered.

**422 Family and Interpersonal Conflict Resolution (3)**

Prerequisite: Sociology 420 or consent of instructor. The sources and functions of interpersonal conflict in family and neighborhood settings are analyzed. Mediation and conciliation strategies are developed in relation to primary and secondary structures, role systems, and social change.

**424 Conflict Management in Organizations (3)**

Prerequisite: Sociology 420 or consent of instructor. Intrinsic sources of inter- and intraorganizational conflict and related methods of mediation are examined. Conflict management strategies and situational manifestations of conflict are analyzed within the context of antecedent conditions, such as domain dissensus, differential interests and goals, previously unresolved disputes, unbalanced power relations, structural barriers to communications, internal and external competition for resources, and environmental change.

**426 Community and Regional Conflict Intervention (3)**

Prerequisite: Sociology 420 or consent of instructor. Community and regional conflicts are examined, with emphasis on paradigms for analyzing power, policy, and social change, and on developing intervention skills through simulation exercises. Intervention roles and approaches, such as mediation, conciliation, arbitration, and advocacy are discussed.

**430 Policy Mediation Processes (3)**

Prerequisite: Sociology 426 or consent of instructor. Sociological theories of conflict are applied to public issues and policy-making, with an emphasis on building analysis and practice skills. Processes of mediated problem solving are studied and applied to conflict between jurisdictions, between citizens and governments, and between public and private sectors.

**432 Survey Research Methods (3)**

(Same as Ed Rem 432, Pol Sci 406). Prerequisites: An introductory statistics course (such as Soc 220) and consent of instructor. A course on the principles and procedures for conducting survey research. Topics include: forming questions and scales, survey design, sampling methods, data preparation and analysis, and presentation of results.

**440 Seminar in Urban Sociology (3)**

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

**442 Minority Aging (3)**

(Same as Gerontology 442.) Prerequisite: Sociology 361 or consent of instructor. The experience of aging for racial and ethnic minority elderly will be examined in the context of their families, communities, and society. Key questions concerning minority elderly frame the course, such as the relative importance of culture versus social structure, and the applicability of gerontological theory to the minority aging experience.

**444 Social Policy and Community Planning (3)**

Prerequisite: Consent of instructor. Analysis of the formulation of policy as a social process with concentration on political as well as technical-rational elements. Relation of social policy formation to planning at the community level and analysis of the elements and dynamics of community planning. Analysis of and exposure to planning agencies in the St. Louis metropolitan area.

**445 Sociological Dimensions of Chronic Illness (3)**

(Same as Gerontology 445.) Prerequisite: Sociology 400 or consent of instructor. The consequences of chronic illness for social roles, family and organizational dynamics, and the functioning of society are examined. Chronic illness is presented as both a medical problem and a social phenomenon that is shaped by the changing age structure of society.

**Sociology (continued)****446 Selected Topics in Health Care Policy (3)**

(Same as Public Policy Administration 446 and PolSci 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.

**449 Issues in Retirement (3)**

(Same as Gerontology 449.) Prerequisite: Graduate standing. This course examines macro and micro issues of retirement in the United States. It considers experiences of older persons in retirement—its processes, causes, and consequences—in relation to economic market conditions, demographic changes, and programs and policies that are targeted to support the elderly (e.g., Social Security). It also examines issues relating to older women and retirement.

**450 Seminar in Social Psychology (3)**

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor.

**452 Family Policy (3)**

Prerequisites: SW 410 or equivalent or consent of instructor and graduate standing. (Same as PolSci 416 and SW 452). Examines policy development, implementation and impact of social policies on children, youth, and families. International, national, and state policies that affect basic family needs will be the focus, including topics such as economic support, health care, child care and protection, and child and youth development. Intended and unintended consequences of existing policies on the family will be examined as well as future policy directions.

**461 Law and Social Control (3)**

(Same as Criminology and Criminal Justice 430.) 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.

**470 Seminar in Sociological Issues (1-3)**

Prerequisites: Nine hours of undergraduate course work in sociology and consent of instructor. Consideration of an issue or area of the instructor's choice not already covered by one of the other 400-level courses. May be taken up to three times for up to nine hours of credit, provided the subject matter is different each time the seminar is taken.

**475 Introduction to Evaluation Research Methods (3)**

(Same as Psych 475, Public Policy Administration 475, and Criminology and Criminal Justice 475.) Prerequisite: At least one course in research design and statistics at the graduate level. A comparative study of research strategies with regard to data sources, data collection, and modes of analysis that are appropriate for program evaluation research. Attention is given to observational, survey, and quasi-experimental methodologies.

**476 Research Practicum in Evaluation Research Methods (3)**

Prerequisites: Sociology 475 and consent of instructor. Instruction in, and supervision of, research design and data collection for evaluation of social-deviance action program research report. Concurrent with on-site participant observation.

**480 Individual Study (3)**

Prerequisite: Consent of adviser and instructor. Designed to give the student the opportunity to pursue particular interests within the discipline and/or to study areas not currently covered by formal courses. Guided by faculty with appropriate interests. May be taken only twice.

**490 Supervised Research (1-10)**

Prerequisites: Sociology 322, Sociology 332, Sociology 492, and consent of instructor. Individual supervision of research leading to the preparation of a thesis, research paper, or publishable article, in which the student demonstrates skills in the discipline of sociology.

**492 Advanced Sociological Theory (3)**

Prerequisite: Sociology 210 or consent of instructor. Recent and current developments in sociological theory in light of its tradition and methodological issues. The state of modern theory with regard to specific conceptual, substantive, and methodological concerns.

**495 Sociological Reporting (3)**

Prerequisites: Sociology 400, Sociology 402, and Sociology 404. As part of the M.A. degree exit requirement, the seminar offers directed practice in the interpretation and reporting of sociological data in a wide range of styles, including those appropriate for research reports, journal articles, policy papers, nontechnical magazines, books, and monographs, as well as oral reports to diverse consumers. Ethical dimensions of interpretation and dissemination are explored.

## Interdisciplinary Studies

### Minors in Interdisciplinary Studies

The College of Arts and Sciences offers a number of interdisciplinary programs leading to either a minor or a certificate in a designated area of study. There are also a number of courses which are designated as interdisciplinary and which may or may not be part of a particular interdisciplinary minor or certificate program.

These interdisciplinary courses and programs bring together the resources of two or more subject areas to focus on topics that benefit from being studied from the point of view of more than one discipline. In some cases, faculty from several departments teach as a team, giving students the opportunity to experience faculty dialogue in a crossdisciplinary fashion.

### Minors in American Studies

American Studies is an internationally recognized academic field which involves an interdisciplinary approach to the study of the culture(s) of the United States, its colonial antecedents, and its indigenous peoples.

Students interested in this minor should contact the coordinator of American Studies for advice and information.

Candidates must have a cumulative grade point average of 2.0 or better in the 18 credit hours required for the minor. Three hours of the minor may be taken on a satisfactory/unsatisfactory basis. Candidates wishing to take American Studies courses from the Honors College (see below) must be members of the Honors College or must have a 3.0 cumulative grade point average.

Requirements for the minor.

Completion of the American Studies minor requires at least 18 semester credit hours, including at least two courses (6 hours) from Section A and at least two courses (6 hours) from Section B. The other 6 hours may be chosen from Section A, B, and/or C. Please read the special requirements below.

A. Core courses in American Studies (all courses are 3 credits except where otherwise indicated). At least two of the following core courses are required to qualify for the minor. Of this minimal requirement, one course must be chosen from either American Studies or English and the other from either History or Political Science. Students may take up to two additional courses from this group, and these may be chosen from any department or discipline.

### Interdisciplinary: American Studies

- 90, The Foundations of American Culture
- 295, Issues in American Culture

### Anthropology

- 71, Native American Literature
- 120, Native Peoples of North America

- 121, Native Peoples of Eastern North America
- 122, Native Peoples of Western North America

### Art and Art History

- 90, Freshman Seminar (when the topic is appropriate)
- 116, North American Indian Art
- 158, American Art
- 159, American Architecture

### Criminology and Criminal Justice

- 99, The City

### English

- 17, American Literary Masterpieces
- 70, African-American Literature
- 71, Native American Literature (Same as Anthropology 71)
- 171, American Literature I
- 172, American Literature II

### History

- 3, American Civilization (to the mid-nineteenth century)
- 4, American Civilization (from the mid-nineteenth century)
- 5, American Biography
- 6, African-American History
- 7, The History of Women in the United States

### Honors

- 121, American Traditions: Humanities
  - 122, American Traditions: the Fine and Performing Arts
  - 123, American Traditions: Social Sciences
  - 131, Non-Western Traditions: Humanities
  - 132, Non-Western Traditions: the Fine and Performing Arts
  - 133, Non-Western Traditions: Social Sciences
- (Admission to these Honors Seminars requires consent of the dean of the Honors College: note that depending on instructor and content, Honors 121 can fulfill the requirements from this group in literature/American Studies and Honors 123 can fulfill the History/Political Science requirement. Honors 131-133 can qualify as additional Group A choices when their focus is on Native American traditions.)

### Music

- 6, Introduction to African American Music
- 7, Introduction to Jazz

### Philosophy

- 107, American Philosophy

### Political Science

- 11, Introduction to American Politics
- 99, The City
- 130, State Politics
- 135, Introduction to Urban Politics
- 165, American Political Thought
- 190, Studies in Political Science (when the topic is appropriate).



**Interdisciplinary Studies (continued)****Sociology**

99, The City

**B. Option courses in American Studies** (all courses are 3 credits except where otherwise indicated). In order to complete the American Studies minor, students must choose at least two courses from this group, from any department or discipline, and may choose up to four courses in this group. Courses chosen from this group must be chosen from at least two departments.

**Anthropology**

250, American Folklore

291, Current Issues in Anthropology (when the topic is appropriate).

**Art and Art History**

65, Photography and Society (same as Interdisciplinary 65)

215, Topics in Tribal Art

258, Topics in American Art

291, Topics in Contemporary Art (when the topic is appropriate)

**Communication**

50, Introduction to Mass Media

243, Communications in American Politics

350, Mass Communication History

352, Mass Media Criticism

**Economics**

205, History of American Economic Development (same as History 205)

**Education**

Ed Fnd 251, Black Americans in Education

Ed Fnd 330, History of American Education

Ed Fnd 332, Progressivism and Modern Education

**English**

280, Topics in Women and Literature (when topic is appropriate)

373, Selected Major American Writers I

374, Selected Major American Writers II

375, American Fiction to World War I

376, Modern American Fiction

380, Studies in Women and Literature (when topic is appropriate)

395, Special Topics in Literature (when topic is appropriate)

**History**203, U.S. Social Movements in the 20<sup>th</sup> Century

205, History of American Economic Development (Same as Economics 205)

210, African-American History: From Slavery to Civil Rights

212, African-American History: From Civil Rights to Black Power

219, U.S. Labor History

257, United States History for the Secondary Classroom

300, Selected Topics in History (when topic is appropriate)

312, The Indian in American History

315, History of Women in the United States

316, U. S. Urban History

318, African-American Women's History

320, History of Crime and Justice

393, Senior Seminar (5 credits: when topic is appropriate)

**Honors College**

(when topics are appropriate, any of the seminars below can qualify as an 'option' course for the American Studies minor. Admission to these courses requires the consent of the dean of the Honors College.)

201, Inquiries in the Humanities

202, Inquiries in the Fine and Performing Arts

203, Inquiries in the Social Sciences

207, Inquiries in Education

301, Advanced Seminar in the Humanities

302, Advanced Seminar in the Fine and Performing Arts

303, Advanced Seminar in the Social Sciences

307, Advanced Seminar in Education

351, Research Seminar: Humanities

352, Research Seminar: Fine and Performing Arts

353, Research Seminar: Social and Behavioral Sciences

357, Research Seminar: Education

**Interdisciplinary**

65, Photography and Society (same as Art 65)

**Philosophy**

210, Significant Figures in Philosophy (when topic is appropriate)

**Political Science**

228, The Federal Judicial System: Politics, Process, and Behavior

230, The American Presidency

231, Congressional Politics

232, African Americans and the Political System

234, Politics and the Media

235, Political Parties and Elections

238, Women in U. S. Politics

320, Constitutional Law

321, Civil Liberties

332, Studies in American Politics (when topic is appropriate)

**Sociology**

40, Social Problems

100, Women in Contemporary Society

268, The Sociology of Conflict

316, Power, Ideology and Social Movements

360, Sociology of Minority Groups

380, Selected Topics in Social Policy (when topic is appropriate)

**Interdisciplinary Studies (continued)**

**C. American Studies elective courses** (courses are 3 credit hours unless otherwise indicated). Up to two courses from this group may be used for the American Studies minor. When two courses are chosen from this group, they must be chosen from different departments.

**Anthropology**

- 126, Archaeology of Historic St. Louis
- 131, Archaeology of Missouri
- 132, Archaeology of North America
- 138, African-American Archaeology

**Art and Art History**

- 191, Art Since 1945
- 263, Photography Since 1945

**Communication**

- 218, Public Policy in Telecommunication
- 332, Intercultural Communications
- 343, The Rhetoric of Protest
- 355, Media Law and Regulation

**Criminology and Criminal Justice**

- 240, Policing
- 340, Race, Crime and Justice

**English**

- 306, Adolescent Literature
- 384, Modern Poetry
- 385, Modern Drama
- 386, Poetry since World War II

**History**

- 301, United States History: Colonial America to 1763
- 302, United States History: Revolution and the New Nation, 1763 - 1815
- 303, United States History: Nationalism and Sectionalism, 1815 to 1860
- 304, United States History: 1860-1900
- 305, United States History: 1900-1940
- 306, United States History: 1940 to the Present
- 311, Topics in American Constitutional History
- 313, American Military History to 1900
- 314, American Foreign and Military Affairs, 1900-Present
- 315, History of Women in the United States

**Political Science**

- 129, Women and the Law
- 226, Law and the Individual
- 227, State and Local Courts
- 233, Introduction to Political Behavior
- 241, The Politics of Business Regulation
- 242, Introduction to Public Policy
- 246, The Politics of Poverty and Welfare
- 282, United States Foreign Policy
- 333, Mock Constitutional Convention

**Social Work**

- 150, Social Welfare as a Social Institution
- 285, Social Issues and Social Policy Development
- 314, Social Work with Culturally Diverse Populations

**Sociology**

- 40, Social Problems
- 180, Alcohol, Drugs and Society
- 202, Urban Sociology
- 234, Political Sociology
- 354, Sociology of Business and Work Settings

In addition, courses with variable topics such as Topics in..., Studies in..., and seminars may be taken when the topics are appropriate. When in any doubt, see the coordinator of American Studies; such courses must be approved for inclusion in your American Studies minor **before the semester registration deadline.**

**Minor in Black Studies**

The minor in black studies is open to all undergraduate students at UM-St. Louis, whatever their major field. This minor is an interdisciplinary course of studies intended to provide a focus for new and existing courses in the area of black and African diaspora studies. A faculty member with expertise in black or diaspora studies is designated as coordinator. Students interested in pursuing the minor should consult the coordinator for advisement. For appropriate referral, please contact the advising office at the College of Arts and Sciences.

Candidates must have a cumulative grade point average of 2.0 or better in the minor. Courses taken on a satisfactory/unsatisfactory basis may not be applied to the minor. Courses applied to the minor may not be counted for a major.

Any courses relevant to black or African diaspora studies, offered by a humanities or social science department, may be taken when approved by the coordinator for the minor. Special topics courses, directed studies or readings may also be included for credit if relevant to the minor.

**Requirements**

1. Students must take **one** of the following:
  - Interdisciplinary 40**, The Black World
  - History 83**, The African Diaspora to 1800
  - History 84**, The African Diaspora Since 1800
2. A minimum of **two** courses from the following:
  - Anthro 5**, Human Origins
  - Anthro 124**, Cultures of Africa
  - Art 117**, African Art
  - English 70**, African-American Literature
  - History 6**, African American History