

1997

# 1997-1998 Southern Illinois University Bulletin Carbondale Campus (Undergraduate Catalog)

Southern Illinois University Carbondale

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810  
**Southern Illinois  
University at  
Carbondale  
Bulletin**

38/4



**Undergraduate Catalog 1997-98**



38/4

# Southern Illinois University at Carbondale Bulletin

## 1997-1998 Undergraduate Catalog

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**Southern Illinois University at Carbondale Bulletin (USPS 506-080)**

Volume 38, Number 4, October, 1996

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# This Catalog

This publication provides information about the University. Primary attention is given to its academic program, rules and regulations, and procedures. Students starting their collegiate training (first graded course from an accredited institution) during the period of time covered by this catalog (summer 1997 through spring 1998) are subject to the curricular requirements as specified herein. The requirements herein will extend for a seven calendar year period from the date of entry for baccalaureate programs and three years for associate programs. If the students have not met their undergraduate educational objectives by that time, they will then become subject to current curricular requirements. Should the requirements contained herein subsequently be changed by the University, students are assured that necessary adjustments will be made so that no additional time is required of them. Where programs include requirements established by agencies external to the University, every effort will be made to follow this same principle so far as possible. Should subsequent curricular requirement changes work to the students' advantage, they may elect to meet the new requirements rather than those contained herein. Should the University find it necessary to discontinue an academic program, the effective date, unless otherwise dictated, will be such that the last regularly admitted class will be able to complete the program in regular time sequence. This means four years for baccalaureate and two years for associate programs. A student who has withdrawn from the University may not be readmitted to a discontinued program.

The Undergraduate Catalog covers in detail questions concerning the undergraduate program of Southern Illinois University at Carbondale for the period from summer 1997 through spring 1998. It supersedes Volume 37, Number 3.

# Affirmative Action Policy

It is the policy of Southern Illinois University at Carbondale to provide equal opportunity and educational opportunities for all qualified persons without discrimination on the basis of race, color, religion, sex, national origin, age, handicap, sexual orientation, or marital status. The University is committed to the principles of equal employment and affirmative action and will continue to conduct all personnel actions in accordance with the letter and spirit of applicable state and federal statutes and regulations, including Executive Order 11246 as amended. Personnel actions include, but are not limited to, recruitment, hiring, position assignments, compensations, training, promotions, tenure consideration and award, retention, lay-off, termination, and benefits.

The University recognizes that the barriers of race, sex, and national origin have resulted in the denial to some individuals of their full participation in all societal functions, and is committed to taking affirmative steps aimed at overcoming such historical patterns of discrimination in our society. The University's Affirmative Action Program identifies special actions intended to bring such groups into full participation in all aspects of university life. Through its Affirmative Action Program, Southern Illinois University at Carbondale is committed to: (1) increasing the number of minority individuals and women in all aspects of the University, with special procedures applicable to those positions determined to be underutilized for minorities and women; (2) insuring cultural and educational diversity in the curricula of the University; (3) insuring the removal of barriers to the disabled; and (4) fostering attitudes in the University community that are supportive of the principles of equal opportunity and affirmative action to redress the consequences of past societal discrimination.

The responsibility for coordinating and monitoring compliance with the University's Equal Opportunity/Affirmative Action policy is assigned to the Executive Assistant to the Chancellor. Implementation and assuring compliance with this policy is the responsibility of all academic and administrative units.

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# Board of Trustees and Officers of Administration

## Board of Trustees of Southern Illinois University

## Term Expires

A.D. VanMeter, Jr., <i>Chair</i> , Springfield	1999
Molly D'Esposito, <i>Vice-Chair</i> , Winnetka	2001
George T. Wilkins, Jr., <i>Secretary</i> , Edwardsville	1997
John Brewster, Marion	1997
William R. Norwood, Carbondale	2001
Harris Rowe, Jacksonville	2001
Celeste M. Stiehl, Belleville	1999
Eric T. Bottom, (Student Trustee) Carbondale	1997
Sean Pohl, (Student Trustee) Edwardsville	1997
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 Roland Keim, *Director, Admissions and Records*

# University Calendar

## Summer Session, 1997

Eight-Week Session Begins	Monday, June 9, 7:30 A.M.
Independence Day Holiday	Friday, July 4
Final Examinations	Thursday, July 31 and Friday, August 1
Commencement	Saturday, August 2

## Fall Semester, 1997

Semester Classes Begin	Monday, August 25
Labor Day Holiday	Monday, September 1
Fall Recess	Thursday, October 30 - Sunday, November 2
Thanksgiving Vacation	Saturday, November 22, 12:00 noon - Sunday, November 30
Final Examinations	Monday, December 15 — Friday, December 19

## Spring Semester, 1998

Martin Luther King, Jr.'s Birthday Holiday	Monday, January 19
Semester Classes Begin	Tuesday, January 20
Spring Vacation	Saturday, March 14, 12:00 noon — Sunday, March 22
Honor's Day	Sunday, April 5
Final Examinations	Monday, May 11 — Friday, May 15
Commencement	Friday, May 15; Saturday, May 16; and Sunday, May 17

All breaks officially begin at 10:00 P.M. the night before and end at 7:30 A.M. the morning after the respective beginning and ending dates listed above, unless otherwise noted.

## Accommodating Religious Observances of Students

Southern Illinois University at Carbondale will make reasonable accommodation for individual student religious observances. The *Policy Accommodating Religious Observances of Students* appears in its entirety in Chapter 7.

The first part of the book is devoted to a general introduction to the subject of the history of the English language. It discusses the various factors which have influenced the development of the language, such as contact with other languages, internal changes, and the influence of social and cultural factors. The second part of the book is a detailed study of the history of the English language from its earliest forms to the present day. It covers the Old English period, the Middle English period, and the Modern English period. The third part of the book is a study of the history of the English language in the United States. It discusses the influence of other languages on American English, the development of American English, and the role of American English in the world.

# Chapter Reference Guide

The black tabs on the right of this page correspond to black tabs on Chapters 1 through 7 in this catalog.

**Chapter 1**  
General  
Information

**Chapter 2**  
Admissions, Tuition and  
Academic Information

**Chapter 3**  
University Core Curriculum  
and Courses

**Chapter 4**  
Undergraduate Curricula  
and Faculty

**Chapter 5**  
University Courses

**Chapter 6**  
Student Services

**Chapter 7**  
University Policies

For information or concerns pertaining to this catalog, contact Patricia Covington, editor, at the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois, 62901. For access to the Undergraduate Catalog on the World Wide Web visit: <http://www.siu.edu/cwis>.

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Cover: Pulliam Hall

# THEORY OF THE EARTH

CHAPTER I  
OF THE ORIGIN OF THE EARTH

SECTION I  
OF THE ORIGIN OF THE EARTH

SECTION II  
OF THE ORIGIN OF THE EARTH

SECTION III  
OF THE ORIGIN OF THE EARTH

SECTION IV  
OF THE ORIGIN OF THE EARTH

SECTION V  
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SECTION VI  
OF THE ORIGIN OF THE EARTH

SECTION VII  
OF THE ORIGIN OF THE EARTH

SECTION VIII  
OF THE ORIGIN OF THE EARTH

# 1 / General Information



## The University

### Southern Illinois University

Southern Illinois University is a multicampus university comprising two institutions, Southern Illinois University at Carbondale (SIUC) with a School of Medicine at Springfield and a campus in Niigata, Japan, and Southern Illinois University at Edwardsville (SIUE) with a School of Dental Medicine at Alton and a center in East St. Louis. The University, with an annual operating budget of over \$513 million, enrolls over 34,000 students in programs from two-year technical curricula to Ph.D. programs in 27 fields along with law, medicine and dental medicine. SIU was chartered in 1869 as Southern Illinois Normal University, a teachers' college. In 1947, the name was changed to Southern Illinois University, reflecting the institution's academic expansion. The University also expanded geographically. As early as 1949, SIU began offering off-campus academic courses in the metropolitan East St. Louis area, which led to the eventual development of a separate institution in Edwardsville.

A modern and comprehensive post-secondary educational institution, Southern Illinois University offers a broad range of academic programs that lead to associate, baccalaureate, master's, specialist's, doctoral, and professional degrees.

The instructional, research, and service missions of the two constituent institutions reflect the needs of the geographic areas in which they are located. The University also is committed to serving statewide, national, and international needs. This commitment is reflected in educational activities located off the main campuses in communities throughout the state. It is realized also through research and training exchanges and through world-wide student exchange programs.

A nine-member Board of Trustees governs Southern Illinois University and sets policy that enables the University to carry out its established missions and goals. The president of Southern Illinois University is its chief executive officer and reports to the Board of Trustees. The University chancellors report directly to the president and are responsible for the internal operations of SIUE and SIUC.

### Southern Illinois University at Carbondale

Southern Illinois University at Carbondale has taken pride in the quality of its services since its doors were first opened in 1869. Outstanding departments, distinguished faculty, thorough and inspired teaching, and a thoughtful approach to the blending of old wisdom with new knowledge, as well as student services from admission to placement, combine with the University's enviable location to provide a rewarding educational experience.

Every member of the University faculty is a student as well as a teacher bringing the products of research and scholarship into the classroom. The University has many distinguished scholars on its faculty honored by their peers for important contributions to the fields they study. Contact with these hard-working educators offers students the best possible entry into the world of today where ideas and technology mesh. As students progress in their studies they will work along with faculty members and may eventually be able to participate in ongoing research projects or set up projects of their own. Other courses may lead to internships or practicum work on campus or in the area around the University.

Morris Library, a major resource for students and faculty, contains 2,000,000 volumes, 2,600,000 units of microform, and about 13,000 periodical subscriptions. These materials are in open stacks, available to every student. There are also important collections of original research materials, as well as support services such as a map library, records and tapes, and a self-instruction center. Many disciplines require laboratories; some are the traditional variety and some are in orchards, barns, hangars,

machine shops, sound chambers, computer labs, archaeological digs, sewing rooms, kindergartens, and clinics.

The University offers a great variety of services to students. The Office of Admissions and Records audits students' progress and maintains records from entrance to graduation. Financial experts, wise in the field of money for education, work tirelessly to find the right combination of loans, grants, and on-and off-campus employment to keep each student in school. Residence halls are available on campus as are furnished and unfurnished apartments for families. Approved housing for freshmen and sophomores is monitored by the University, and those seeking other housing in Carbondale and the surrounding area have access to advice from housing staff. Counseling services are ready to help students deal with scholastic, family, emotional, medical, legal, or financial problems.

The University provides an aggressive placement program on a number of levels. University Career Services presents career fairs and regular visits by recruiters from large employers. Career counselors are ready to work with students from the time of their enrollment. Seminars and workshops are conducted regularly and a career library is maintained. Some schools and departments have highly successful recruitment programs of their own. Placement services do not stop at graduation — the University keeps a current placement file for every interested graduate, and Alumni Services offers referral assistance.

Carbondale, an economic center of Southern Illinois, has been cited in a recent study as one of the fifty most desirable places to live in the United States. Only a few hours from Chicago, St. Louis, and Memphis, the University sits amid rolling hills, farmlands, and orchards just 60 miles above the confluence of the Mississippi and Ohio rivers. Glaciation deposits of rock have left the area from Carbondale south ruggedly scenic and suitable for a wide range of outdoor activities. Four large recreational lakes are within minutes of the campus; the two great rivers, the spectacular 240,000-acre Shawnee National Forest, and a large number of smaller lakes, state parks, and recreational areas are within easy driving distance. The Mid-South climate is ideal for year-around outdoor activities — even a little cross-country skiing now and then. The campus itself is a marvel of landscaping, planted with native trees and shrubs and blooming flora.

Activities on campus are equally inviting. There are over 300 student organizations — special interest, political, Greek, religious, service — intramurals from baseball to ultimate frisbee, a recreational lake on campus, nine intercollegiate sports programs for women and nine for men, and great varieties of diverting entertainment. A large indoor recreational center contains an olympic-sized pool, weight rooms, game courts of all kinds, diet and exercise programs, instruction, and equipment that can be checked out for outdoor recreation.

At this modern university in a rural setting one can benefit from the best of both worlds — the scenic wonders, the small-town friendliness, the easy access to all the area has to offer, and the resources of a sophisticated faculty and staff with the latest in technological marvels at its command. A Consumer's Report that addresses specific information about the University is available by writing New Student Admissions Services.

## **Mission Statement**

Southern Illinois University at Carbondale, now in its second century, is a major public higher education institution dedicated to quality academic endeavors in teaching and research, to supportive programming for student needs and development, to effective social and economic initiatives in community, regional, and statewide contexts, and to affirmative action and equal opportunity.

Enrolling students throughout Illinois and the United States and from a large number of foreign countries, SIUC actively promotes the intellectual and social

benefits of cultural pluralism, encourages the participation of non-traditional groups, and intentionally provides a cosmopolitan and general education context which expands students horizons and leads to superior undergraduate education.

Seeking to meet educational, vocational, social and personal needs of its diverse population of students and helping them fully realize their potential is a central purpose of the University. Emphasis on accessibility and regional service which creates distinctive instructional, research and public service programs also gives SIUC its special character among the nation's research universities, and underlies other academic developments, such as its extensive doctoral program and the school of medicine and law.

Committed to the concept that research and creative activity are inherently valuable, the University supports intellectual exploration at advanced levels in traditional disciplines and in numerous specialized research undertakings, some of which are related directly to the southern Illinois region. Research directions are evolved from staff and facility strengths, and mature in keeping with long-term preparation and planning.

Even as the University constantly strives to perpetuate high quality in both instruction and research, it continues a long tradition of service to its community and region. Its unusual strengths in the creative and performing arts provide wide-ranging educational, entertainment and cultural opportunities for its students, faculty, staff, and the public at large. Its programs of public service and its involvement in the civic and social development of the region are manifestations of a general commitment to enhance the quality of life through the exercise of academic skills and application of problem-solving techniques. The University seeks to help solve social, economic, educational, scientific, and technological problems, and thereby to improve the well being of those whose lives come into contact with it.

### Focus Statement

Southern Illinois University at Carbondale offers a full range of baccalaureate programs, is committed to graduate education through the doctoral degree, and gives high priority to research. It receives substantial federal support for research and development and annually awards a significant number of doctoral degrees balanced among selected liberal arts and sciences disciplines and professional programs. In addition to pursuing statewide goals and priorities, Southern Illinois University at Carbondale:

- strives to develop the professional, social, and leadership skills expected of college students and to improve student retention and achievement;
- supports the economic, social, and cultural development of southern Illinois through appropriate undergraduate, graduate, and professional education and research;
- develops partnerships with communities, businesses, and other college and universities, and develops utilization of telecommunications technologies;
- cultivates and sustains a commitment in research and instruction to problems and policy issues related to the region and the state's natural resources and environment;
- strives to meet the health care needs of central and southern Illinois through appropriate health-related programs, services, and public health policy; and
- cultivates and sustains diversity through a commitment to multiculturalism, including international programming.

## Accreditations and Affiliations<sup>1</sup>

North Central Association of Colleges and Schools	Federal Aviation Administration
Accreditation Council of the American Assembly of Collegiate Schools of Business	Federation of Schools of Accountancy
Accrediting Council on Education in Journalism and Mass Communication	Foundation for Interior Design Education Research
American Association for Accreditation of Laboratory Animal Care	Honors Council of the Illinois Region
American Association of Airport Executives	House of Delegates of the American Bar Association
American Association of Museums	Illinois Alcohol and Other Drug Abuse Association, Inc.
American Bar Association	Illinois State Board of Education
American Board of Funeral Service Education	Liaison Committee on Medical Education of the American Medical Association and Association of American Medical Colleges
American Chemical Society	National Academy of Early Childhood Programs sponsored by the National Association for the Education of Young Children
American Library Association	National Association of Industrial Technology
American Psychological Association	National Association of Schools of Art and Design
American Speech-Language-Hearing Association, Educational Standards Board	National Association of Schools of Music
Association of American Law Schools	National Association of Schools of Public Affairs and Administration
Association of American Publishers	National Association of Schools of Theatre (NAST)
Association of American University Presses	National Athletic Trainers Association
Association of 1983 Collegiate Schools of Architecture	National Automotive Technicians Education Foundation
Commission on Accreditation in Physical Therapy Education	National Collegiate Honors Council
Commission on Accreditation of Rehabilitation Institutes	National Council for Accreditation of Teacher Education
Commission on Dental Accreditation of the American Dental Association	National Court Reporters Association
Committee on Allied Health Education on Accreditation and the Joint Review Committee for Respiratory Therapy Education	National Fire Protection Association
Committee on Allied Health Education on Accreditation of the American Medical Association and the Joint Review Committee for Radiologic Technology Education	National Institute for Automotive Service Excellence
Connecticut State Board of Education	National Recreation and Parks Association
Council for Accreditation for Counseling and Related Educational Programs	Photo/Marketing Association International
Council on International Education Exchange	Servicemembers Opportunity Colleges
Council on Rehabilitation Education	Society of American Foresters
Council on Social Work Education	University Aviation Association, Airway Science Curriculum Committee
Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology	University Council for Vocational Education
	Upper Midwest Honors Council

<sup>1</sup>To determine the agency which accredits a specific program, consult the information on that program in this catalog.

## Faculty

The University faculty is dedicated to excellence in teaching and to the advancement of knowledge in a wide variety of disciplines and professions. Many faculty members are well known both nationally and internationally for their many varied research contributions. The Undergraduate Catalog lists the numerous programs offered by the faculty and, in addition, in Chapter 8 of this catalog the faculty members are listed by departments in which they are appointed.

## Undergraduate Curricula

The undergraduate majors and minors offered by Southern Illinois University at Carbondale are listed below in alphabetical order. Also indicated is whether a major,

a minor, or both are offered. The academic unit which offers the major is listed as is the degree the student would expect to receive upon graduation. If a major may be completed in more than one academic unit, the other units are listed on additional lines. For example, the biological sciences major is offered through the College of Science. Students planning to teach biological sciences may also complete the major in the College of Education. The requirements for each of the programs listed below are explained in Chapter 4 of this bulletin. The degree abbreviations used are: A.A.S., Associate in Applied Science; B.A., Bachelor of Arts; B.F.A., Bachelor of Fine Arts; B.Mus., Bachelor of Music; and B.S., Bachelor of Science.

In addition to the majors and minors listed, preprofessional programs may be completed in dentistry, law, medicine, nursing, optometry, pharmacy, physical therapy, physician assistant, podiatry, public health, and veterinary science.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Accounting	X	X	College of Business and Administration	B.S.
Administration of Justice	X	X	College of Liberal Arts	B.A.
Advanced Technical Studies	X		College of Applied Sciences and Arts	B.S.
Aerospace Studies		X		
African Studies		X	College of Liberal Arts	
Aging Studies		X	College of Liberal Arts	
Agribusiness Economics	X	X	College of Agriculture	B.S.
Agriculture, General	X	X	College of Agriculture	B.S.
Animal Science	X	X	College of Agriculture	B.S.
Anthropology	X	X	College of Liberal Arts	B.A.
Aquatics <sup>3</sup>		X	College of Education	
Architectural Studies <sup>9</sup>	X		College of Applied Sciences and Arts	B.S.
Army Military Science		X		
Art	X	X	College of Liberal Arts	B.A., B.F.A.
	X		College of Education	B.S.
Asian Studies		X	College of Liberal Arts	
Athletic Training <sup>3</sup>		X	College of Education	
Automotive Technology <sup>9</sup>	X		College of Applied Sciences and Arts	A.A.S. B.S.
Aviation Flight <sup>9</sup>	X		College of Applied Sciences and Arts	A.A.S.
Aviation Maintenance Technology <sup>9</sup>	X		College of Applied Sciences and Arts	A.A.S.
Aviation Management	X		College of Applied Sciences and Arts	B.S.
Aviation Technologies	X		College of Applied Sciences and Arts	B.S.
Biological Sciences	X	X	College of Science	B.A.
	X		College of Education	B.S.
Black American Studies		X	College of Liberal Arts	
Business and Administration	X	X	College of Business and Administration	B.S.
Business Economics	X		College of Business and Administration	B.S.
Chemistry	X	X	College of Science	B.A., B.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Child and Family Services <sup>4</sup>		X	College of Education	
Chinese <sup>1</sup>		X	College of Liberal Arts	
Cinema and Photography	X		College of Mass Communication and Media Arts	B.A.
Civil Engineering	X		College of Engineering	B.S.
Classical Civilization <sup>1</sup>		X	College of Liberal Arts	
Classics <sup>1</sup>	X		College of Liberal Arts	B.A.
Clothing and Textiles <sup>6</sup>	X	X	College of Education	B.S.
Coaching <sup>3</sup>		X	College of Education	
Commercial Graphics – Design <sup>1</sup>	X		College of Applied Sciences and Arts	A.A.S.
Communication Disorders and Sciences	X		College of Education	B.S.
Comparative Literature		X	College of Liberal Arts	
Computer Science	X	X	College of Science	B.S.
Construction Technology <sup>9</sup>	X		College of Applied Sciences and Arts	A.A.S.
Dental Hygiene <sup>9</sup>	X		College of Applied Sciences and Arts	B.S., A.A.S.
Dental Technology <sup>9</sup>	X		College of Applied Sciences and Arts	A.A.S.
Design	X		College of Liberal Arts	B.A.
Early Childhood <sup>4</sup>	X		College of Education	B.S.
East Asian Civilization <sup>1</sup>		X	College of Liberal Arts	
Economics	X	X	College of Liberal Arts	B.A.
Electrical Engineering	X		College of Engineering	B.S.
Electronics Management	X		College of Applied Sciences and Arts	B.S.
Elementary Education <sup>4</sup>	X		College of Education	B.S.
Engineering Technology	X		College of Engineering	B.S.
English	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
Environmental Studies		X	Graduate School	
Equine Studies <sup>7</sup>		X	College of Agriculture	
Finance	X	X	College of Business and Administration	B.S.
Fire Science Management	X		College of Applied Sciences and Arts	B.S.
Food and Nutrition	X		College of Agriculture	B.S.
Foreign Language and International Trade	X		College of Liberal Arts	B.A.
Forestry	X		College of Agriculture	B.S.
French <sup>1</sup>	X	X	College of Liberal Arts	B.A.
	X		College of Education	B.S.
Geography	X	X	College of Liberal Arts	B.A., B.S.
Geology	X	X	College of Science	B.A., B.S.
German <sup>1</sup>	X	X	College of Liberal Arts	B.A.
	X		College of Education	B.S.
Greek <sup>1</sup>		X	College of Liberal Arts	
Health Care Management	X		College of Applied Sciences and Arts	B.S.
Health Education	X		College of Education	B.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
History	X	X	College of Liberal Arts	B.A.
	X		College of Education	B.S.
Industrial Technology	X		College of Engineering	B.S.
Interior Design	X		College of Applied Sciences and Arts	B.S.
Japanese <sup>1</sup>		X	College of Liberal Arts	
Journalism	X	X	College of Mass Communication and Media Arts	B.S.
Latin <sup>1</sup>		X	College of Liberal Arts	
Linguistics	X	X	College of Liberal Arts	B.A.
Management	X	X	College of Business and Administration	B.S.
Marketing	X	X	College of Business and Administration	B.S.
Mathematics	X	X	College of Science	B.S.
	X		College of Liberal Arts	B.A.
	X		College of Education	B.S.
Mechanical Engineering	X		College of Engineering	B.S.
Microbiology	X	X	College of Science	B.A.
Mining Engineering	X		College of Engineering	B.S.
Mortuary Science and Funeral Service <sup>9</sup>	X		College of Applied Sciences and Arts	B.S., A.A.S.
Museum Studies		X	College of Liberal Arts	
Music	X	X	College of Liberal Arts	B.Mus., B.A.
	X		College of Education	B.S.
Office Systems and Specialties <sup>9</sup>	X	X	College of Applied Sciences and Arts	A.A.S.
Paralegal Studies for Legal Assistants	X	X	College of Liberal Arts	B.S.
Philosophy	X	X	College of Liberal Arts	B.A.
Physical Education	X	X	College of Education	B.S.
Physical Therapist Assistant <sup>9</sup>	X		College of Applied Sciences and Arts	A.A.S.
Physician Assistant	X		College of Applied Sciences and Arts	B.S.
Physics	X	X	College of Science	B.S.
Physiology	X	X	College of Science	B.A.
Plant and Soil Science	X	X	College of Agriculture	B.S.
Plant Biology	X	X	College of Science	B.A.
Political Science	X	X	College of Liberal Arts	B.A.
Psychology	X	X	College of Liberal Arts	B.A.
Radio-Television	X		College of Mass Communication and Media Arts	B.A.
Radiologic Sciences <sup>9</sup>	X		College of Applied Sciences and Arts	B.S.
Radiologic Technology			College of Applied Sciences and Arts	A.A.S.
Recreation	X		College of Education	B.S.
Respiratory Therapy Technology <sup>9</sup>	X		College of Applied Sciences and Arts	A.A.S.

SUBJECT	MAJOR	MINOR	ACADEMIC UNIT	DEGREE
Russian <sup>1</sup>	X	X	College of Liberal Arts	B.A.
Social Studies	X		College of Education	B.S.
Social Work	X		School of Social Work	B.S.
Sociology	X	X	College of Liberal Arts	B.A.
Spanish <sup>1</sup>	X	X	College of Liberal Arts	B.A.
	X		College of Education	B.S.
Special Education	X		College of Education	B.S.
Speech Communication	X		College of Liberal Arts	B.S.
Theater	X	X	College of Liberal Arts	B.A.
Tool and Manufacturing Technology <sup>1</sup>	X		College of Applied Sciences and Arts	A.A.S.
University Studies	X		College of Liberal Arts	B.A., B.S.
Women's Studies		X		
Workforce Education and Development	X	X	College of Education	B.S.
Zoology	X	X	College of Science	B.A., B.S.
	X		College of Education	B.S.

<sup>1</sup>Described under Foreign Languages and Literatures  
<sup>2</sup>Described under Consumer Economics and Family Management  
<sup>3</sup>Described under Physical Education  
<sup>4</sup>Described under Curriculum and Instruction  
<sup>5</sup>Described under Linguistics  
<sup>6</sup>Described under Vocational Education Studies  
<sup>7</sup>Described under Animal Science  
<sup>8</sup>A special major may be completed in any academic unit  
<sup>9</sup>Qualified A.A.S. graduates may be eligible to earn a B.S. degree through the Capstone Option. See Chapter 3 for additional information.

Visits to Campus

We welcome prospective students, their families, friends, and interested groups to learn about Southern Illinois University at Carbondale through various on-campus and off-campus events. Activities on campus include campus visits, group visit days, on campus previews, and open houses. SIUC off-campus preview programs are held in several locations around Illinois each spring.

*Campus Visits.* Campus visits are available by appointment Monday through Friday, 8:00 a.m. to 4:30 p.m. To make best use of the visit, plan to arrive early. Please make your reservations at least ten days in advance. Your scheduled visit can include meeting with one of SIUC's admission counselors who will advise you about academic programs, student services, admission policies and procedures, housing options, financial aid, and general information about the University and community. Guided tours of the campus are available. Appointments with representatives of academic programs can also be arranged with advance notice. Campus visitors arriving without providing advance notice will be accommodated to the best of our abilities considering the circumstances.

*Group Visits.* Group visit days are, quite simply, campus visits by groups of people. The same arrangements are available and advance reservation is required.

*Open Houses.* Open house programs are held on campus four or five times each year. Activities include admission counseling; academic program exhibits; displays by student organizations; presentations on financial aid, housing, and other student services; tours of residence halls; campus and academic department tours; and opportunities to enjoy other events or activities.

*SIUC Previews.* SIUC preview programs are events held on-campus and at off-campus locations from February through May to bring SIUC within easy traveling distance of many Illinois communities. Activities include admission counseling, small-group and individual sessions on financial aid, a dynamic audio-visual presen-

tation entitled SIUC: Today, consultation about University housing, and information displays.

To schedule a campus visit or group visit to campus, or for information about scheduled on-campus open house and preview programs, write New Student Admission Services, Southern Illinois University at Carbondale, Carbondale, Illinois 62901-4710 or call 618-536-4405.

### Applying for Admission

Request the Undergraduate Admission Application from New Student Admission Services, Southern Illinois University at Carbondale, Carbondale, Illinois 62901-4710, or call 618-536-4405 (direct), or Email at [admrec@siu.edu](mailto:admrec@siu.edu) or view the SIUC Admission and Records home page at <http://www.siu.edu/~oar>. For admission requirements see Chapter 2.

## Campus Living

### On-Campus Housing for Single Students

The University offers single students a variety of living experiences in the on-campus residence halls. These halls provide not only room and board but also opportunities for participation in academic, recreational and social programs. Two distinct advantages of living on campus are the ready access to all facilities and the absence of a need for special transportation since all campus activities are within easy walking distance. Meals are provided in cafeterias of the common buildings in each housing area. A variety of meal plan options are available to students who do not want the standard nineteen meals a week. Food is presented in a modern all-you-can-eat scatter system. A registered dietitian plans the menus and is available to assist students who have medical or personal dietary concerns or who desire nutritional counseling. Co-ed living is available in all housing areas. All rooms are furnished with single beds, 36 inches by 80 inches, closet space, chests of drawers, desks, study chairs, and draperies. Study lamps, pillows, bed linen, towels, blankets and telephone instruments must be provided by the students. Telephone jacks and cable TV outlets are provided in each room. Housing contracts are for the school year (fall and spring semesters) with summer contracts being issued separately. The residence halls close during University holidays and break periods, with the exception of Allen, Boomer, Wright and Neely Halls in University Park which are open during all breaks at an additional daily cost.

SIUC student housing policy stipulates that all single freshman and sophomores under the age of 21 are required to live either in an on-campus residence hall or an approved privately-owned residence hall (known as an accepted living center), or live at home with parent or legal guardian. The accepted living centers for freshman under the age of 21 provide food service and supervision comparable to that in on-campus housing. Sophomores are also allowed to live in some privately owned sophomore qualified facilities.

Freshmen and sophomores under the age of 21, living with parent or legal guardian, are required to file a *Report of Single Undergraduate Living with Parent/Guardian* form with the off-campus housing office. These students are also allowed to live with an approved brother/sister/grandparent, but certain forms must be filed with off-campus housing. Contact off-campus housing for more information. This policy is enforced in fall and spring semesters and the summer session. Any students who feel that they qualify for an exception to this policy must contact the Off Campus Housing Office, Washington Square D. Students in violation of this policy will have a hold placed on their future registration and will be required to move into approved housing.

There are no restrictions for juniors (56 earned semester hours accepted by SIUC), seniors, students over the age of 21, veterans, married students, or students declared independent by the Financial Aid Office.

Separate applications are required for admission and housing. Housing contracts are offered on a space available basis only. Admission to the University does not guarantee housing on campus.

*Rates.* The 1997-98 room and board rates for the three on-campus residential areas are \$3,632 (\$1,816 per semester) plus a \$17 campus housing activity fee. Single room contracts are an additional \$1,056 (\$528 per semester). Students entering for fall semester must purchase a two-semester contract.

*Brush Towers.* Brush Towers consists of two 17-story, air-conditioned halls, Mae Smith and Schneider Halls. The commons unit is Grinnell Hall which houses the food service, post office, and area office. There is a large study area and computer lab located on the lower level of Trueblood Hall in nearby University Park. This facility is available to Brush Towers residents. The facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available free of charge.

*Thompson Point.* Thompson Point consists of eleven air-conditioned halls. Lentz Hall serves as the commons unit for the food service, post office, snack bar, and recreation areas. Included in the Thompson Point residential area are special facilities for disabled students. There is a study area and computer lab located on the lower level of Lentz Hall. This facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available free of charge.

*University Park.* The University Park residential area is air-conditioned and consists of Neely Hall, a 17-story residence hall; and Allen, Boomer, and Wright Halls, four-story residence halls. A limited number of single rooms are available in Neely, Allen, Boomer and Wright Halls and these buildings remain open during all University holidays and break periods. Neely Hall is restricted to students 21 years of age or older. Trueblood Hall is the commons unit housing the cafeteria, snack bar, computer room, and post office. There is a large study area and computer lab located on the lower level of Trueblood Hall. The facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available free of charge.

More information regarding on-campus housing or application forms may be obtained by writing the Contracts Office, University Housing, Building D, Washington Square, Carbondale, IL 62901-6716.

*Greek Row.* The Greek Row area provides housing for sororities and fraternities. Each building houses about forty students and includes a formal lounge, dining area, and kitchen. Assignment of students to this area is by invitation from the fraternal organization. For more information, contact the Office of Student Development, Southern Illinois University at Carbondale, Carbondale, IL 62901-4425.

### **Housing for Married Students**

There are 571 apartments, both furnished and unfurnished, available for married students. The costs range from \$325 to \$377 per month with utilities or \$311 to \$335 per month with tenant paying electricity. For more information or application forms write: Family Housing, Building D, Washington Square, Southern Illinois University at Carbondale, Carbondale, IL 62901-6716.

### Privately Owned Facilities

Carbondale offers many types of rental units: rooming houses, apartments, residence halls, and mobile homes. Most privately owned facilities are within walking distance of the campus. For more information about privately owned housing and accepted living centers for freshman and sophomores, please write or call: University Housing Office, Off-Campus Housing Division, Building D, Washington Square, Southern Illinois University at Carbondale, Carbondale, IL 62901-6716, phone 618-453-2301. It is not considered wise to contract for an off-campus living facility without first seeing it.

## Parking on Campus

Students wishing to operate and/or park a motor vehicle on campus must apply for a parking decal at the Parking Division located at Washington Square, Building B.

Graduate students and the following categories of undergraduate students may apply for permission to use, operate, park or possess a motor vehicle on campus: (1) Juniors and seniors (with proof of 56 credit hours or more completed); (2) Students 21 years of age; (3) Veterans with two years of military service; (4) Married students; (5) Students residing in the home of a parent or guardian; (6) Students requiring a motor vehicle for reasons of health or physical condition as certified in writing by Disability Support Services; and (7) Students not covered by 1 through 6 whose reasons for requiring a motor vehicle are judged valid by the Office of Transitional Programs and so certified in writing.

To purchase a decal at the Parking Division, an eligible student must present a student identification card, a valid operator's license, vehicle registration card, and proof of liability insurance which must be maintained for the duration of the parking decal. Students residing on campus must also present a housing contract or a meal ticket. If a parking decal is purchased, a fee is charged. This fee is determined by the type of decal an applicant is eligible for and receives. Currently student parking fees range from \$2 to \$30.

To accommodate unregistered vehicles, twenty-four hour parking is available for the first five days of any term and during final exam week of any term only in lots 56, 59 and 100.

### *Exceptions to Motor Vehicle Regulations*

Regulations concerning the use of motor vehicles require that a student has achieved junior status, be 21 years of age, married, a veteran or hold graduate status. Exceptions are made only on a limited basis and only for students whose need for a motor vehicle is justified and can be documented. Contact the Office of Transitional Programs or Parking Division for details.

## Financial Aid

The Financial Aid Office assists students in seeking monetary assistance to finance their postsecondary education at Southern Illinois University at Carbondale. Last year Southern Illinois University at Carbondale distributed over \$118 million in financial aid to more than 20,580 students.

A package of financial aid is prepared for those students who qualify. The package may include scholarships, grants, student employment and loans. The financial aid package offered is contingent upon both the availability of program funds and each student's demonstrated financial need, as determined from the student's financial aid application.

Grants and scholarships are gift aid which are not repaid to the donor. Loans must be repaid. Interest and repayment provisions differ depending on the loan program. Student employment is offered to all students who desire to earn money while attending the University.

### Financial Aid Programs

The University participates in the federal, state, and institutionally-funded financial aid programs including Federal Pell Grant, State of Illinois Monetary Award Program (MAP), Federal Direct Student Loan Program, Federal Perkins Loan Program, Student-to-Student Grant, Federal Supplemental Educational Opportunity Grant, and the Student Employment Program.

The *Financial Aid Opportunities* brochure summarizes the types of financial aid coordinated through the Financial Aid Office, the application procedures, and the corresponding deadlines. A copy of the brochure is available upon request.

**Grants.** The major federal grant programs include the Federal Pell Grant and the Federal Supplemental Educational Opportunity Grant. The largest state grant is the State of Illinois Monetary Award Program (MAP). These grants are based on financial need as determined from the student's financial aid application.

**Scholarships.** Southern Illinois University at Carbondale offers scholarships based on scholastic achievement to high school and Illinois community college transfer students (associate degree graduates only). These scholarships vary in eligibility requirements and dollar values. For more detailed information about the scholarships, students should contact New Student Admission Services.

Recipients of academic scholarships are selected annually by academic units of the University. Also, a limited number of private scholarships are available from each area. More information is available from the appropriate scholarship coordinator in each academic unit.

Students interested in seeking a private grant or scholarship should check as many sources as possible including high schools, local clubs and civic organizations, businesses, church groups, alumni organizations, and commercial lending institutions. Higher-Ednet, a service of the Illinois Student Assistance Commission (ISAC), can locate financial aid sources for a \$10 application fee. Contact ISAC at (800) 899-4722 for more information. In addition, public libraries are an excellent source for information on state and private scholarship money.

**Loans.** The largest programs include the Federal Direct Stafford/Ford Loan, the Federal Direct Unsubsidized Stafford/Ford Loan, the Federal Direct Parent Loan for Undergraduate Students (PLUS) and the Federal Perkins Loan. To apply for any student loan, students should complete and mail a 1997-98 financial aid application. The Federal Direct Stafford/Ford Loan and the Federal Perkins Loan are based on financial need. The Federal Direct Unsubsidized Stafford/Ford Loan is not based on need, but a financial aid application must be completed. The Federal Direct PLUS Loan is available to parents borrowing for the students' cost of attendance.

**Employment.** More than 8900 students were employed by the University last year. Most student employees work at the prevailing minimum wage for 15 to 20 hours a week. Once students arrive on campus, they should review the job listing board in the Financial Aid Office to determine which jobs interest them. The Financial Aid Office also lists job openings via the Internet on the FAO Home Page of the World Wide Web. A Student Employment Referral will be given to students to interview with prospective on-campus employers.

In addition, information regarding part-time off-campus jobs is available. Many SIUC students choose to work off-campus in Carbondale and the surrounding area.

### **Application for Financial Aid for the 1997-98 Academic Year**

To apply for financial aid, students, with their parents, should complete and mail a 1997-98 Free Application for Federal Student Aid (FAFSA) or a 1997-98 Renewal Application. Completion of a FAFSA or a Renewal Application will allow the student to be considered for the Federal Pell Grant, State of Illinois Monetary Award Program (Illinois residents only), the SIUC Campus-Based Aid Programs, the Student Employment Program, and the Student Loan Programs.

When completing the FAFSA or Renewal Application, Southern Illinois University at Carbondale (Title IV Code 001758) should be entered as one of the school choices so SFUC will electronically receive the application information from the U.S. Department of Education.

Students should complete and mail their FAFSA or Renewal Application as early as possible since campus-based aid funding is limited and distributed to eligible students on a first-come, first-served basis. Priority consideration for campus-based aid will be given to those students who complete and mail their financial aid application before April 1, 1997. The FAFSA's are available in December preceding each academic year, and may be obtained from local high schools, community colleges, or from the Financial Aid Office. Renewal Applications are mailed in December preceding each academic year to students who applied for financial aid the previous year.

### **Senior Citizen Courses Act**

Senior citizen as defined under the Act means a person 65 years of age or older whose annual household income is less than \$14,000. The statute requires the University to waive the tuition for such citizens unless classroom space is not available or if tuition paying students enrolled do not constitute the minimum number required for the course. Even where tuition must be waived, other fees may be charged.

### **Academic Progress Standards for Financial Assistance**

The University requires that a student be making satisfactory progress toward a degree if that student wishes to receive financial aid funds. A student is making satisfactory progress toward a degree if successfully meeting each of four basic academic standards. First, students are expected to have passed at least a prescribed number of cumulative credit hours at Southern Illinois University at Carbondale for the total number of terms enrolled at Southern Illinois University at Carbondale. Second, students must complete their degree within a maximum number of Southern Illinois University at Carbondale terms. Third, students must complete their degree before accumulating a maximum number of credit hours. Fourth, students must remain in compliance with the University's policy concerning scholastic standing and grade point average. A copy of the policy on satisfactory progress is available upon request from the Financial Aid Office.

Students desiring additional information should contact the Financial Aid Office, Mailcode 4702, Woody Hall, B Wing, Third Floor, Carbondale, Illinois 62901-4702, telephone 618-453-4334. Students may FAX financial aid documents to 618-453-7305.

Students can contact the Financial Aid Office electronically at the FAO E-mail address: [fao@siu.edu](mailto:fao@siu.edu). Students can also access financial aid information through the FAO Home Page on the World Wide Web (<http://www.siu.edu/~fao/>) or obtain voice/response information about their financial aid by calling Unilink at (618) 453-SIUC. The student's four digit Pin number is their birthday and birth year (DDYY). Specific financial aid information can also be obtained via the Internet on the FAO Home Page.

NOTE: At the time of printing this publication, final rules and regulations for the 1997-98 academic school year were pending. Therefore, students should contact the Financial Aid Office for the most recent information.

## 2 / Admissions, Tuition and Academic Information



## Admission Policies, Requirements, Procedures

Now that you have decided you want to attend SIUC you need to know how to apply for admission. Policies and procedures for admission are presented in the admissions section of this chapter. Definitions of each category of admissions are included along with procedures that you will need to follow to complete your undergraduate admission application.

### APPLYING FOR ADMISSION

You need to request the admission application from New Student Admissions Services, Southern Illinois University at Carbondale, Carbondale, Illinois, 62901-4710 or call 618-536-4405. You may also want to schedule a campus visit at the same time.

Applications for admission to the University are accepted anytime during the calendar year but should be submitted at least thirty days prior to the beginning of classes.

The University closes admission to some programs whenever the availability of faculty or facilities necessitates such closures. The University also stops accepting admission applications from freshman whenever the availability of the University resources dictates this action.

If you are a high school student, you may initiate the admission process following completion of your sixth semester in high school. If you are a transfer student who has completed a minimum of one year of work, you can be considered for admission one year in advance of your date of matriculation if you plan to transfer without interruption. Transfer students who intend to transfer to Southern Illinois University at Carbondale after completing one term or one year of study may be admitted prior to completing their transfer work if they qualified for admission as beginning freshmen.

### DOCUMENTS REQUIRED FOR ADMISSION

Items required by the University before an admission decision can be made are:

1. **The undergraduate admission application.**
2. **Transcripts of previous educational experience.** High school students should submit an official copy of their high school transcript or General Educational Development Test scores. Transfer students must submit to the Office of Admissions and Records an official transcript from each institution previously attended. In addition, transfer students who have earned fewer than 26 semester hours (39 quarter hours) of transfer work must provide the University an official copy of their high school transcript or General Educational Development Test scores. Transfer students who have attended an institution whose credit is not acceptable for admission must also submit an official copy of their high school transcript and ACT or SAT scores.
3. **University entrance examination scores.** All students who are applying for admission directly from high school and all transfer students who have completed fewer than 26 semester hours (39 quarter hours) must have their official ACT scores sent to the University from the American College Testing Program, Box 451, Iowa City, Iowa 52240, or their official SAT scores.

NOTE: Also see Immunization Policy in Chapter 7.

### ADMISSION OF FRESHMEN

To be eligible for admission, you must be a graduate of a recognized high school. Graduates of nonrecognized high schools may be admitted to the University by an entrance examination. If you have not completed high school you may be considered for admission by completing the GED test.

Students entering the University as freshmen are admitted to the academic unit within the University that offer the academic programs they indicate they plan to pursue if the student qualifies for admission into that program. Students who are undecided as to the course of study they want to follow are admitted to Pre-Major Advisement or to selected other units with an undecided major.

Students who are admitted as beginning freshmen but enroll at another college or university prior to their enrollment at Southern Illinois University at Carbondale may face a change in their admission status. It will be necessary for the student to report work in progress and to forward the official transcripts after completion of the coursework.

Beginning freshmen are considered for admission on the basis of a combination of class rank and test scores (ACT or SAT). In addition, students entering the University are required to have completed selected high school courses to qualify for unconditional admission. All students granted admission while in high school are subject to the completion of high school course patterns and graduation from high school. (See High School Course Pattern Requirements below.)

*High School Course Pattern Requirements.* This policy applies to beginning freshman and transfer students who have completed fewer than twenty-six semester hours of transferable credit.

HIGH SCHOOL COURSE REQUIREMENTS FOR ADMISSION

Course	Number of Units Required	High School Courses That Complete the Area
English .....	4	Emphasizing written and oral communication and literature
Social Studies .....	3	Emphasizing history and government.
Mathematics .....	3 <sup>1</sup>	Algebra through advanced algebra, geometry, trigonometry, or fundamentals of computer programming. Computer programming courses taught in the secondary school business education program or that do not have mathematics courses as a prerequisite are accepted as vocational education courses.
Science .....	3	Laboratory sciences.
Electives .....	2	Foreign language, art, music, or vocational education. If a foreign language is taken, it must include two semesters of the same language.
Total .....		15 - 15.5

<sup>1</sup>3.5 units of mathematics are required for admission to engineering programs.

High school units in excess of the required number of units in mathematics, social studies or science may be redistributed among the other categories by applying no more than one unit to any of the following categories: mathematics, social studies, science, or elective. Elective subjects cannot be substituted for required courses in English, mathematics, science or social sciences. Students with two or more high school course unit deficiencies in mathematics or English will be denied admission to the University.

Students who qualify for admission based on class rank, test scores and transfer grade point average, but have course pattern deficiencies will be provisionally admitted to the University.

Selected applicants are exempt from the high school subject requirements. These include students whose class rank and ACT test scores are at the seventy-fifth percentile (a composite score of 23 on the ACT), participants in the early admission/concurrent enrollment program until the time of their high school graduation,

and transfer students who have earned twenty-six semester hours of transferable credit.

Beginning freshmen may satisfy a course pattern deficiency by achieving a subscore on the ACT which is equivalent to the sixtieth percentile on the College Bound Norms. The Enhanced ACT subscores required to satisfy a course deficiency on the 1993-94 ACT tests are: English 21; Mathematics 21; Reading 22; and Science Reasoning 22. Deficiencies may also be fulfilled by CLEP scores or AP scores that qualify the student for credit. The tests must be in the area that is deficient.

#### REQUIREMENTS FOR ADMISSION OF FRESHMAN

Freshman admission to the University can be granted in one of three ways:

1. an entrance examination score at the fiftieth percentile or higher, regardless of class rank. This would be a composite score of 20 on the Enhanced ACT, or an SAT I combined score of 930.
2. an ACT score at the thirty-third percentile or higher (a composite score of 18 on the ACT or an SAT I combined score of 850) and class rank in the upper half of your graduating class, or
3. the non-high school graduate who has satisfactorily completed the General Education Development Test and achieved an entrance examination score above the thirty-third percentile. (ACT of 18 or SAT I of 850).

In addition, students must meet the course pattern requirements described above for unconditional admission. Those students who meet class rank and/or test score requirements, but have course pattern deficiencies will be granted provisional admission.

Potential freshman who do not meet the admission requirements above are urged to submit applications for admission to the University. If you demonstrate potential for academic success, you may be considered for admission through the Selective Admissions Program. Students admitted through the Selective Admissions Program are admitted in good standing and are required to participate in academic assistance activities.

#### ADMISSION OF TRANSFER STUDENTS

If you have attended another college, university, or postsecondary institution you are required to submit an official transcript from each institution attended. All transcripts become the official property of Southern Illinois University at Carbondale and will not be returned nor issued to another institution.

Institutions accepted for transfer work:

1. An institution which is accredited or in candidacy status by one of the regional accrediting associations, or
2. An institution which is not accredited by or in candidacy status with one of the regional accrediting associations but the credit from the institution is accepted by the reporting institution in that state, or
3. An institution which is not accredited by or in candidacy status with one of the regional accrediting associations but is one recognized by CCA/ACTTS, AMA, ABET, or similar accrediting bodies recognized by the National Commission on Accrediting or the United States Office of Education. The student must have completed a two-year non-baccalaureate degree or equivalent terminal program with a C average before admission to SIUC will be granted. Students admitted from such institutions should not expect to receive credit at Southern Illinois University at Carbondale except in programs which accept occupational credit.

## REQUIREMENTS FOR ADMISSION OF TRANSFER STUDENTS

1. Graduation from a recognized high school or satisfactory completion of the General Educational Development Test.

2. An overall C average (2.0 on a 4.0 scale) from all post-secondary institutions. All grades earned in transferable courses and in courses with a quality point value are used to calculate the grade point average used for admission purposes. This includes all grades earned in repeated courses prior to Summer 1996. After Summer 1996 any course taken and repeated Summer 1996 and after will have only the last repeated course's grade calculated. Both courses must be from the same institution. Transfer work is calculated according to Southern Illinois University at Carbondale regulations rather than those of institutions students have previously attended.

3. Eligible to continue your enrollment at the last post-secondary institution attended. Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if there is tangible evidence that additional education can be completed successfully. Tangible evidence might include: (1) an interruption of schooling for one or more years, (2) military experience, (3) work experience, and (4) previous academic performance.

If you have been suspended for any reason other than academic failure, you must be cleared by the Office of Transitional Programs before admission will be granted by the director of admissions.

If you are seeking admission with fewer than twenty-six semester hours, you will be required to meet the admission requirements of a beginning freshman as well as a transfer student.

Transfer students who have completed a minimum of one year of work can be considered for admission one year in advance of their matriculation if they plan to transfer without interruption. If you are enrolled in a collegiate program for the first time and wish to transfer upon completion of your first term or first year, you may do so if you meet the University's admission requirements for beginning freshmen. Admission granted to a student on partial or incomplete records is granted with the condition that the student will have an overall C average and be eligible to continue at the last school attended at the time of matriculation. Students whose final transcripts indicate a grade point average or scholastic standing less than that required for unconditional admission will have their admission and registration withdrawn.

Transfer students will be admitted directly to the college in which their major fields of study are offered if they qualify for that program. Students who are undecided about their major fields of study will be admitted to Pre-Major Advisement or to selected other units with an undecided major.

## TRANSFER CREDIT

Transfer credit for students admitted to the University is evaluated for acceptance toward University and University Core Curriculum requirements by the Office of Admissions and Records after the admission decision has been made. Credit from a regionally accredited institution, and those in candidacy status, or from an institution that has its credit accepted by the reporting institution in the state is evaluated at the time of admission. Courses which are remedial or developmental will not be accepted for transfer. The Office of Admissions and Records will determine the acceptance of credit and its applicability toward University Core Curriculum requirements. All credit which is accepted for transfer and which is not applied to University Core Curriculum requirements or to a specific degree program will be considered elective credit. Transfer courses to be considered toward specific program requirements will be articulated by the department directing the program.

All grades earned in transferable courses and in courses with a quality point value are used to calculate the grade point average used for admission purposes. This in-

cludes all grades earned in repeated courses prior to Summer 1996. After Summer 1996 any course taken and repeated Summer 1996 and after will have only the last repeated course's grade calculated. Both courses must be from the same institution. Transfer work is calculated according to Southern Illinois University at Carbondale regulations.

Completion of an associate degree in a baccalaureate-oriented program in an accredited Illinois two-year institution provides that the student will: (a) be accepted with junior standing and (b) be considered to have completed the University Core Curriculum requirements required for general graduation purposes. Associate degrees earned at other than Illinois two-year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented and to have comparable content and credit hour criteria, the same benefits will be extended to those graduates. Transfer students may also satisfy the requirements of the University Core Curriculum by successful completion of the Illinois Transferable General Education Curriculum. Credit from an accredited two-year institution is limited only by the provision that students must earn at least 60 semester hours of work at Southern Illinois University at Carbondale or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Further information on the application of transfer work toward satisfying University Core Curriculum requirements may be found in Chapter 3.

## ADMISSION OF SPECIAL CATEGORIES OF STUDENTS

Several types of students are given special consideration when seeking admission to the University. These are described below:

### Admission of International Students

In general, international students must meet the same academic standards for admission as those required of native students. As there is considerable variation between educational systems throughout the world, precise comparative standards are not always available. Therefore, international students are considered for admission on the basis of their former academic work, English proficiency, and evidence of adequate financial resources.

In addition to submitting copies of secondary school records and, when applicable, college transcripts, international students must also submit scores from the TOEFL examination (Test of English as a Foreign Language). TOEFL scores are required of all international students who (1) have completed their secondary education in a country where English is not the native language, (2) have completed fewer than two years of study in a United States high school, (3) have completed fewer than two years (56 semester hours) of collegiate training in an accredited United States college or university. Students who have completed their secondary education in a country where English is the native language are required to submit scores from either the American College Test or the Scholastic Aptitude Test.

Students who have acquired immigrant status are also required to demonstrate English proficiency. English proficiency can be demonstrated by successful completion of the TOEFL examination. Immigrants who have completed at least two years of study in a United States high school, have earned 56 semester hours in a United States college or university, or have completed their secondary education in a country in which English is the native language are not required to submit TOEFL scores or write a special English examination. They may, however, be required to submit university entrance examination scores if they are seeking admission as beginning freshmen or transfer students with fewer than twenty-six semester hours.

International students whose secondary school and college records are acceptable for admission purposes must achieve acceptable TOEFL scores for unconditional admission. Students with a TOEFL score of 520 or higher will be granted unconditional admission. Applicants whose TOEFL score is less than 520 will be admitted contingent upon completion of an English test administered by the Center for English as a Second Language. Students who fail to submit TOEFL scores, or who do not submit acceptable TOEFL scores, will be required to attend courses at the Center for English as a Second Language.

An administrative service fee of \$100 per student per semester including summer session will be charged to sponsoring agencies which enroll international students.

International students interested in making application to Southern Illinois University at Carbondale should address their inquiries to the Office of Admissions and Records, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

Southern Illinois University at Carbondale is authorized under Federal law to enroll non-immigrant alien students.

### **Admission of Former Students**

If you have attended another institution since your previous enrollment at Southern Illinois University at Carbondale you must submit an official transcript from that institution before you can be considered for readmission. In addition, a student who has a financial obligation to the University or an immunization hold must clear these holds before being considered for readmission. Students who were suspended for scholastic or disciplinary reasons during their previous enrollment at the University must be approved for readmission by the appropriate academic dean or the Office of Transitional Programs before they can be readmitted to the University. Students with less than a C average must be approved for readmission by an academic dean if they are entering an academic unit other than the one in which they were previously enrolled.

It is advisable for former students to initiate the readmission process with the Office of Admissions and Records early. This permits students to complete any special requirements that may be imposed upon them. (See Scholastic Probation, Second Chance and Scholastic Suspension elsewhere in this catalog for further information.)

#### **SECOND CHANCE PROGRAM – A SPECIAL ADMISSION PROGRAM FOR FORMER STUDENTS**

The Second Chance Program is designed to allow some former Southern Illinois University at Carbondale students who had a poor scholastic performance in their initial enrollment a second opportunity to demonstrate their academic capabilities. The program permits students in selected majors to establish a new grade point average calculated from their first semester of readmission. Not all University departments are participating in the Second Chance Program. Second Chance students will lose their Second Chance standing if they transfer to a program that does not offer Second Chance.

*Program Eligibility Requirements.* Former Southern Illinois University at Carbondale students who meet one of the following qualifications may apply for entrance to the Second Chance Program.

1. Adult reentering students who are at least twenty-four years of age and who previously earned fewer than 60 semester hours at Southern Illinois University at Carbondale with less than a 2.0 grade point average. In addition, applicants who have attended any post secondary institution, college, or university including Southern Illinois University at Carbondale within the immediate three years prior to reentering Southern Illinois University at Carbondale in the Second Chance Program must have earned a 2.0 cumulative grade point average for collegiate work taken during that period.

2. Veterans who have completed at least one year of active military service after having previously earned fewer than 60 semester hours at Southern Illinois University at Carbondale with less than a 2.0 grade point average. Southern Illinois University at Carbondale must be the first institution attended since discharge or separation.

3. Community college graduates who have previously earned less than 60 semester hours from SIUC with a grade point average below 2.0 prior to completing an associate degree from a regionally accredited institution. Southern Illinois University at Carbondale must be the first institution attended since earning the associate degree.

*Program Academic Regulations.*

1. A former Southern Illinois University at Carbondale student must meet the University readmission requirements at the time of readmission before applying for the Second Chance Program.

2. A student can be admitted to Second Chance only once. Students who are suspended for scholastic reasons while enrolled in Second Chance cannot be readmitted to this program.

3. Students readmitted to Southern Illinois University at Carbondale through the Second Chance Program may enter only selected majors. The following programs do not participate in the Second Chance Program and transferring to these programs will result in the loss of your Second Chance status.

Accounting	Finance
Advanced Technical Studies	Fire Science Management
Automotive Technology	Health Care Management
Aviation Flight	Interior Design
Aviation Management	Management
Aviation Technology	Marketing
Business and Administration	Mechanical Engineering
Business Economics	Mining Engineering
Business—Undecided	Physical Education (athletic training and teacher education specializations)
Cinema and Photography	Physician Assistant
Civil Engineering	Radio-Television
Communication Disorders and Sciences	Social Work
Dental Hygiene	Speech Communication
Electrical Engineering	University Studies
Electronics Management	

In addition to the above programs, Teacher Education Programs in the College of Education as well as those majors in other colleges in which a student intends to pursue a Teacher Education Program are not available to students in the Second Chance Program.

3. Students who are readmitted through the Second Chance Program will have Second Chance indicated on their transcripts with an appropriate explanation of the program included in the transcript explanation sheet which is attached to all transcripts.

4. Students who are readmitted through the Second Chance Program must meet the curricular requirements stated in the undergraduate catalog in effect for either the term of their reentry or for subsequent terms after their reentry to Southern Illinois University at Carbondale under the Second Chance Program.

5. A new Southern Illinois University at Carbondale grade point average will be calculated from the first term of readmission through the Second Chance Program.

6. The new Southern Illinois University at Carbondale grade point average will apply only to scholastic retention, financial aid, and the grade point average required for graduation from the University. All grades earned at Southern Illinois University

at Carbondale including all work taken prior to admittance to the Second Chance Program will be used in the calculation of student classification, major program grade point average, collegiate unit requirements, and total semester hours completed.

7. Previously earned work at Southern Illinois University at Carbondale will remain on the student's official record and passing work may be used to satisfy degree requirements.

8. Students who are readmitted through the Second Chance Program may not use the University's forgiveness policy to calculate another grade point average for graduation purposes.

9. To be eligible for graduation, a student readmitted through the Second Chance Program must earn at least 30 additional semester hours at Southern Illinois University at Carbondale.

10. A Second Chance student who changes majors to a program which does not participate in Second Chance will have their previous SIUC grade point average calculated in all future grade point averages.

### **Admission of Veterans**

Veterans seeking admission to the University are admitted in good standing regardless of their previous academic record provided that any additional post-secondary education attempted after active duty has been completed with a grade average of C quality or better. Veterans entering the University are required to have completed the high school course pattern requirements as required for other students.

Prior academic work of an admitted reentering veteran is counted together with all subsequent work after admission. Veterans are required to submit all required admission credentials before their applications can be processed. This includes high school transcripts or GED scores, ACT or SAT results if under the age of 21, and official transcripts from each college or university previously attended. In order to be admitted under the veteran's policy, one must have served on active duty and present a copy of discharge or separation papers to the Office of Admissions and Records.

Military personnel on active duty in any branch of the United States military are expected to meet the same admission requirements as a veteran. Students in military programs are admitted directly into the degree program in which they are enrolling. Military program students whose credentials are not submitted by the end of the second semester will not be allowed to enroll further until all credentials are received.

### **Admission of Students as Unclassified Students**

Adults who have graduated from high school or who have passed the GED tests can be considered for admission as unclassified students. Students in this special category are non-degree students and are not required to submit all records normally required for admission to degree programs.

Non-military personnel whose admission credentials are incomplete are admitted to off-campus courses or degree programs as unclassified students. Unclassified students taking courses in off-campus degree programs have one semester to submit all of their admission records. Future registrations will not be allowed for students who are participating in off-campus degree programs and have incomplete admission records. Students who are taking off-campus courses in which a degree program is not offered may take twenty-six semester hours before they are required to submit all of their academic records. Those students whose records remain incomplete upon completion of twenty-six semester hours will not be allowed to register for any additional courses.

Records submitted by students participating in off-campus courses and degree programs will be reviewed in accordance with current University admission policies. Students who have completed fewer than twelve semester hours at the University and did not meet the current admission requirements will have their academic status changed to scholastic probation.

Students admitted under the Senior Citizen Courses Act may be considered for admission as unclassified non degree students without submitting records required for admission to a degree program. Those seeking admission to a degree program must meet all University admission policies.

### **Admission of High School Students**

Exceptionally capable high school students who have completed their freshman year in high school, are recommended in writing by their high school principal, and are approved for admission by the University director of New Student Admissions will be permitted to enroll in University courses subject to departmental approval. Students approved for admission to this program will be permitted to enroll in University courses during the summer and concurrently with their high school work during the regular school year. Sophomores and juniors may register for one course and seniors may enroll for one and possibly two courses depending on their high school schedules.

The concurrent enrollment program is an acceleration and enrichment experience for academically capable students. To participate in the program, students must have achieved an overall *B* average (3.0 on a 4.0 scale) in high school.

The University courses to be taken in this program should be in subject areas in which a high school does not offer courses or in subject areas in which the student has completed all of the courses the high school can offer. When a high school principal recommends a specific course or courses to be taken, an academic adviser will assist the student in arranging such a schedule.

It is assumed that high school principals who recommend students for this program will consider a student's aptitude for completing college work and a student's ability to adjust socially to the campus community.

High school course subject requirements will be imposed on concurrently enrolled students at the time of high school graduation.

### **Admission of Transient Students**

Students who are attending other collegiate institutions and want to enroll for one semester must submit an undergraduate admission application. They must submit also documentation indicating they have an overall *C* average and are eligible to continue their enrollment at the last institution attended. This can be a student's most recent transcript or grade report. Transient students who request to continue their enrollment for subsequent semesters must submit all documents required for admission and meet the University's current admission policies.

## **Advisement, Registration, Withdrawal**

Through a carefully designed system of orientation, academic advisement and registration, the University attempts to assure you an efficient and effective introduction to the University prior to the time you start class attendance. A more extensive program is provided for those students entering during the fall semester while abbreviated activities are in operation for the other semesters.

The University conducts an advance registration system. All continuing and new students have the opportunity and are expected to complete advisement and registration for a semester before its actual start.

Starting in February and extending through July, the University notifies new students admitted for the fall semester when they are to come to the campus for advisement and registration. Through this process only the number of students that can be efficiently handled are involved each day. Students who cannot come to the campus during the summer or who delay applying for admission beyond the advance registration period may register at the start of the fall semester but are required to come to campus a few days before those who have registered during the summer period.

At the start of the fall semester new students participate in orientation activities during which time they receive introduction to university life.

Similar procedures are followed at the start of the other semesters. Admitted students are kept informed of orientation, advisement, registration procedures, and the times when they occur by the Office of Admissions and Records in cooperation with Student Affairs.

### **Academic Advisement**

Academic advisement is administered by the academic units. Each unit employs a selected group of trained advisers. They operate under the supervision of a chief adviser who is responsible to the dean of the academic unit. Students who have not yet declared a major are advised in the Pre-Major Advisement Center.

The University accepts the importance of the academic advisement function. Insistence on receipt of transcripts and ACT scores prior to admission serves not only to determine admission but later provides suitable educational information to the advisers upon which decisions can be made relative to the proper courses to advise the student to take. On the basis of this information the advisers can make intelligent decisions, relative to students who should receive advanced standing in courses or who should be urged to take proficiency examinations in courses about which they appear to be already well informed.

The advising of individual students as to their progress is a service provided to you. It does not relieve you, the student, of the responsibility to assure that you are meeting the requirements you need for graduation. You should check with your adviser whenever you have a question as to how you are proceeding.

### **Changing Majors**

If you wish to change your major you must receive approval from the new department and college. A minimum of a C average is required to transfer, some colleges and departments require higher grade point averages. To ascertain the grade point average required for the department you wish to enter, check Chapter 4. Students with less than a C (2.0) grade point average who desire to change from one department or college to another will be admitted to the new academic unit only if approved by the dean of that unit. To initiate the change, go to the academic unit where you are seeking admission.

### **Registration for Courses**

Registration for any session of the University is contingent upon being eligible for registration. Thus advance registrations, including the payment of tuition and fees, are considered to be invalid if you are later declared to be ineligible to register due to scholastic reasons. You may also be considered ineligible to register because of financial or disciplinary reasons.

Detailed information about the dates and procedures for advisement and registration appears in each semester's Schedule of Classes, which is available from your advisement center.

You should be familiar with the following general points about registration.

1. Registration for a semester is conducted under a registration calendar consisting of three distinct periods. Advance registration occurs during the last eight weeks of the preceding term, final registration immediately preceding the start of classes and late registration during the first week of classes.
2. Currently enrolled students are expected to register during the advance registration period. New freshmen, transfer, and re-entry students are provided an opportunity to advance register on specific new student registration days during the advance registration periods.
3. Students who are unable to advance register may register prior to the beginning of classes during the final registration period.
4. Students register at the advisement center of their colleges, schools or departments.
5. Mere attendance does not constitute registration in a class, nor will attendance in a class for which a student is not registered be a basis for asking that a program change be approved permitting registration in that class. Students should complete the registration process before classes begin.
6. Enrollment changes to classes can only be made through the processing of an official registration form. After the second week of the semester, this form must be processed by the Office of Admissions and Records.
8. Tuition and fees are payable in advance or by installments and no student shall be enrolled in any educational unit until at least the first installment of tuition and fees has been paid or officially deferred.
9. Students may not drop a course merely by stopping attendance. (See Withdrawal below.)

## Attendance

The faculty of Southern Illinois University at Carbondale affirm the importance of prompt and regular attendance on the part of all undergraduate students. Quality instruction clearly depends upon active student participation in the classroom or its equivalent learning environment. In the transition from high school to the university and from the university to the workplace, personal success is directly related to good attendance.

As a caring public institution, SIUC has the obligation to encourage its primary constituents, the students, to meet their responsibilities first of all to themselves, but also to their families, their classmates, their instructors and the taxpayers and donors who underwrite higher education in the state of Illinois.

For these reasons the SIUC faculty remind undergraduates and their instructor that the first day of class is just as valuable as the last day of class; that work and other extracurricular commitments do not necessarily justify an absence; that holidays begin and end precisely as stated in the University calendar; that instructors should be notified three days prior to religious observances; that major examinations, term papers, and/or assigned projects for one class do not exempt students from their need to attend another; and finally, that some financial assistance at the university is actually contingent upon attendance.

These guidelines express the faculty's collective concern for undergraduates and for one important feature of their education here at SIUC.

## Student Identification Numbers

The university student identification number may be the individual student's Social Security number. Students who do not have a Social Security number will be issued a system generated number. Students not wanting their Social Security number used as their university identification number may also request a system generated number.

Withdrawal

If you officially register for a session you may not withdraw merely by the stopping of attendance. You need to process an official withdrawal form. Outlined below are the procedures to be followed when dropping courses and when dropping from the University (which would be withdrawal from all courses for which registered).

DEADLINE DATES

If Classes Meet for	Deadline for Withdrawal to Receive Full Refund	Deadline to Withdraw
13-16 weeks	2nd week	8th week
9-12 weeks	2nd week	6th week
8 weeks	2nd week	4th week
7 weeks	1st week	4th week
4-6 weeks	1st week	3rd week
2-3 weeks	1st day	1st week
Less than 2 weeks	1st day	2nd day
Off-Campus and Individualized Learning Courses	2nd week	8th week

*Course Drops.* Students officially drop courses through the program change process. This process is done with the academic adviser. Unless a student has processed an authorized drop from a course by the deadline in the schedule above, the student will not be allowed to drop the course. It is the student's responsibility to ensure that the drop process is officially completed. It is probable that a student who does not drop by the deadlines, but stops attending during the second half of the semester, will receive a grade of F. Students who drop courses after the full refund deadline but remain enrolled in the University will not receive any refund.

*Withdrawal From the University.* Students registered for academic work must obtain a withdrawal if they contemplate leaving the University. If the student has not made any tuition and fees payment, the registration may be canceled. If the student has paid or made partial payment for tuition and fees, a withdrawal must be processed. If a housing contract has been purchased, the student must contact University Housing to cancel the contract.

Withdrawal from the University is a serious decision which, in many cases, affects financial assistance status, housing contracts, and academic records. A student may, with authorization from the Office of Transitional Programs and the academic dean, obtain a withdrawal. There are, however, restrictions on a withdrawal. A withdrawal will not be issued beyond the eighth week of the semester unless the reasons for the withdrawal are beyond the student's control and verified in writing. Warning: if a student obtains a withdrawal after week two and is receiving financial assistance, the student may be in violation of the Satisfactory Progress for Financial Assistance policy since no academic credit will be earned for the semester. The table above provides the deadline dates for withdrawal.

Students receiving a withdrawal within the first two weeks will, under normal circumstances, receive a refund of all tuition and fees paid by the student or family. All financial assistance funds will be returned to their original sources if the student withdraws during the first two weeks.

Students who withdraw after the full refund deadline will receive an account credit equal to a pro-rata refund of tuition and fees through sixty percent of the duration of the enrollment period. An administrative fee will be assessed to all students who withdraw from the University and receive a pro-rata refund. The amount of the fee will be lesser of five percent of all assessed charges, or \$100. See the following Pro-Rata Refund Schedule for Withdrawals from the University.

PRO-RATA REFUND SCHEDULE FOR WITHDRAWALS FROM THE UNIVERSITY

Enrollment Period	LENGTH OF COURSES IN WEEKS											
	16	15	14	13	12	11	10	9	8	7	6	5
Week 1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Week 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	70%	70%	60%
Week 3	80%	80%	80%	80%	70%	70%	70%	70%	60%	60%	50%	40%
Week 4	70%	70%	70%	70%	70%	60%	60%	60%	50%	40%	40%	0%
Week 5	60%	60%	60%	60%	60%	50%	50%	40%	40%	0%	0%	0%
Week 6	60%	60%	50%	50%	50%	40%	40%	0%	0%	0%	0%	
Week 7	50%	50%	50%	40%	40%	40%	0%	0%	0%			
Week 8	50%	40%	40%	40%	0%	0%	0%					
Week 9	40%	40%	0%	0%	0%	0%						
Week 10	40%	0%	0%	0%								
Week 11+	0%	0%										

Enrollment Period		LENGTH OF COURSES IN WEEKS			
		4	3	2	1
Day 1	Week 1	100%	100%	100%	100%
Day 2		100%	90%	80%	60%
Day 3		100%	80%	70%	40%
Day 4		100%	70%	60%	0%
Day 5		100%	60%	50%	0%
Day 6	Week 2	70%	60%	40%	
Day 7		60%	50%	0%	
Day 8		60%	40%	0%	
Day 9		50%	40%	0%	
Day 10		50%	0%		
Day 11	Week 3	40%	0%		
Day 12		40%	0%		
Day 13		0%			
Day 14		0%			
Day 15		0%			
After Day 15		0%			

Students who officially withdraw from school by the specific withdrawal deadline will receive a credit to their University account. Immediate cash refunds are not given for withdrawal from the University, reduction in credit-hour loads, or overpayment of account. Refunds are processed by the Bursar at least once a week (twice a week during the week before the start of a semester and the first week of a semester) from an automated listing reflecting those accounts with a credit balance. No refunding of tuition and fees is made for a withdrawal occurring after the deadlines, except as described in the section titled Tuition and Fee Refund Policy and Procedures below.

Special consideration is extended to individuals who leave school for extended military service (6 months or longer). If students withdraw during the sixth through tenth weeks of school, they will receive one-half credit without letter grades for the courses in which they were receiving a passing grade at the time of withdrawal. When the withdrawal occurs after the tenth week, students will receive both grades and credit hours for the courses in which they are passing. In all instances, a copy of the military orders or a letter from the commanding officer is required for verification of impending military service. To be eligible for these benefits students must remain in school to within ten days of their military reporting date.

Withdrawal from the University does not relieve the student from housing contract obligations. Each student must contact University Housing and resolve the contract issue with that office.

All students seeking a withdrawal must contact the Office of Transitional Programs in person or by mail. The withdrawal, if granted, will be dated at the time of the initial contact with that office, provided the student completes the requirements for the withdrawal. Incomplete applications for withdrawal will be denied. Any student who fails to comply with the withdrawal procedures will receive grades for the semester and must satisfy the financial obligations for the semester.

Tuition and Fees and Other Financial Information

It is difficult to indicate the specific cost of attending the University because of the differences in personal spending habits. However, the following information may be helpful.

Tuition and Fees

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis. Students will be assessed the following tuition and fees for Fall 1997 and Spring 1998:

ON-CAMPUS UNDERGRADUATE TUITION AND FEE SCHEDULES

Semester Hours Enrolled	Illinois Residents			Non-Illinois Residents		
	Tuition	Student Fees	Total	Tuition	Student Fees	Total
1	\$ 90.00	\$257.49	\$ 347.49	\$ 270.00	\$257.49	\$ 527.49
2	180.00	280.23	460.23	540.00	280.23	820.23
3	270.00	302.97	572.97	810.00	302.97	1,112.97
4	360.00	325.71	685.71	1,080.00	325.71	1,405.71
5	450.00	348.45	798.45	1,350.00	348.45	1,698.45
6	540.00	371.19	911.19	1,620.00	371.19	1,991.19
7	630.00	393.93	1,023.93	1,890.00	393.93	2,283.93
8	720.00	416.67	1,136.67	2,160.00	416.67	2,576.67
9	810.00	439.41	1,249.41	2,430.00	439.41	2,869.41
10	900.00	462.15	1,362.15	2,700.00	462.15	3,162.15
11	990.00	484.89	1,474.89	2,970.00	484.89	3,454.89
12	1,080.00	507.90	1,587.90	3,240.00	507.90	3,747.90
13	1,170.00	507.90	1,677.90	3,510.00	507.90	4,017.90
14	1,260.00	507.90	1,767.90	3,780.00	507.90	4,287.90
15+	1,350.00	507.90	1,857.90	4,050.00	507.90	4,557.90

STUDENT FEE DISTRIBUTION

Sem. Hours Enrolled	STS Grant (1)	Student Attorney (2)	Student Center (3)	Student Activity (4)	Student Rec (5)	Athletic Fund (6)	Campus Rec (7)	Student Medical (8)	Revenue Bond (9)	Mass Transit (10)
1	\$3.00	3.75	4.00	\$ 1.56	\$ 5.16	\$ 4.83	\$0.16	\$228.00	\$ 4.95	\$ 2.08
2	3.00	3.75	8.00	3.12	10.32	9.66	0.32	228.00	9.90	4.16
3	3.00	3.75	12.00	4.68	15.48	14.49	0.48	228.00	14.85	6.24
4	3.00	3.75	16.00	6.24	20.64	19.32	0.64	228.00	19.80	8.32
5	3.00	3.75	20.00	7.80	25.80	24.15	0.80	228.00	24.75	10.40
6	3.00	3.75	24.00	9.36	30.96	28.98	0.96	228.00	29.70	12.48
7	3.00	3.75	28.00	10.92	36.12	33.81	1.12	228.00	34.65	14.56
8	3.00	3.75	32.00	12.48	41.28	38.64	1.28	228.00	39.60	16.64
9	3.00	3.75	36.00	14.04	46.44	43.47	1.44	228.00	44.55	18.72
10	3.00	3.75	40.00	15.60	51.60	48.30	1.60	228.00	49.50	20.80
11	3.00	3.75	44.00	17.16	56.76	53.13	1.76	228.00	54.45	22.88
12+	3.00	3.75	48.00	18.75	62.00	58.00	2.00	228.00	59.40	25.00

The fees which have been established by the Board of Trustees are payable by all students unless they are specifically exempted by the Board of Trustees. All fees are considered to be institutional in nature and require payment regardless of whether or not the student receives direct benefits or is in a location which permits access to such benefits.

#### STUDENT FEES INCLUDE

1. The Student-to-Student (STS) Grant Program Fee funds a student grant program. The fee is payable by undergraduate students only; those who do not wish to participate in the program may seek a refund of the fee by contacting Admissions and Records within ten days of the date of payment of fees.
2. The Student's Attorney Fee supports the budget of the Students' Attorney Program
3. The Student Center Fee provides funding for operation of the Student Center.
4. The Student Activity Fee funds student organizations and activities on campus; it includes \$1.15 in funding for Campus Safety and \$4 in support of Rainbow's End.
5. The Student Recreation Fee (REC) provides funds for operation of the Student Recreation Center and associated programs.
6. The Athletic Fund Fee partially funds the University's intercollegiate programs for men and women.
7. The Campus Recreation Fee funds recreational facilities and programs external to the Student Recreation Center.
8. The Student Medical Benefit Fee is comprised of the SMB: Primary Care Fee of \$84.00 and the SMB: Extended Care Fee of \$134.00. It funds the comprehensive Student Health Program that includes emergency service and hospitalization; specialty, primary and emergency dental care; and prevention programs. Students who pay these fees are entitled to full medical benefits at the Student Health Programs Clinic. If the student feels they have comparable coverage, they may seek a refund of the SMB: Extended Care Fee within the first two weeks of a fall spring semester or a summer session by contacting the Student Health Programs Insurance Department.
9. The Revenue Bond Fee (RBF) replaces funds which were previously obtained from tuition payments and used to underwrite the funded debt operations of the Student Center and University Housing.
10. The Mass Transit Fee provides funding for bus transportation to on-campus and certain Carbondale locations.

#### ADDITIONAL FEE INFORMATION

1. Students who register for regular term-length classes, after classes begin and students who register for shorter-than-term-length classes, including inter-session classes after the first listed meeting day of the class, will be assessed a Late Registration Fee of \$15. The fee is non-refundable and non-waiverable unless it is clearly shown that the late registration was caused by faculty or administrative action. Off-campus classes and registration in courses 599 , 600, 601 and 699 are exempt from this fee
2. Graduate, medical, and law students are not required to pay the student-to-student grant program fee.
3. Permanent full-time or permanent part-time employees may be eligible for tuition and fee credit. Employees must have approval from their department head and the director of Human Resources before enrolling for courses.
4. Students taking off-campus courses (Section number range 800-899) are required to pay tuition, but do not pay student fees for those classes.
5. Students may also incur charges for departmental field trips, library fines and excess breakage. Students taking a course involving use of materials, as distinct from equipment, will ordinarily pay for such materials.

6. Students enrolling in Public Service Courses pay tuition and \$3 per hour divided equally between Student Center and Medical fees. Students enrolling in a combination of public service courses and other courses pay tuition and fees based on the on-campus tuition and fee schedule for the combined total of hours enrolled.

7. Medical students at Springfield do not pay the Student Center Fee, Student REC Fee, Revenue Bond Fee, Students' Attorney Fee, or Athletic Fund Fee.

8. Students enrolling in off-campus courses pay tuition only. Students who combine enrollment in on- and off-campus courses pay tuition only for hours off-campus and tuition and fees for hours enrolled on campus.

9. Graduate students registering for Continuing Enrollment, course 601, pay only tuition and the Student Center Fee for credit associated with that course registration.

10. Graduate students who reside in the Kentucky counties of Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall, Trigg and Union will be assessed tuition at the Illinois Resident rate.

11. Graduate students who are residents of Missouri, and who enroll in up to 6 semester hours in a semester, will be assessed tuition at the Illinois Resident rate. Those who register for more than 6 semester hours in a semester will be assessed the non-resident rate for all hours enrolled.

12. Tuition and program delivery charges for students enrolled in off-campus programs for the military are established in accordance with the Board of Trustee's policies relating to such charges for Southern Illinois University at Carbondale cost recovery programs and are not affected by the residency status of the student.

13. For the purpose of tuition assessment, all faculty, staff (including Civil Service employees), and graduate assistants, as well as their spouses and dependent children, shall be considered as resident students.

14. An identification card fee of \$10 will be charged to all first-time SIUC students who register for on-campus credit. This is a one-time charge. For additional information contact the Student Center ID Card office.

15. Senior Citizen Courses Act. Senior citizen as defined under the Act means a person 65 years of age or older whose annual household income is less than \$14,000. The statute requires the University to waive the tuition for such citizens unless classroom space is not available or if tuition paying students enrolled do not constitute the minimum number required for the course. Even where tuition must be waived, other fees may be charged.

16. In addition to the above fees, there is a graduation fee and a transcript fee. For further information contact the Office of Admissions and Records.

#### PAYMENT OF TUITION AND FEES

Tuition and fees are payable each semester during the academic year. Students will receive monthly statements of account through the University billing/receivable system. The statement lists all tuition and fees assessed, charges for University housing, charges for various other services, credits applied to the student's account from financial aid sources and cash payments. It shows the balance of these charges and credits as an amount owed by the student or an amount owed to the student. The statement also will show amounts which have been previously billed, amounts which are currently due during the billing period, and amounts which will be due in the future. Payment may be made either by mail or in person at the Bursar Office by the deadline date in accordance with instructions printed on the statement of account.

The top portion of the statement should accompany the payment. The bottom portion of the statement should be retained by students for their records. Prepayments of tuition and fees prior to detailed charges are not encouraged; however, early pay-

ments will be generally credited to the student's account and will be applied to charges made to that account.

The statements will be mailed to the student's billing, or if not one, the local address after the fifteenth of each month. December statements of account are mailed to the student's billing address, or if not one, the student's permanent address.

It is the student's responsibility to maintain an accurate local address or billing address to which a statement of account can be mailed. Failure to receive a bill does not relieve students of the responsibility for prompt payment of amounts due. See additional information under the heading Local, Permanent, and Billing Addresses below.

No student shall be enrolled until the student has either paid tuition and fees in full or has paid the initial installment or has a current cancellation waiver. Other amounts due from students at the time the initial installment payment of tuition/fees is due must also be paid or students will not be allowed to enroll. Students who fail to pay the first installment and all other past due charges or who fail to obtain a waiver of cancellation may have their registrations canceled and will be denied privileges available to a student regularly enrolled in the University. Students with canceled registrations who want to be enrolled at the University must reregister. They will be subject to payment in full or the installment plan in effect at the time of their re-registration. They may also be subject to a late registration fee.

A service charge of one and one-half percent per month will be assessed on all accounts which are delinquent. To avoid the service charge, students must pay the minimum amount due printed on the statement prior to the next billing date. More detailed information is in the *Schedule of Classes* published each semester.

Following the end of each semester, students not registered for the next semester who have delinquent account balances will receive a series of itemized statements requesting payment. If payments, or arrangements, are not made on a timely basis, the account may be placed with a collection agency with a collection fee added to the account. Should it be necessary for an outside agency to effect a collection, reasonable collection costs shall be 33 1/3% of such amount and shall be paid by the debtor. If the University obtains judgment from a court of competent jurisdiction, the debtor shall be liable for the collection agency fee as well as reasonable court costs and attorney's fees.

Students who process a program change which places them in a different tuition and fee category than the one for which they originally registered will be billed additional tuition and fees when appropriate. If the change places them in a smaller tuition and fee category and if they processed the program change within the necessary time frame, they will receive a refund provided their account carries no other charges.

*Installment Payment Plans.* There are several installment payment plans and eligibility will depend on where students attend class and when they register. The University reserves the right to alter the payment plans offered and in some plans to require prepayment of part or of all a student's charges prior to registration. The basic criterion for eligibility in installment payments is that the student must be attending classes on the Carbondale campus or School of Medicine classes in Springfield. Payment plans for students attending classes on the Carbondale campus or School of Medicine classes allow tuition and fees to be paid in up to four installments for fall or spring semesters and up to two installments for summer term, depending on when students process their registrations. Students who opt for the installment payment need only to pay the minimum amount due indicated on the May, July, or December statement of account by the stated deadline. There is no installment payment plan for students who only attend classes off-campus. A one and one-half percent service charge will be assessed on all minimum amounts not paid prior to the next billing. Students in military contractual programs are not subject to a service charge.

## DEFERMENT OF TUITION AND FEES

When a student's financial aid has been delayed, or the funds which a student anticipates using to pay tuition and fees are unavailable by the regular due date for tuition and fee payment, the student may apply for an extension of the payment deadline date through a process called waiver of cancellation. Cancellation waivers are available to students who can demonstrate that they meet minimal eligibility criteria and can provide written verification of an ability to pay. Information on cancellation waivers is publicized each semester in the Office of Admissions and Records, the Bursar Office, the Financial Aid Office, and the *Daily Egyptian*. Eligibility criteria and procedural guidelines may vary from term to term and year to year. Students are advised to seek out the accurate information rather than assume they qualify.

Students applying for a cancellation waiver must first complete registration. Written verification from the source of funds to be used to pay tuition and fees must be presented in person to the Financial Aid Office for those students with approved scholarships, grants, or loans, or any combination of these. Instances of exceptional need will be referred to a financial aid officer when the source of funds is other than those identified above. Additional information on cancellation waivers is available in the Financial Aid Office. Phone or mail requests for deferments will not be accepted.

## TUITION AND FEE REFUND POLICY AND PROCEDURES

Tuition and all general student fees shall be refunded to students who officially withdraw from the University by the withdrawal deadlines (see Deadline Dates above). Action on any request for refund of tuition and fees shall be in compliance with Board of Trustees policy and these procedures. For refund of tuition and fees prior to the withdrawal deadlines, the following will apply.

Request for a withdrawal from the University is initiated in the Office of Transitional Programs and approved by the student's academic dean as part of the normal withdrawal procedures.

Refund of tuition and fees based on withdrawal from the University on or prior to the withdrawal deadlines is made without consideration of the student's reason for withdrawing.

No tuition or general student fees shall be refunded in cases where withdrawal occurs after the deadlines stated in Board of Trustees policy, except for students in grave circumstances who demonstrate that, for reasons beyond their control, they are utterly unable to continue their educational programs. Refunds of tuition and general student fees approved in such cases are made at the University's discretion upon a determination by the chancellor or his designee of the existence of one of the following conditions.

Accident or illness occurring prior to the withdrawal deadline which incapacitated the student and made it impossible for them to withdraw prior to the deadline.

Accident or illness in the student's immediate family which occurs prior to the withdrawal deadline and is of such nature as to prevent the student from continuing their education.

Emotional or psychological trauma resulting from an incident which occurred prior to the deadline and for which the student is undergoing counseling or therapy.

A disciplinary, academic, or financial aid termination appeal which is not accepted if the appeal was initiated prior to the withdrawal deadline.

Induction into military service for a period not less than six months.

Students in military service with the State of Illinois pursuant to the orders of the Governor have the right to receive a full monetary credit or refund for funds paid to any Illinois public university, college or community college if the person is placed into a period of military service with the State of Illinois pursuant to the orders of the Governor and is unable to attend the university or college for a period of seven or

more days. Students may elect to receive course credit for all of their courses rather than a refund.

The refund of tuition and fees in cases where withdrawal from the University occurs after the deadlines specified in the Board of Trustees refund policy is governed by the following procedures.

The vice chancellor for Student Affairs or his designee will serve as the chancellor's representative for considering requests for refund of tuition and fees after the time period specified in the refund policy.

Request for such refunds are initiated in the Office of Transitional Programs which will furnish the student with the necessary information and appropriate form.

A student requesting a refund after the specified periods must withdraw from the University before the request for refund will be acted upon.

Tuition and fees will not be refunded for courses which have already been completed earlier in the semester and for which a final grade has been earned.

The student must submit written verification of the reasons supporting the request, i.e., (a) written verification from a physician as to the accident or illness to the student or in the student's immediate family and the student's inability to withdraw prior to the deadline; or (b) written verification from a physician or counselor which supports their statement concerning emotional or psychological trauma and which substantiates that the trauma resulted from an incident which occurred prior to the deadline; or (c) a copy of the letter denying a disciplinary, academic or financial aid termination appeal and verification that the appeal was filed prior to the withdrawal deadline; or (d) written correspondence from the military which verifies when the student is to report for military service and the length of time for which the student is expected to serve.

The student requesting the refund shall be required to substantiate to the Office of Transitional Program's satisfaction the nature, extent, and seriousness of conditions or circumstances which are the basis for the refund request.

The Office of Transitional Programs will make a decision on the request and inform the student as soon as practical. Refund approvals will then be forwarded to the Office of Admissions and Records for processing.

### **Local, Permanent and Billing Addresses**

The University maintains both a local and a permanent address for students and a billing address for students who request a specific address for their statements. Accurate addresses are very important for students to ensure receipt of timely mail from the University.

The *billing address* is used only by the Bursar to mail the statement of account. If no billing address exists, the local address is used as the address for the Statement of Account in the months of January through November. In the absence of a billing address, the Statement of Account is mailed to your permanent address in the month of December only.

The *permanent address* maintained by the University is your permanent home address or the address at which you will promptly receive mail when you are absent from Carbondale.

The *local address* is your primary residence while classes are in session. It is used by the University to direct correspondence during the semester. In the months of January through November this address is used to mail your Statement of Account if no billing address exists.

# Grading and Scholastic Regulations

## Grading System Explanation

The grades of *A*, *B*, *C*, *D*, and *F*, are included in determining student grade point averages.

An *INC* is assigned when, for reasons beyond their control, students *engaged in passing work* are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor but not to exceed one year from the close of the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, not to exceed one year, or graduation, whichever occurs first, the incomplete will be converted to a grade of *F* and the grade will be computed in the student's grade point average. Students should not reregister for courses in which an *INC* has been assigned with the intent of changing the *INC* grade. Re-registration will not prevent the *INC* from being changed to an *F*.

### GRADING SYSTEM

GRADE SYMBOL	DEFINITION	GRADE POINTS PER HOUR
A	Excellent .....	4
B	Good .....	3
C	Satisfactory .....	2
D	Poor .....	1
F	Failure .....	0
P	Pass. Used only in Pass/Fail system. See Grading System Explanation below.	
PR	Work in Progress. See Grading System Explanation below.	
W	Authorized withdrawal. See Grading System Explanation below.	
INC	Incomplete. See Grading System Explanation below.	
AU	Audit. No grade or credit earned. See Grading System Explanation below.	

For *mandatory* Pass/Fail courses, the grades of *P*, when the student's work is satisfactory, or *F*, when the student's work is unsatisfactory, may be recorded. For a *P*, the hours apply toward graduation but the grade does not affect the grade point average. For an *F*, the hours do not apply toward graduation but the grade does count in the grade point average. If a student receives an *INC* in a Pass/Fail course, the same regulations apply for completion of the work as apply for all other grades of *INC*, as explained above.

Students enrolling for an *Audit* must designate their intent to enroll on an *Audit* basis at the time of registration or prior to the end of the third week of a sixteen-week semester and prior to the end of the second week of an eight-week summer session. An equivalent prorated amount of time would be allowed for courses of shorter duration. Students registering for short courses must register for *Audit* prior to the beginning of those classes. Students registering for a course on an *Audit* basis receive no credit. Auditors' Course Request Forms must be marked accordingly, and they pay the same fees as though they were registering for credit. They are expected to attend regularly and to determine from the instructor the amount of work expected of them. If auditing students do not attend regularly, the instructor may determine that the student should not have a satisfactory (*AU*) audit grade. If the audited class is unsatisfactory, the grade will appear as *UAU*.

*PR* is an authorized grade for specifically approved undergraduate courses. For example, it is used for the required University Core Curriculum English 101 which is a course that has been designated as one in which students must receive a grade of *C* or better. The grade is given only to students who regularly attend class and attempt to complete the required work. The grade is to be used only once per student for any

given course. The course provides additional instruction for those students not making adequate progress. Students who receive a *PR* grade must reregister for the course within a time period not to exceed a year from the end of the semester in which the course is taken. The grade earned in the course for which the student re-registers will be included in the grade point average. Failure to complete the course within the year will result in the *PR* automatically becoming an *F*. The *F* will be included in grade point computation.

#### PASS/FAIL GRADING SYSTEM

Certain courses which, in the judgment of the department or program, have been determined to be inappropriate for the traditional grading system are designated as Mandatory Pass/Fail. Courses which carry this designation include the words, Mandatory Pass/Fail, at the end of the course descriptions in Chapter 6. For courses taken on a Mandatory Pass/Fail basis, completed grades will be either a *P* or an *F*. The grade of *P* is not included in the grade point average but the hours earned apply toward graduation. The grade of *F* is computed in the grade point average as a failure but no hours of credit are earned. If a student receives an *INC* in a Mandatory Pass/Fail course, the same regulations apply for completion of the work as apply for all other grades of *INC*, as explained in the Grading System Explanation above.

In addition to the Mandatory Pass/Fail courses, an Elective Pass/Fail grading policy was in effect through the end of Spring Semester, 1987. The regulations concerning the discontinued policy appear in the 1986-1987 Undergraduate Bulletin.

#### CHANGING OF GRADES

Grades given at the end of a course are final and may not be changed by additional work or submitting additional materials. When work is completed for a course in which an *INC* grade has been given, instructors notify the Office of Admissions and Records of that fact, along with the final grade to be given, by processing a Grade Change Card through the academic dean's office.

Occasionally, students may wish to question grades given, either for accuracy or for removal of grades in situations when they were unable to perform some required step for reasons beyond their control. Only the assigned instructor for a course has the authority to change a grade except in the instance when the instructor is no longer employed by the University. Extenuating circumstances which transcend faculty judgment of the instructor may be appealed through procedures established by the instructor's school or college. Matters related to faculty judgment in grading may not be appealed. Any change of grade must be approved and signed not only by the instructor but also by the departmental chair and the dean of the academic unit. An incomplete grade which is changed to a final grade need only be signed by the instructor.

#### Scholastic Standing

The matter of scholastic standing is quite often of importance to students both while in school and later when they present a transcript of their educational record in support of their application for employment or additional schooling.

At the end of each semester or session of attendance a grade report is prepared for each student showing, in addition to the grades earned that semester or session, the scholastic standing and the grade point average for that semester or session and for the overall record at Southern Illinois University at Carbondale. It is important that you understand the University's system for computing grade point averages and the various grade point average requirements.

Transferred grades are not to be used in determining students' calculated grade point averages, except that transfer students who are admitted on probationary

status will be required to earn a 2.0 average semester by semester until a total of 12 semester hours has been earned before they can be removed from probation.

The significance of the above should be clearly understood by transfer students when studying the general baccalaureate degree requirements. A 2.0 (C) average is required for the work taken at this University.

In computing students' grade point averages all grades of A, B, C, D, and F are included in determining the number of *quality* hours. Each hour of these grades (1 hour of A is worth 4 quality points) is given its numerical quality points, and the total number of quality hours is then divided into the total number of quality points to determine the student's grade point average.

All earned grades carrying quality point values are considered when computing students' grade point averages, including each earned grade in a repeated course that is taken prior to Summer 1996. Effective with courses taken Summer 1996 and beyond, only the last grade of the subsequently repeated course will count in the grade point average.

### Scholastic Probation and Suspension System

Students are expected to make satisfactory progress toward a degree, certificate or other approved objective. To ensure that students are making progress their records are checked against the regulations below.

#### SCHOLASTIC PROBATION

When a student's semester average and the cumulative University average fall below a C average (2.0), the student will be placed on scholastic probation. A student on scholastic probation may continue enrollment at the University provided the student does not accumulate more than six negative points. See Positive and Negative Grade Points below for an explanation of how positive and negative points are calculated. The student with more than six negative points will not be suspended so long as the term average is C (2.0) or above. A student will remain in the category of scholastic probation until the cumulative University average is C (2.0) or higher.

While on scholastic probation students may not enroll for more than 14 hours per semester unless approved to do so by the dean of their academic unit. Students employed full time may not register for more than eight hours without approval of the head of their academic unit. Other limitations may be established by the academic unit within which the students are enrolled. Students enrolled in programs for the military or students enrolled in programs with a weekend or evening format are not restricted to the eight hour limit while on probation.

#### TRANSFER STUDENTS ADMITTED ON PROBATION

Transfer students admitted on scholastic probation will remain in that status until they have earned at least a C average at Southern Illinois University at Carbondale. If they earn below a C for any session while on scholastic probation, they will be placed on scholastic suspension.

#### SCHOLASTIC SUSPENSION

Students will be scholastically suspended from the University if they fail to meet the requirements of their conditional or probational status. Students placed on Scholastic Suspension may seek reinstatement after a minimum of two semesters' interruption but must furnish tangible evidence that additional education can be successfully undertaken. Some academic units have scholastic requirements in addition to the overall University requirements listed here. Students must learn and comply with the University requirements as well as those requirements applying to individual schools and colleges.

## POSITIVE AND NEGATIVE QUALITY POINTS

Positive and negative quality points are assigned to grades above or below a C. There are two methods to figure points depending upon the information which is available.

*Grade Slip.* The grade slip printed at the end of each semester lists the hours used in calculating the average and the quality points earned. Since C has a value of two quality points on a 4 point scale, quality points equaling a C average are exactly twice the number of quality hours. All quality points over that amount are positive quality points. All quality points under the amount are negative quality points.

For example:

$$\begin{array}{rclclcl} \text{Quality Hours} & & \text{Quality Points} & & \text{Grade Point Average} \\ 60 & = & 120 & = & (C) 2.0 \end{array}$$

Twice the quality hours equals 120 quality points. This is a C (2.0) average. A student with 60 quality hours and only 115 quality points would have five negative points (1.92 average). A student with 30 quality hours and 55 quality points would have five negative points (1.83) average.

*Grades and Hours of Credit Available.* Whenever all grades and hours of credit are known and quality points have not been assigned as on the grade slip, a simple method is to assign positive and negative points as follows:

A	=	2 positive points per hour
B	=	1 positive point per hour
C	=	0
D	=	1 negative point per hour
F	=	2 negative points per hour

For example:

3 hours of A	X	2 positive points	= 6 positive points
3 hours of B	X	1 positive point	= 3 positive points
3 hours of C	X	0 points	= 0.
2 hours of D	X	1 negative point	= 2 negative points
4 hours of F	X	2 negative points	= 8 negative points

The ten negative points are balanced by only nine positive points so the sample has one negative point.

Negative points are also used to easily determine exactly what grades must be earned to raise the average to C. For example, a student with eight negative points could raise the average to C by earning four hours of A grade or eight hours of B grade, assuming all other grades earned are at least C.

## Class Standing

The University requires students to earn at least 120 semester hours of acceptable credit in order to receive a baccalaureate degree. For academic classification purposes a freshman is a student who has completed fewer than 26 hours; a sophomore, from 26 through 55; a junior, from 56 through 85; and a senior 86 or more.

## Academic Load

The University considers 12 hours as the minimum number to constitute full-time attendance. This is the figure used for enrollment reporting purposes, by the Illinois State Scholarship Commission, and for Public Law 358 on the undergraduate level. Students attending school under some type of scholarship or assistance program that requires them to be enrolled as full-time students should check with the University office administering the program on this point. Further information on Public Law 358 is available at the Financial Aid Office. Academic load guidelines are as follows:

LOAD	REGULAR SEMESTER	8-WEEK SUMMER SESSION
Minimum load for full time	12	6
Average load	15-16	7-8
Maximum load without dean's approval	18	9
Maximum load <sup>1</sup>	21	11

<sup>1</sup>This maximum may be exceeded by very special action of the respective academic dean, and rarely more than once in the student's degree program.

Students on scholastic probation may not take more than 14 hours without approval of the dean of their academic unit. Students employed full-time may not register for more than eight hours.

Credit

UNIT OF CREDIT

The University is on the early semester calendar. All references to hours of credit in this catalog are to semester hours unless otherwise specified. One semester hour of credit is equivalent to one and one-half quarter hours. One semester hour of credit represents the work done by a student in a lecture course attended fifty minutes per week for one semester and, in the case of laboratory and activity courses, the stated additional time.

Program Flexibility for the Student

The University offers you a wide variety of programs on all higher educational levels. Specialized programs are available on the associate and baccalaureate levels. In addition, the University gives constant attention to methods whereby it might better serve present day educational needs. Described below are opportunities for you to earn credit through means other than the traditional classroom method. While greater flexibility is the goal, the University exercises appropriate supervision to ensure the flexibility is accompanied by educational soundness.

Credit by Means Other than Classroom Attendance

Several methods are provided for you to earn credit by means other than the traditional classroom method. The methods currently available are described below.

EXTENSION (OFF-CAMPUS) AND CORRESPONDENCE CREDIT

The University accepts credit earned through extension, off-campus, or correspondence programs toward the bachelor's degree. Not more than 30 semester hours may be taken in correspondence work.

Correspondence work is accepted when taken from institutions which are regionally accredited if the grade is of C quality or better. Southern Illinois University at Carbondale operates an individualized learning program similar to correspondence programs in which students may earn academic credit. More information about individualized learning is under the *Division of Continuing Education*.

The University offers off-campus courses whenever (1) it is apparent there is a need and potential enrollment to justify scheduling, (2) it is possible to obtain a faculty member to instruct the class, and (3) adequate laboratory and library facilities are available.

Persons may enroll for off-campus work on an audit basis provided facilities are available. They must receive permission of the instructor to do so, and they must pay the same tuition as though they were registering for credit.

Further information may be obtained from the Division of Continuing Education.

## CREDIT FOR MILITARY EXPERIENCE

Students who have served one year or more of active duty and who have received an honorable discharge may receive two hours of aerospace studies credit, two hours of physical education credit, and two hours of health education credit. Service of six months to one year may result in two hours of freshman aerospace studies or army military science credit. Completion of basic training will be awarded two hours of physical education credit.

Credit will be accepted for DANTES subject standardized courses within the limitations enforced for proficiency credit. No credit is allowed for college-level GED tests. In evaluating credit possibilities based upon formal service-school training programs, the recommendations of the American Council on Education as set forth in the U.S. Government bulletin, *Guide to the Evaluation of Educational Experiences in the Armed Forces*, are followed.

In order to receive credit for military service, veterans must present a copy of discharge or separation papers to the Office of Admissions and Records, Evaluations Department.

## HIGH SCHOOL ADVANCED PLACEMENT PROGRAM

Through the High School Advanced Placement Program high school students who are qualified through registration in an advanced placement course in their high schools or through other special educational experiences may apply for advanced placement and college credit through the Advanced Placement Program of the College Board. To receive credit, students must earn at least a grade of 3, 4, or 5.

The maximum credit granted through advanced placement examinations is thirty hours (fifteen for an associate degree). It is nonresident credit, does not carry a grade, and is not used in computing the students' averages. The thirty hour limit also includes any CLEP credit or proficiency that has also been earned.

Advanced classes which qualify for this purpose are offered in many high schools in specific subjects such as English composition, economics, foreign languages, history, biology, computer science, chemistry, government, mathematics, physics, and psychology. A national examination is given in each subject with the examinations administered through the Educational Testing Service. The examinations are prepared by a national committee of high school and college teachers and are intended to measure the achievement of the student and determine at what point the student should begin college work in the subject.

The credit to be granted at Southern Illinois University at Carbondale is determined by the appropriate department. The credit will be validated after 12 hours credit of C work or better in residence at SIUC. The following is a list of courses for which a student may currently receive credit:

1. Art History: Art and Design 237 (3 semester hours)
2. Biology: Plant Biology 115 (3 semester hours)
3. Chemistry: Chemistry 200, 201, 210, 211 (8 semester hours)
4. Comparative Government and Politics: Political Science 250 (3 semester hours)
5. Computer Science:
  - Computer Science A: Computer Science 202 (3 semester hours)
  - Computer Science AB: Computer Science 220 (3 semester hours)
6. Economics:
  - Microeconomics: Economics 240 (3 semester hours)
  - Macroeconomics: Economics 241 (3 semester hours)
7. English:
  - Language and Composition: English 101 (3 semester hours) with a score of 3 or 4 or English 120 (3 semester hours) with a score of 5. English 120 will complete the Core Curriculum composition requirement.
  - Literature and Composition: English 121 (3 semester hours)

8. European History: History 205a,b (6 semester hours)
9. Foreign Languages: credit to be determined in consultation with the chair of the Department of Foreign Languages and Literatures.
10. Government and Politics - U.S: Political Science 114 (3 semester hours)
11. Mathematics:
  - Calculus AB: Mathematics 150 (4 semester hours)
  - Calculus BC: Mathematics 150 and 250 (8 semester hours)
12. Music: credit to be determined in consultation with the director of the School of Music.
13. Physics:
  - Physics B: Physics 203a,b (6 semester hours) and Physics 253a,b (two semester hours) with a score of 4 or 5. A score of 3 qualifies the student to take a proficiency exam in the above courses.
  - Physics C, Part I: Physics 205a (3 semester hours) and Physics 255a (one semester hour) with a score of 4 or 5. A score of 3 qualifies the student to take a proficiency exam in the above courses.
  - Physics C, Part II: Physics 205b (3 semester hours) and Physics 255b (one semester hour) with a score of 4 or 5. A score of 3 qualifies the student to take a proficiency exam in the above courses.
14. Psychology: Psychology 102 (3 semester hours)
15. U.S. History: History 110 and 300 (6 semester hours)

Further information about the Advanced Placement Program may be obtained from the appropriate regional office of the College Board or by writing The CEEB, 45 Columbus Avenue, New York, New York 10023.

#### COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

Through the General Examinations of the College Level Examination Program (CLEP), students may apply for credit which will substitute for University Core Curriculum courses. Prior to the recording of CLEP credit on the student's transcript, the student must earn 12 hours of credit of C grade or above in residence at SIUC.

The scores listed below are the minimum required for credit. The scores listed are for tests taken after May, 1989. Students who took exams prior to May, 1989 should consult the 1988 *Undergraduate Catalog* for specific scores required. The exams listed below are the only exams which will be awarded University Core Curriculum credit. Also listed are the credit hours that may be awarded for each CLEP exam.

1. *Natural Science*. A score of 520 or above entitles the student to receive six semester hours credit of University Core Curriculum courses in Science.
2. *Social Sciences and History*. A score of 520 or above entitles the student to receive six semester hours credit of University Core Curriculum courses in Social Science.
3. *Humanities*. A score of 520 or above entitles the student to receive six semester hours credit of University Core Curriculum courses in Humanities.
4. *English Composition with Essay*. With a score of 565 or above on the CLEP English Composition with Essay examination, students will receive six semester hours of credit for University Core Curriculum English composition (English 120 and 102 for six semester hours).

A score of 540 to 564 entitles the student to receive (a) advanced placement in English 120 and (b) six semester hours of credit upon successful completion of English 120 with a grade of C or higher (three semester hours of English 120 and three semester hours of English 102).

5. *Mathematics*. A score of 580 or higher entitles the student to earn three hours of credit for Mathematics 113 which will fulfill the University Core Curriculum mathematics requirement.

If prior to taking the CLEP examination students have received a grade or audit in college level work in any discipline included in the CLEP exam, or if they have enrolled in such a course, they shall be ineligible for credit. An exception to this rule is made in the case of students who enroll in the Early Admission program. Such students receive university credit for courses taken during the Early Admission experience and for the CLEP credit earned.

Courses taken in the following disciplines are subject to the exclusion of CLEP credit for each examination listed.

Disciplines included in the science examination include plant biology, microbiology, physiology, zoology, chemistry, physics, earth science, geography and all University Core Curriculum Science courses.

The social sciences and history examination include the disciplines of western civilization: American history, Afro-Asian civilization, world history, political science, economics, anthropology, sociology, social psychology, social studies, and all University Core Curriculum Social Science courses.

The humanities examination includes the disciplines of literature: poetry, fiction, drama, non-fiction, creative writing; films and performing arts; art: art appreciation, art history, architecture (past and present); music: classical, modern or jazz; humanities: all general humanities courses; philosophy: aesthetics, ethics, general survey; and all University Core Curriculum Humanities courses.

The English composition with essay examination disciplines include rhetoric, composition, creative writing and English prefix courses.

The mathematics test includes all college-level mathematics.

Students may be exempted from all University Core Curriculum requirements if they (1) pass all five CLEP General Examinations before entering the University with these minimum scores; natural sciences, social sciences, and humanities, 520; English, 565; and mathematics, 580, and (2) complete the graduation option of the University Honors Program.

CLEP examinations should be taken at one of the national testing centers and the results sent to the local CLEP coordinator. The results are then forwarded to the Office of Admissions and Records for evaluation.

For further information, students should consult with their academic adviser.

#### PROFICIENCY EXAMINATIONS

Through its proficiency examination program the University recognizes the importance of providing encouragement for academically talented students. Such students are permitted to make application to demonstrate the mastery of certain courses through proficiency examinations. Application forms are available at the departmental offices.

The following general rules govern the proficiency examinations for undergraduate credit.

1. Students who believe they are qualified to take a proficiency examination should check with the department offering the course to determine their eligibility to do so; students scoring in the top ten percent of ACT are particularly encouraged to avail themselves of this opportunity.
2. Credit not to exceed thirty hours (fifteen hours toward an associate degree), including credit through the College Board, Advanced Placement Program, and the College Level Examination Program may be earned through proficiency examinations. Credit will be considered nonresident. (A combined total of 40 hours may be earned through proficiency examinations and credit for work experience.)
3. All University Core Curriculum courses are available for proficiency credit, subject to specified restrictions.

- 4. Upon passing proficiency examinations students are granted course credit and receive a *Pass* grade. Their records will show the name of the course, the hours of credit granted, and a notation credit granted by proficiency examination. Students who fail a proficiency examination receive a *Fail* grade. This results in no penalty to the students. They will not receive credit and there will be no official record regarding the proficiency examination. However, the proficiency examination grade report form will be in the students' files for reference purposes.
- 5. Students may not take proficiency examinations for the same course more than one time. Neither may they take a proficiency examination in a course in which they have previously received a grade. Students who are registered for a course may not receive credit by proficiency examination for that course unless they withdraw from the course by the date during the semester which would result in no course entry appearing on the transcript. This date is the end of the third week for a regular semester course, and a correspondingly shorter period for summer session or short courses. Individual departments may require the proficiency examination to be completed in advance of this date.
- 6. No credit granted by proficiency examinations will be recorded until the student has earned at least 12 hours of credit of C grade or above in residence at the University.

CREDIT FOR WORK EXPERIENCE

Southern Illinois University at Carbondale recognizes that there might well be a number of undergraduate programs for which work experience has a meaningful relationship. It, therefore, permits those undergraduate programs to grant credit for work experience that relates to the students' areas of specialization. The credit granted is to apply to the major program and is awarded only upon approval by the major departments. Credit earned by work experience is limited to 30 hours and any combination of credit for proficiency examinations and credit for work experience is limited to 40 hours. Credit granted for work experience is considered nonresident credit when granted for work that is not part of a regular instructional course. Students should consult with their major departments to see whether they approve credit for work experience.

Degrees Offered

Southern Illinois University at Carbondale grants the following degrees:

Associate in Applied Science	Master of Music
Bachelor of Arts	Master of Public Administration
Bachelor of Fine Arts	Master of Science
Bachelor of Music	Master of Science in Education
Bachelor of Science	Master of Social Work
Master of Accountancy	Doctor of Business Administration
Master of Arts	Doctor of Philosophy
Master of Business Administration	Doctor of Rehabilitation
Master of Fine Arts	

In addition to the above degrees, the University offers undergraduate courses in preprofessional areas.

The School of Law and the School of Medicine offer professional degrees. Information about the School of Law may be obtained by writing the dean, School of Law, Southern Illinois University at Carbondale, Carbondale, Illinois 62901. Information about the School of Medicine may be obtained by writing the dean, Southern

Illinois University School of Medicine, P.O. Box 19230, Springfield, Illinois 62794-9230.

For information concerning academic programs on the advanced degree level, refer to the Graduate Catalog or write the dean, Graduate School, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

## Degree Requirements

### ASSOCIATE DEGREE

Each candidate for an associate degree must complete a minimum of 60 hours of credit in approved courses. Each student must complete the residency requirement by completing a minimum of 15 semester hours of technical courses within a major for the Associate in Applied Science degree at Southern Illinois University at Carbondale. Each student must maintain a C average for all work taken at Southern Illinois University at Carbondale. In addition to the technical courses, each program requires certain University Core Curriculum courses to be taken. The degree-granting unit for the associate degree is the College of Applied Sciences and Arts.

### BACCALAUREATE DEGREE

Each candidate for a bachelor's degree must complete the requirements listed below.

*Hour Requirements.* Each student must have earned a minimum of 120 semester hours of credit, although some programs require more. Of the 120 hours, at least 60 must be earned at a senior-level institution. All credit granted may be applied toward the 60-hour requirement unless the credit has specifically been designated as being from a two-year college or credit has been awarded based on attendance at a two-year school. Credit for work experience, CLEP, military credit, and proficiency examination credit awarded by an accredited senior-level institution are counted toward the 60-hour requirement. Mathematics 107 cannot be counted in the 120 hours required for graduation.

*Residence Requirements.* Each student must complete the residence requirement by taking the last year, which is defined as 30 semester hours, or by having three years of credit, which is defined as 90 semester hours at Southern Illinois University at Carbondale. Only credit for those courses for which the student has *registered* and for which a *satisfactory grade has been recorded* at Southern Illinois University at Carbondale may be applied toward the residence requirement hours. Students enrolled in programs offered for the military will have completed the residence requirement for the University upon completion of all courses required by the program.

*Average Requirements.* Each student must have a C average for all work taken at Southern Illinois University at Carbondale and a C average for all major work taken at the University.

*Forgiveness Policy.* The University has adopted a policy for students whose only graduation problem concerns the C average for all work taken at the University. Such students may ask that the average be computed by one of the following methods: (1) by excluding from calculation of the grade point average a maximum of ten semester hours of D or F grade earned outside the major which was taken prior to the last 60 semester hours of completed work at the University or, (2) by earning a grade point average of 2.10 or higher for the last 60 semester hours of work completed at the University. The student will be graduated if the average meets either of the two alternatives. It should be noted that the two alternatives are offered as a means of computing the grade point average for graduation only and may not be used for any other purpose.

**Course Requirements.** Each student must meet the University requirements and the requirements of the academic unit, the major, and the minor, if required. The University Core Curriculum Requirements which are explained in Chapter 3 total 41 semester hours of credit although there are methods available to reduce the number for certain students. The requirements of each college and for the specific major and minor programs are explained in Chapter 4.

### **Second Bachelor's Degree**

A student may earn a second bachelor's degree upon completion of a minimum of 30 hours, making a total of 150 hours minimum, provided the student fulfills the requirements of the department or school and college for the second bachelor's degree. Students pursuing a second baccalaureate degree must meet the University Core Curriculum Requirements of 41 semester hours if the department or school or college so requires. Students may, however, complete a second bachelor's degree under the Capstone Option if the department offers this option for the first baccalaureate degree. If a student's first bachelor's degree is from another university, 30 hours in residence is required to fulfill the requirements for the second bachelor's degree. If the first bachelor's degree was earned at the University, a minimum of 10 semester hours of the 30 required must be taken in residence at the University.

### **Three-Year Baccalaureate Degree Program**

It is possible for you to complete the regular four-year baccalaureate degree program in three years by utilizing proficiency examinations. The equivalent of one year of credit (30 semester hours) may be earned by this method. If you desire to follow the three-year program you should make that fact known to your academic adviser at the earliest possible date so that your eligibility can be determined. A combination of programs may be employed to accumulate these 30 hours as described above in the section on Credit by Means Other than Classroom Attendance.

### **Preprofessional Programs**

Preprofessional students may, subject to certain conditions, obtain a bachelor's degree after three years' work (90 semester hours) at Southern Illinois University at Carbondale and one or more year's work in a professional school. During their three years of residence at the University, they need to have completed all requirements other than elective hours for the bachelor's degree which they are seeking.

In some cases the completion of major requirements is possible by their taking certain courses at the professional school, but this is permitted only upon the prior approval of the appropriate divisional head. Also, completion of at least one year of professional school with acceptable grades in an approved medical school, an approved dental school, an approved veterinary school, an approved law school, an accredited physical therapy school, a hospital plan approved by the University or an accredited school of osteopathy is required. In all cases, all University graduation requirements must be met. It is advisable for a student interested in this program to make the decision to seek a bachelor's degree before entering the professional school so that any questions may be clarified at an early date.

The 3/2 program of the College of Business and Administration is available to qualified transfer students and students majoring in areas other than business. The program permits a student to devote a part or all of the fourth year of study to fulfilling requirements for the Master of Business Administration degree. For details, contact the associate dean for graduate studies in the College of Business and Administration.

## University Recognition of High Scholastic Achievement

*Dean's List.* At the end of each semester, a dean's list is prepared. The criteria for inclusion on the dean's list is established by each of the academic units. To be recognized as being on the dean's list, you must have been in attendance full-time (12 semester hours or more) and must have earned the average for the semester which has been specified by the academic unit. If you have met the criteria established, a notation will appear on your grade slip and your academic record at the end of the semester. The dean's list is recognition for a particular semester. It does not take into consideration your complete record.

*University Honors Program.* The University Honors program is explained in Chapter 4. Those who successfully complete the University Honors Program graduation option receive recognition on the academic record and on the diploma at the time the degree is recorded.

*Departmental Honors.* Honors courses, individual honors work, and honors curricula, all designed to serve the student with high scholastic potential, are offered by departments in the College of Agriculture, the College of Liberal Arts, and the College of Science. A departmental or academic unit honors program consists of no fewer than six nor more than fourteen semester hours in research or independent study which is counted toward the student's major. Some honors programs require a comprehensive examination at the end of the junior year and again at the end of the senior year. Grades may be deferred at the end of the first semester, but not from one school year to the next.

*Scholastic Honors Day.* Each spring a Scholastic Honors Day convocation is held to honor students exhibiting high scholastic achievement. All students who have maintained a cumulative grade point average of 3.50 or higher, and who have been full-time students during the entire academic year, are honored at this time. A 3.50 grade point average is required for all work taken at Southern Illinois University at Carbondale, and in the case of transfer students, the cumulative average must be at least 3.50 also. Each academic unit has its own convocation and each student is recognized individually on this day.

A variety of professional, departmental, and fraternal honorary organizations offer recognition and membership based upon scholastic achievement. Election or selection to most of these organizations is noted at the Scholastic Honors Day ceremonies. The following are examples of some of these organizations: Alpha Epsilon Rho, Alpha Lambda Delta, Beta Alpha Psi, Beta Gamma Sigma, Golden Key Honor Society, Kappa Omicron Phi, Pi Mu Epsilon, Pi Omega Pi, Tau Beta Pi, the Liberal Arts and Sciences Honor Society, and the Honor Society of Phi Kappa Phi. Selection to membership in these organizations is not reflected on the academic record or diploma.

*Honors/Departmental Honors Recognition at the Time of Graduation.* Graduating students with scholastic averages of 3.90 or higher receive *summa cum laude*; those with 3.75-3.89 receive *magna cum laude*; and those with 3.50-3.74 receive *cum laude*. These averages apply to all work at the University, and in the case of transfer students, the averages also apply to the cumulative record. Whichever of the honors apply is recorded on the student's academic record at the time the degree is recorded and on the diploma.

## Graduation Procedures

The academic requirements for the various baccalaureate degrees are listed in Chapter 4. Presented here are the procedures students expecting to graduate must follow.

Graduation ceremonies are held each year at the end of the spring semester and the summer session. Degree candidates must apply for graduation with the Office of Admissions and Records (graduate students with the Graduate School) by not later than the end of the first week of the semester in attendance before the expected graduation date. Candidates who plan to complete requirements at the end of the fall semester must apply for graduation by the end of the first week of the fall semester. Although there is no ceremony at that time, degree candidates who complete requirements will have that fact indicated on their academic records and diplomas will be issued. Application forms are available in the Office of Admissions and Records (Graduate School for graduate students) and may be obtained by mail by writing that office.

A graduation fee is established for all persons receiving degrees. The fee does not cover the rental fee for the cap and gown or the cost of the invitations. Both of these items are ordered through the University Book Store in the Student Center. Questions regarding the cap and gown and the invitations should be referred to the University Book Store.

In addition to completing the steps for application for graduation, students are responsible for determining that they are meeting all graduation requirements and have no outstanding financial obligation to the University. To assure that students are meeting the academic requirements, each academic unit provides a graduation check-up service through its academic advisement process, through which the satisfying of academic requirements can be verified. Even though the University does provide an academic check on graduating students, this is done primarily to be sure that it is graduating students who have met the requirements. The advising of individual students as to their progress is a service provided them and does not relieve students of their responsibility to make certain they are meeting the requirements. Students should check with their academic advisers as to the procedures they should follow in this matter as they approach graduation.

Graduating students who have outstanding financial obligations or delinquent accounts with the University will not receive either the diploma or transcripts until their accounts are paid.

Attendance at commencement is not compulsory. If you do not plan to attend, notification must be sent to the Office of Admissions and Records. This information is needed for seating arrangements and for mailing purposes.

### GRADUATION APPEAL

The University has a Graduation Appeals Committee whose function it is to hear student's petitions to be permitted to graduate even though they have not satisfied all University graduation requirements. The committee hears only those cases involving University requirements for the associate or baccalaureate degree. Appeal relative to a major or academic unit requirement is through the appropriate administrative official. Ordinarily, the Graduation Appeals Committee will give consideration to an appeal only if there is tangible evidence that the matter at issue is of an unusual nature and that it has resulted due to conditions beyond control of the student. Appeal is initiated through the Office of Admissions and Records and the student's academic dean.

## Issuance of Transcripts

A transcript of the student's official educational record is issued by the Office of Admissions and Records under the following conditions: A transcript is sent, issued, or released only upon a student's request or with the student's explicit permission, except that such permission is not required when University faculty and administrative personnel or other educational institutions request transcripts for official purposes. In addition, requests will be honored from a philanthropic organization financially supporting a student and from a recognized research organization conducting educational research provided the confidential character of the transcript is protected. A transcript will be issued directly to a student upon request. The transcript will have the statement, Issued to the Student, on its face. Transcripts will be sent to recipients other than the student as requested, in writing, by the student. A transcript fee of \$2.00 will be charged to the student for every transcript the student requests. A transcript will not be sent, issued, or released if a student owes money to the University. For further information see the policy on the release of student information and access to student records in Chapter 7.

# 3 / University Core Curriculum and Courses



# University Core Curriculum

Ann-Janine Morey, *Director*

The University Core Curriculum is pivotal to the university experience, and provides the enriching foundation for students to be successful in their major, and in life beyond the university. The Core Curriculum does not require that all students take exactly the same courses. However through a carefully selected menu of courses, this required program provides a solid grounding in the liberal arts and sciences, and promotes analytic and imaginative abilities that are essential for a life of inquiry, creativity and informed civic participation. To make the most of the Core Curriculum, students are required to complete their Foundation Skills courses (Composition, Speech, Mathematics) by the time they have completed 56 hours of coursework. Students are strongly advised to complete their Disciplinary Studies courses prior to enrolling in the Integrative Studies courses.

Further information about University Core Curriculum is available from the director of University Core Curriculum, College of Liberal Arts.

## University Core Curriculum Goals

1. To develop analytic, critical, creative thinking skills so that students have both the knowledge and the maturity to achieve self fulfillment by analyzing and enjoying the diverse materials of human experience, and by creating meaning and beauty from the world around them.
2. To develop communication skills so that students can understand the ideas and orientations of others and express their own perspectives effectively, both in the written and spoken word.
3. To promote personal, social and environmental well-being, so that students can enhance the quality of their lives.
4. To foster students' interdisciplinary awareness, so that they understand relationships among fields of knowledge and cultural pluralities.
5. To contribute to students' understanding and appreciation of the intellectual and creative heritage of western civilization and to their understanding of how western civilization has shaped and been shaped by different cultures.
6. To enhance understanding and appreciation of cultures; specifically, to make students aware of the complex interactions among ethnicity, race, gender and class, and other issues pertaining to improving human relations.

## University Core Curriculum Requirements

I. Foundation Skills .....	12
Composition .....	6
English 101, to be completed with a grade of C or better, and English 102. English 120, if completed with a grade of C or better, will also complete the composition requirement. Linguistics 101 and 105 will complete the composition requirement for foreign students.	
Mathematics .....	3

Mathematics 110, 113 or any higher level mathematics course numbered 108 or above with the exception of 114.	
Speech Communication 101 .....	3
II. Disciplinary Studies .....	23
Fine Arts .....	3
Select one course from the following: Art and Design 101, Cinema and Photography 101, English 203, History 201, Music 103, Theater 101.	
Human Health .....	2
Select one course from the following: Food and Nutrition 101, Health Education 101, Microbiology 202, Physical Education 101, Physiology 201-3, Zoology 202.	
Humanities .....	6
Select one course each from Group I and II or select one Sequence.	
Group I: History 101a, 101b, Philosophy 103a, 103b, Foreign Languages and Literatures 101 or Women’s Studies 101.	
Group II: English 121, 204, Philosophy 102, 104, 105, Foreign Languages and Literatures 230 or Women’s Studies 230.	
Sequence I: History 101a and 101b	
Sequence II: English 121 and 204	
Sequence III: Philosophy 103a and 103b	
Science .....	6
Select one course from each group. <sup>1</sup>	
Group I: Chemistry 106, Geology 110, Physics 101 or Physics 103	
Group II: Plant Biology 115, Plant Biology 117 or Zoology 115	
Social Science .....	6
Select two courses from the following: (Students may take only one course in history to satisfy this area requirement.) Anthropology 104, Economics 113, Geography 103, History 110, 112, Political Science 114, Psychology 102, Sociology 108.	
III. Integrative Studies .....	6
Students are strongly advised to complete their Disciplinary Studies courses before enrolling in the Integrative Studies courses.	
Multicultural: Diversity in the United States .....	3
Select one course from the following: Art and Design 227, 247, Administration of Justice 203, Anthropology 202, Black American Studies 215, English 205, History 202, 210, Linguistics 201, Mass Communication and Media Arts 204, Music 203, Philosophy 210, 211, Political Science 278, Sociology 215, Speech Communication 201, Women’s Studies 201.	
Interdisciplinary .....	3
Select one course from the following: Agriculture 300i, Art and Design 310i, Economics 302i, English 308i, Engineering 301i, 303i, Foreign Languages and Literatures 310i, 313i, Geography 303i, History 304i, Liberal Arts 300i, Philosophy 303i, 307i, 308i, 309i, Plant Biology 301i, 303i, Sociology 304i, 305i, 306i, Speech Communication 301i, Zoology 312i.	
Total .....	41

<sup>1</sup>An exception is made for majors in Civil Engineering, Electrical Engineering, Mechanical Engineering, Mining Engineering, Electrical Engineering Technology and Mechanical Engineering Technology. These majors are permitted to use two physical science courses to satisfy the science requirement.

Some programs and upper division academic units require specific Core Curriculum courses. A student may determine these requirements by referring to specific major requirements in Chapter 4.

#### MEETING UNIVERSITY CORE CURRICULUM REQUIREMENTS

Core Curriculum requirements may be met by any of the following, subject to the rules and limitations listed:

1. Completion of Core Curriculum courses with a satisfactory grade. Each student must complete the Foundation courses (Composition, Speech, Mathematics) or their approved substitutes prior to or upon completing 56 semester hours of coursework. The student, working with the academic advisor, shall have the responsibility of meeting this requirement.

2. The Transfer student and the University Core Curriculum. Transfer students may satisfy the requirements of the University Core Curriculum by successful completion of the Illinois Transferable General Education Curriculum. Transfer students who have not completed all Core Curriculum requirements prior to enrolling at SIUC can have their transcripts evaluated and comparable courses will be applied toward the University Core Curriculum requirements on a course by course basis.

Completion of an associate degree in a baccalaureate-oriented program in an accredited Illinois two-year institution provides that the student will (a) be accepted with junior standing and (b) be considered to have completed the University Core Curriculum requirements. Associate degrees earned at other than Illinois two year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented and to have comparable content and credit hour criteria, the same benefits will be extended to those graduates. Credit from an accredited two-year institution is limited only by the provision that students must earn at least 60 semester hours of work at the University or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Transfer students who have not earned a baccalaureate-oriented Associate of Arts or Associate of Science from an accredited Illinois institution prior to attending SIUC, but who have been certified by a participating Illinois institution as having completed the Illinois Transferable General Education Curriculum (with a minimum of at least 37 semester hours), will be considered as having fulfilled the SIUC Core Curriculum.

Transfer students who have satisfactorily completed courses within the Illinois General Education Core Curriculum at an accredited Illinois institution will be granted credit toward fulfilling SIUC's comparable Core Curriculum requirement.

Students who have received a bachelor's degree from an accredited institution will also be considered to have their University Core Curriculum complete.

Additional information concerning admission of a transfer student and the evaluation of transfer credit can be found in the sections of this catalog pertaining to those specific programs.

3. Completion of departmental courses listed as substitutions for University Core Curriculum courses. Substitutions for Core Curriculum courses are limited to 12 hours.

4. Students who have started their post-secondary education at Southern Illinois University at Carbondale or another accredited institution beginning Summer 1989 to Spring 1996 may use course credit from the former General Education program. All approved substitutions for the former program will be honored. Students may not use more than one General Education course to count for more than one University Core Curriculum requirement. Students should consult their collegiate unit advisors for further information regarding the translation of specific courses.

5. Completion of departmental courses listed as substitutions for University Core Curriculum courses or proficiency credit by examination for Core Curriculum courses or approved substitute courses. All Core Curriculum courses are eligible for proficiency credit, subject to specified restrictions. (See proficiency examinations in Chapter 2.) Students should contact the individual department for specific information.

Proficiency credit via General Examinations of the College Level Examination Program (CLEP) or Advanced Placement (AP). Credit given through the High School Advanced Placement Program, the College Level Examination Program or proficiency examination will be nonresident, will not carry a grade, and will not be used in computing the student’s grade point average. The credit will be validated after 12 hours credit in residence at Southern Illinois University at Carbondale. A \$15 charge will be assessed for proficiency examinations taken at Testing Services.

## University Core Curriculum Substitutions

*List of Approved Substitutions.* The department courses which have been approved as substitutions for University Core Curriculum courses are listed below. In no case does the departmental course substitute for more credit hours than the credit hours allowed in the comparable University Core Curriculum course.

UNIVERSITY CORE CURRICULUM		APPROVED SUBSTITUTES
ANTH 202	ANTH 310g	
AD 101	AD 207a, 237	
CHEM 106	CHEM 140a, 200 and 201, or 222a	
ECON 113	ECON 214, 215, 240, 241 or ABE 204	
ENGL 205	ENGL 225, 325 or WMST 225	
GEOL 110	GEOL 220	
HIST 110	HIST 301	
HIST 210	HIST 300	
MICR 202	MICR 444 or ZOOL 214	
MUS 103	MUS 357a or 357b	
PHIL 102	PHIL 204 or 205	
PHIL 104	PHIL 340	
PE 101	PE 114	
PHYS 101	PHYS 203a and 253a, 203b and 253b, 205a and 255a, 205b and 255b, or ASA 126	
PHYS 103	PHYS 203b or 205b	
PHSL 201	PHSL 310	
PLB 115	BIOL 200, MICR 201, PLB 200 or ZOOL 118, 220a or 220b	
PLB 303i	ZOOL 404	
ZOOL 202	MICR 444 or ZOOL 214	
ZOOL 115	BIOL 200, MICR 201, PLB 200 or ZOOL 118, 220a or 220b	
Humanities Group 1 or Group 2	A student may substitute up to a maximum of three credit hours with either a third semester of a foreign language or a first semester or more advanced course in Latin or Greek.	

A maximum of twelve semester hours of approved coursework may be substituted for University Core Curriculum courses, with the exception of approved University Honors substitutions. A maximum of three semester hours of the University Honors Program may be substituted in each of the sub-areas of Fine Arts, Human Health, Multicultural: Diversity in the United States, and Interdisciplinary; and a maximum

of six semester hours of the University Honors Program may be substituted in each of the sub-areas of Humanities, Science and Social Science, subject to the advance determination by the director of the University Honors Program and the approval of the University Core Curriculum Executive Council.

## University Core Curriculum Courses

The first entry for each course is a three digit numeral plus, in some cases, a single letter which together with the subject area, serves to identify the course. The number followed by the dash represents the semester credit hours.

Next is the title, followed by a description of the course. If certain requirements must be satisfied before enrollment in a course, they are listed as prerequisites.

### I. FOUNDATION COURSES

**ENGL 101-3 English Composition I.** The first course in the two-course sequence of composition courses required of all students in the University. It is designed to give students practice and experience in writing and to help students write better and with greater confidence and enthusiasm. It teaches students the processes of writing, the final production of a text, and the strategies they need to write in different contexts and to produce texts which are appropriate to varying contexts. A minimum grade of C is required.

**ENGL 102-3 English Composition II.** The second course in the two-course sequence of composition courses required of all students in the University. Using culturally diverse reading materials, the course focuses on the kinds of writing students will do in the University and in the world outside the University. The emphasis is on helping students understand the purpose of research, develop methods of research (using both primary and secondary sources), and report their findings in the appropriate form. Prerequisite: English 101 or equivalent with a minimum grade of C.

**ENGL 120-3 Freshman Honors Composition.** This course fulfills the Foundation Skills composition requirement. Students will write critical essays on important books in the following categories: autobiography; politics; fiction; eyewitness reporting; and an intellectual discipline such as philosophy or science. Prerequisite: top 10 percent of the English section of the ACT or the qualifying score on the CLEP tests.

**MATH 110-3 Non-Technical Calculus.** The elements of differentiation and integration. The emphasis is on the concepts and the power of the calculus rather than on technique. It is intended to provide an introduction to calculus for non-technical students. This course does not count towards the major in mathematics. No credit hours for this course may be applied to fulfillment of any degree requirements if there is prior credit in Mathematics 140, 141 or 150. Prerequisite: three years of college preparatory mathematics including algebra I, algebra II, and geometry. In addition, students must have satisfactory placement scores or obtain the permission of the Department of Mathematics.

**MATH 113-3 Introduction to Contemporary Mathematics.** Elementary mathematical principles as they relate to a variety of applications in contemporary society. Exponential growth, probability, geometrical ideas and other topics. This course does not count towards the major in mathematics. Prerequisite: Mathematics 107 or three years of college preparatory high school mathematics including geometry and intermediate algebra. New students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

**MATH 108 and above -3 Mathematics courses** that may be used for the three hour University Core Curriculum mathematics requirement include all MATH prefix courses with the exception of Mathematics 107 and 114.

**SPCM 101-3 Introduction to Oral Communications: Speech, Self and Society.** This course provides theory and practical application relevant to students' development of basic oral communication competencies appropriate to a variety of contexts as situated in a culturally diverse world.

### II. DISCIPLINARY STUDIES

#### Fine Arts

**AD 101-3 Introduction to Art.** A course in the comparative study of visual art in the history of civilizations. The course, using slide lectures, studio labs taught by graduate assistants, readings in textbooks, and examinations, raises the student's familiarity and practical knowledge of formal, social and critical issues germane to the visual arts. The courses pedagogical method is inclusive of diverse cultures and traditions by means of comparative and thematic analysis.

**CP 101-3 History and Analysis of Cinema.** An introduction to world cinema. To include film as entertainment, art, personal, expression, education and cultural/ideological expression. Modes of film including narrative, documentary, animation and experimental are studied.

**ENGL 203-3 Film as Literary Art.** This course examines the influential role literature has on the cinematic tradition both in the past and present. It intends to emphasize the artistic and visual debt cinema owes to literature by concentrating on major achievements and analyzing them accordingly.

**HIST 201-3 Art, Music and Ideas in the Western World.** The historical evolution of the visual arts, architecture and music in the context of society and literature, from ancient Greece to the present. It emphasizes the fundamental historical relationship of the different genres of human expression in Western culture.

**MUS 103-3 Music Understanding.** A study of the historical development of Western music and the listening skills necessary to perceive the expressive aspects of each style.

**THEA 101-3 Theater Insight.** Through lectures, discussions, project, text readings and written critiques, students examine how plays are written and produced, and how these plays reflect the people and cultures that produce them.

## Human Health

**FN 101-2 Nutrition: Contemporary Health Issues.** This course integrates nutrition and promotion of health through prevention of disease and will answer questions found daily in the media regarding nutrition. Topics emphasized are functions of basic nutrients, impact of culture, gender, ethnicity, social environments and lifestyle on nutrition and health.

**HED 101-2 Foundations of Human Health.** This course is designed to examine contemporary health-related issues for all dimensions of the individual—physical, mental, social, emotional and spiritual—through focus on health promotion and disease prevention. Emphasis is placed on maintaining or improving quality of life by developing personal and social skills (decision-making, communication, stress management, goal setting) across health education content areas, as well as identifying and accessing appropriate health-related resources.

**MICR 202-2 Human Genetics and Human Health.** (Same as Zoology 202.) Acquaints the student with the role played by genetic information in human development and disease. Discussion topics will include genetics and human diversity, the interaction of genetic information and the environment, the concept of genetic disease, the mechanisms and ethics of gene therapy, and the possibilities of manipulating the genetic material.

**PE 101-2 Current Concepts of Physical Fitness.** To foster a thorough understanding of scientific principles of physical fitness and to enhance the ability to utilize physical exercise toward achievement of healthful living.

**PHSL 201-3 Human Physiology.** A course which relates the normal function of the human body to the disruptions which occur in a variety of disease states. Three lecture hours per week. Not open to students who have taken 310.

**ZOOL 202-2 Human Genetics and Human Health.** (Same as Microbiology 202.) Acquaints the student with the role played by genetic information in human development and disease. Discussion topics will include genetics and human diversity, the interaction of genetic information and the environment, the concept of genetic disease, the mechanisms and ethics of gene therapy and the possibilities of manipulating the genetic material.

## Humanities

**ENGL 121-3 The Western Literary Tradition.** The course offers a critical introduction to some of the most influential and representative work in the Western literary tradition. Emphasis is on the interconnections between literature and the philosophical and social thought that has helped to shape Western culture.

**ENGL 204-3 Literary Perspectives on the Modern World.** The course offers a critical introduction to literary works that convey the complexity and challenge of social life in the twentieth century, using a set of representative topics as focal points: culture and community; gender and ethnicity; war and politics; and science and technology. Course may be taken as a sequence to 121, *The Western Literary Tradition*, but 121 is not a prerequisite for this course.

**FL 101-3 Classical Civilization.** (Same as Women's Studies 101.) A survey of classical civilization from the Minoans to the Roman Empire with three foci: Homeric and Classical Greece, and the Roman Experience as seen by its artists.

**FL 230-3 Classical Mythology.** (Same as Women's Studies 230.) An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans.

**HIST 101-6 (3, 3) The History of World Civilizations.** (a) To industrialization (b) Since the Age of Encounter. A survey of various civilizations in the world from prehistory to the present with particular attention to non-Western cultures.

**PHIL 102-3 Introduction to Philosophy.** This course introduces fundamental philosophical issues across a broad spectrum. Problems in metaphysics, epistemology and ethics will be among the areas explored. Emphasis throughout is on developing in the student an appreciation of the nature of philosophical questioning, analyzing and evaluating arguments reflecting on the nature of human existence.

**PHIL 103-6 (3, 3) World Humanities.** This course will explore the rise, development and interaction of the major world civilizations as embodied in ideas and their expressions in religion, philosophy, literature and art. The great traditions of Near Eastern, European, Central Asian, Indian, Chinese and Japanese cultures will be examined. (a) The first semester will cover the beginnings of mythic symbolization, the development of moral and religious ideas in the early river civilizations, the dawn of philosophical reflection, and the rise and collapse of the unifying empires of Rome, the Gupta and the Han. (b) The second semester will cover the re-birth of civilizations in Islam, medieval Europe and China; their transformations in the modern era, especially

due to science and technology; and the question of contemporary global coexistence and understanding (103a and 103b can be taken out of sequence).

**PHIL 104-3 Ethics.** Introduction to contemporary and perennial problems of personal and social morality, and to methods proposed for their resolution by great thinkers past and present.

**PHIL 105-3 Elementary Logic.** Study of the traditional and modern methods for evaluating arguments. Applications of logical analysis to practical, scientific and legal reasoning, and to the use of computers.

**WMST 101-3 Classical Civilization.** (Same as Foreign Languages and Literature 101.) A survey of classical civilization from the Minoans to the Roman Empire with three foci: Homeric and Classical Greece, and the Roman Experience as seen by its artists.

**WMST 230-3 Classical Mythology.** (Same as Foreign Languages and Literatures 230.) An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans.

## Science

**CHEM 106-3 Chemistry and Society.** Exploration of the many implications that chemistry has upon modern society. Topics include air and water quality, global warming, acid rain, fossil, solar and nuclear fuels, nutrition and drugs. Three lectures per week except that every other week a three-hour lab is substituted for one of the lectures that week.

**GEOL 110-3 Geology and the Environment.** Examines human interaction with geologic processes and hazards, including earthquakes, volcanoes, landslides and flooding; occurrences and availability of geologic resources, such as energy, water and minerals; and land-use planning, waste disposal and environmental impact. Two lectures and one laboratory per week.

**PHYS 101-3 The Physics of Modern Communications: From Hi-Fi Sound to Laser Beams.** The laws of nature necessary for understanding modern communications such as high fidelity, sound, radio, television and laser beams are presented. Topics include wave phenomena, sound, electricity, magnetism and light. Applications to sound recording and communications and the technical vocabulary necessary to critically evaluate high fidelity equipment are emphasized.

**PHYS 103-3 Astronomy.** Fundamental concepts of the physical sciences are used in the exploration of the observable universe. Studies include the history and techniques of astronomy, planets, stars, black holes, galaxies and cosmology. Lectures are supplemented by outdoor astronomical observations and/or indoor laboratory exercises.

**PLB 115-3 General Biology.** (Same as Zoology 115.) Introduction to fundamental biological concepts for non-life science majors interested in learning about interrelationships of human, plant and animal communities. Integrated lecture and laboratory cover topics that include structure and function of living systems, reproduction and inheritance, evolution, biological diversity and environmental biology. Laboratory applies scientific methods to the study of living systems.

**PLB 117-3 Plants and Society.** The relationship between plants and human society: historical and modern applications of plants to the human experience; centers of botanical origins and domestication of crop plants; theories on native plant and crop conservation; medicinal plants; making sound decisions on current and future problems of the environment; and plant genetics and biotechnology. Labs will include: hands-on experimentation; field work in natural plant communities, supermarkets and farmer's market; and visitations to plant research facilities. A field trip fee will be assessed.

**ZOOL 115-3 General Biology.** (Same as Plant Biology 115.) Introduction to fundamental biological concepts for non-life science majors interested in learning about interrelationships of human, plant and animal communities. Integrated lecture and laboratory cover topics that include structure and function of living systems, reproduction and inheritance, evolution, biological diversity and environmental biology. Laboratory applies scientific methods to the study of living systems.

## Social Science

**ANTH 104-3 The Human Experience: Anthropology.** This course explores different human lifeways around the world, past and present. It investigates the question of what is universal to all humans and the myriad ways they differ, through studying modern people, the remains of past cultures through archaeology, and human origins and physical variation.

**ECON 113-3 Economics of Contemporary Social Issues.** An examination of the basic economic problems confronting U.S. society and the world today. The analysis is undertaken utilizing fundamental economic concepts with emphasis on alternative economic policies. Topics as diverse as health care, the national debt, crime, pollution and international trade are addressed.

**GEOG 103-3 World Geography.** Examination of the world's major geographic patterns, the diversity of environments, cultures and economic activities, differences between developing and developed nations, interdependence of nations and regions through communication and trade, and in-depth assessment of representative environmental issues.

**HIST 110-3 Twentieth Century America.** The history of the United States since 1900. Surveys cultural, social, economic and political development, with special emphasis on domestic pluralism and changing international roles.

**HIST 112-3 The Twentieth Century World.** The history of Europe, Asia, Africa and Latin America since 1900. Emphasis on political conflict, economic development, social change and cultural transformation in an increasingly integrated world.

**POLS 114-3 Introduction to American Government and Politics.** Examines the structure of American national government, the cultural context, and the operation of our political system. Focuses on constitutional foundations of American government, how difference in race, gender, and culture affect the political system, and the American attempt to deal with equality, liberty and order, conflict and cooperation.

**PSYC 102-3 Introduction to Psychology.** An examination of the variables related to the origins and modifications of human behavior using the viewpoints and techniques of contemporary psychology. Purchase of syllabus from local vendor is required.

**SOC 108-3 Introduction to Sociology.** An introduction to the sociological perspective on human behavior, the structure and processes involved in social relationships, social stratification and inequality, social institutions and social change. A survey of major areas of interest in sociology.

### III. INTEGRATIVE STUDIES

#### Multicultural: Diversity in the United States

**AD 227-3 History of African American Art.** A history of African American visual arts, with a brief examination of the arts of various nations of Africa and how they affected art in America. Craft arts, architecture, painting and sculpture will be considered from the slave trade era to the civil war era; the Harlem Renaissance and other 20th century movements to the present day.

**AD 247-3 History of Latin American Art.** Latin American Arts from the Spanish Conquest to the present will be examined, including painting, sculpture, architecture, fibers, ceramics and metals. A few weeks will be spent on Pre-Columbian art. Considers the cultural exchanges between North America and Mexico, Central and South America.

**AJ 203-3 Crime, Justice and Social Diversity.** This course examines how social heterogeneity and inequality influence the processes involved in the definition and regulation of behavior through law, particularly the criminal law. Factors such as race, ethnicity, gender and class are related to definitions of crime and justice, and to the likelihood of being the victim of crime. The differential influence of the operations and outcome if the criminal justice system on diverse groups in U.S. society is emphasized.

**ANTH 202-3 American Cultures.** Through studying a variety of topics, such as family, education, health care, and popular culture, this course surveys the wide variety of cultures that make up the United States.

**BAS 215-3 Black American Experience in a Pluralistic Society.** A study and understanding of the evolution of issues of pluralism in contemporary African American society. Black American Experience in a Pluralistic Society provides an interdisciplinary analysis of ideological and practical problems of racism, integration, class, equity, social institutions as they relate to the Black American experience.

**ENGL 205-3 The American Mosaic in Literature.** The course offers a reading and analysis of narratives of cross-cultural contact through representative topics: the first encounters between Native Americans and Europeans; captivity, slavery and escape; immigration and city life; and cultures and families in transition. Emphasis is upon the various fictional and non-fictional literary forms in which the American pluralistic experience has been expressed.

**HIST 202-3 America's Religious Diversity.** An introduction to the basic concepts and histories of the world's religions and their place in American society. The purpose is to increase our understanding of cultural and religious diversity and how the various religious traditions inform our worldviews.

**HIST 210-3 American Heritages.** The American experience as expressed in key texts written prior to the Twentieth Century. Emphasis on American pluralism and controversies related to race, ethnicity, gender and class.

**LING 201-3 Language Diversity in the USA.** An examination of different varieties of English and the growing presence of other languages in the United States. Local, regional and national perspectives are used to review current patterns of language diversity and to explore the impact of language issues on policies and practices in education, the legal system and the work place.

**MCMA 204-3 Alternative Media in a Diverse Society.** The freedoms guaranteed in the First Amendment have resulted in a multitude of alternatives to the establishment media. These alternative media give voice to a range of communities ignored or suppressed by the dominant culture. Publications, alternative art spaces, film, radio and television messages and the groups and individuals that create them are examined. Not for graduate credit.

**MUS 203-3 Diversity and Popular Music in American Culture.** A study of the development of American popular music, particularly in relation to the different cultural groups which spawned it.

**PHIL 210-3 The American Mind.** This course will survey the diverse traditions, ideas and ideals that have shaped American culture in the past and today. Major works from Native American, African-American, feminist, Puritan, Quaker and American Zen Buddhist writers may be used as well as those from such intellectual movements as the Enlightenment, Transcendentalism and Pragmatism.

**PHIL 211-3 Philosophy and Diversity: Gender, Race and Class.** This course is a philosophical introduction to diverse perspectives within modern American culture. It will address through reading and discussion important contemporary moral and social issues from the perspective of nontraditional orientations including African American, Native American and American feminism. The resources of philosophy and other related disciplines such as psychology, sociology and literature will be used to develop a culturally enriched perspective on important contemporary issues.

**POLS 278-3 Domestic Sources of American Foreign Policy.** A general survey of the American foreign policy process. Special attention is given to the diversity of ethnic, racial and religious groups in the US and how

these groups attempt to shape foreign policies in ways that meet their specific domestic and international interests.

**SOC 215-3 Race and Ethnic Relations in the United States.** Current theory, research, and events in race-ethnic relations in the U.S., including the intersection of class, gender and sexuality. Topics include the European colonization of North America, dynamics of immigration, identity formation among ethno-racial groups, and political economy of racism.

**SPCM 201-3 Performing Culture.** A critical examination of human communication—from everyday conversation to cultural formation—as performance. Lecture and discussion format with consideration of primary texts drawn from conversational transcript, multicultural literature and popular culture.

**WMST 201-3 Multicultural Perspectives on Women.** This survey will cover important issues within women's studies in the United States and will be interdisciplinary and multicultural in nature. The topics will include language, media, education, family, labor, politics, literature and the arts. Issues of race, class, gender and culture will be examined consistently within each topic.

## Interdisciplinary

**AGRI 300I-3 Social Perspectives on Environmental Issues.** (Same as Liberal Arts 300i.) Case studies (e.g., rural village in developing nation; small town in the U.S.; city in developing nation) are used to learn how different societies and groups deal with their specific environmental issues, and how culture and economic factors affect their perspectives and actions.

**AD 310I-3 Mythology in Art.** Through multicultural examination of myth as manifested in the visual arts, in selected cultures from prehistoric to modern times. Both European and Tribal cultures will be examined. This course will explore the principal literary sources from myth as they relate to the visual tradition, with special attention to the representations; the relationships between preliterate oral traditions; and the influence of visual mythmaking on the literary tradition.

**ECON 302I-3 History and Philosophy of the World's Economic Systems.** An investigation into how economic systems coexist with, and determine, or are determined by, the political and social structures in internationally diverse countries. Utilizing both economic concepts and an institutional approach the evolution of systems in nations such as Russia, Japan, the United States, China and other will be explored.

**ENGL 308I-3 Interdisciplinary Studies in Literature.** The course offers seminars in the major works that have shaped our understanding of the modern world through interdisciplinary awareness and study. Seminar topics are: Studies in Modernism; Irish Studies; The Politics of Empire; and Literary Studies of Film. The topics will be offered on a rotating basis.

**ENGR 301I-3 Humans and Their Environment.** An introduction to the study of the relationship between humans, resource consumption, pollution and the resulting environment. The effects of current human pollution and resource consumption on the environmental quality of the future. The interrelation of human population, resource consumption and pollution. Methods of minimizing resource consumption and human pollution through both technological controls and changes in human behavior.

**ENGR 303I-3 The Role of Energy in Society.** Lectures, discussions and class projects directed at understanding the role of energy, power and related concepts in society; in the past, the present and the future. Review of current energy resources and use patterns, as well as projections for new energy conservation techniques and the development of alternative energy technology. An overview of worldwide energy needs, seeking to identify future limits on energy use attributable to environmental, economic, political and other technological and evolutionary constraints. Prerequisite: satisfactory completion of three hours of Core Curriculum Science recommended.

**FL 310I-3 Classical Themes and Contemporary Life.** Specific aspects of Classical Civilization are compared with aspects of our own society. In alternate years, the course will treat different themes: Drama's Birthplace; Classical Athens; Roman Heroes and Anti-Heroes, or Athletics, Sports and Games in the Ancient World.

**FL 313I-3 East Asian Civilization.** An introduction to East Asian Cultural traditions, literature, philosophy, history, art and social organization of China and Japan.

**GEOG 303I-3 The Earth's Biophysical Environments.** Deals with components of the biophysical environment, including weather and climate, tectonics and geomorphic, soil-forming and ecologic processes as they create dynamic landscapes. Environmental issues tied to landscapes are presented and debated. Laboratories combine field studies, data analysis, computer simulations and discussions about issues related to environmental processes.

**HIST 304I-3 Islamic Religion and Culture.** Examines religious, cultural and socio-political developments in the Islamic world from the Prophet Muhammad to the present. Includes modernization and current problems in global contexts.

**LAC 300I-3 Social Perspectives on Environmental Issues.** (Same as Agriculture 300i.) Case studies (e.g., rural village in developing nation; small town in the U.S., city in developing nation) are used to learn how different societies and groups deal with their specific environmental issues, and how culture and economic factors affect their perspectives and actions.

**PHIL 303I-3 Philosophy and Literature.** An examination of (1) literary and other artistic works which raise philosophic issues and (2) philosophic writings on the relationship between philosophy and literature. Possible topics include: sources of and contemporary challenges to the traditional Western idea that literature cannot be or contribute to philosophy; the role of emotion, imagination and aesthetic value in philosophic reasoning; the role of literature in moral philosophy; philosophic issues of interpretation.

**PHIL 3071-3 Philosophy of Science, Nature and Technology.** Interdisciplinary study of major humanistic critiques of technology, science and nature; analysis of topics such as ecology, the information revolution, aesthetics and ethics in various branches of science and technology, relation of science to technology.

**PHIL 3081-3 Asian Philosophy.** An examination of some major Asian philosophy traditions, such as Vedanta, Buddhism, Confucianism, Taoism, or Sufism, in their historical and social contexts.

**PHIL 3091-3 Philosophy of Politics, Law and Justice.** An exploration of classical and modern theories of law and justice with special attention to their implications for important contemporary political issues.

**PLB 3011-3 Environmental Issues in the Contemporary World.** Fundamental biological and ecological processes important in the individual, population and community life of organisms integrating with the philosophical and ethical relationships of the contemporary, domestically diverse human society are examined. Emphasis is placed on a pragmatic understanding of environmental issues. Prerequisite: strongly recommend completion of University Core Curriculum Science requirements.

**PLB 3031-3 Evolution and Society.** An introduction to the basics of biological evolution and the effect of biological evolution on society. Historical and modern interpretations of biological evolution on the human experience will be developed. This will include legal, political, religious, scientific, racist, sexist, philosophical and educational aspects. Topics will be covered via discussions, presentations, papers and debates. Prerequisite: strongly recommend completion of University Core Curriculum Science requirements.

**SOC 3041-3 Families of the World.** Surveys uniformity and diversity to family life among the world's societies, and examines the theories concerning family patterns.

**SOC 3051-3 History of Crime in England and America.** Application of sociological perspective to the study of English and American crime and criminal justice, 1600-present. Examines effects of culture, social structure, and social change on criminal behavior and social control.

**SOC 3061-3 Popular Culture in Society.** Sociological analysis of the meaning of popular culture, the organization of popular cultural production and the relationship between popular culture and social change.

**SPCM 3011-3 Communication Across Cultures.** This course provides an introduction to communication between and among people from different cultures, focusing on the application of intercultural communication theory and research. Class assignments and exercises examine everyday encounters with individuals from different races, ethnicity, religions, gender, ages, sexual orientations and physical abilities.

**ZOOL 3121-3 Conservation of Natural Resources.** This course teaches an ecological perspective on current issues in natural resource conservation and management. Economic, political and social pressures that influence consumptive use of natural resources are considered, along with ecological consequences of resource exploitation. A conservation perspective is developed in which humans are viewed as a participants in, rather than masters of the natural environment.

## Multicultural Applied Experience Option

The Multicultural Applied Experience course is a one unit, elective credit intended to enhance the American diversity requirement in the University Core Curriculum and deepen student and faculty involvement in extra-academic service. Students who elect this unit may also wish to sign up for Saluki Volunteers. The Saluki Volunteers can evaluate the Multicultural Applied Experience and those hours may be counted toward the 30 hour minimum per year for participation in the Volunteers. In addition to having their Volunteer hours noted on their transcript, the student will receive an involvement transcript from the Volunteers documenting their activities. This can be added to the resume. For more information about Saluki Volunteers, contact Saluki Volunteers in Student Development.

### Multicultural Applied Experience Courses

An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult individual departments for course specifications regarding grading, work requirements, and supervision. A student may take this course only once.

**ANTH 298-1 Multicultural Applied Experience.** An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one-credit experience in

the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular Core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision.

**AVM 298-1 Multicultural Applied Experience.** An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult the respective department for course specifications regarding grading, work requirements and supervision. Prerequisite: Approval of the site representative, faculty supervisor and department chair.

**ELM 298-1 Multicultural Applied Experience.** An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult the respective department for course specifications regarding grading, work requirements and supervision. Prerequisite: Approval of the site representative, faculty supervisor and department chair.

**FN 298-1 Multicultural Food Experience.** This course is designed to provide multicultural experience in food selection, eating habits, meal patterns and food preparation. Students will interact with community members of various ethnicity throughout the semester. Shopping and cooking projects will provide firsthand experience. Prerequisite: concurrent or prior registration in one of the following: Anthropology 202, History 210, Philosophy 210, 211 or Sociology 215.

**FL 298-1 Multicultural Applied Experience.** An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular Core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision.

**HCM 298-1 Multicultural Applied Experience.** An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or the credit can be coordinated with a particular Core course on American diversity, although neither is a requirement. Students should consult the Department of Health Care Professions for course specifications regarding grading, work requirements and supervision. Prerequisite: Health Care Professions major only and junior standing.

**LING 298-1 Multicultural Applied Experience.** An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular Core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision.

**SOC 298-1 Multicultural Applied Experience.** An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular Core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision. Graded Pass/Fail only.

## Capstone Option

The Capstone Option is for the transfer student who has earned an Associate in Applied Science degree or the equivalent certification and whose needs can be met within one of the participating departments. It is a two-year program that gives maximum credit for previous academic and work experiences in the student's occupational field. The Capstone Option's purpose is to provide an opportunity for students to add to the marketable occupational skills and competencies which they have already acquired.

Key features of the Capstone Option are: (1) it is for selected occupational students who have changed their educational and occupational goals; (2) it is an alternative baccalaureate degree program involving no more than two additional years of col-

lege at a four-year institution; (3) it seeks to recognize similar objectives in both two-year occupational programs and four-year baccalaureate degree programs; (4) it seeks to recognize similar objectives in certain work experiences and in four-year baccalaureate degree programs; and (5) it provides a unique opportunity for developing secondary and post-secondary occupational teachers who possess strong work experience and training in a variety of technical specialties and sub-specialties.

The Capstone Option at Southern Illinois University at Carbondale can lead to the baccalaureate degree in any of the following areas:

College of Agriculture	College of Applied Sciences and Arts
Agribusiness Economics	Advanced Technical Studies
Agriculture, General	Architectural Studies
Animal Science	Aviation Management
Plant and Soil Science	Aviation Technologies
College of Education	Automotive Technology
Clothing and Textile	Dental Hygiene
Workforce Education and Development	Electronics Management
College of Engineering	Fire Science Management
Industrial Technology	Health Care Management
College of Liberal Arts	Mortuary Arts and Science
Paralegal Studies for Legal Assistants	Radiologic Sciences

REQUIREMENTS FOR THE BACCALAUREATE DEGREE THROUGH CAPSTONE

A student completing the degree through the Capstone Option must complete the hour requirements, residence requirements, and average requirements required for all bachelor's degrees. These requirements are explained in Chapter 2. The course requirements for the Capstone Option are explained below.

The following University Core Curriculum requirements must be satisfied:

University Core Curriculum Requirements for Capstone .....	30
Science .....	6
Select one course from each group. <sup>1</sup>	
Social Science .....	6
Select two courses from the approved list. Only one course from history may be selected. <sup>1</sup>	
Humanities .....	3
Select one course from either group. <sup>1</sup>	
Fine Arts .....	3
Select one course from the approved list. <sup>1</sup>	
Multicultural: Diversity in the U.S. ....	3
Select one course from the approved list. <sup>1</sup>	
English Composition .....	3
English 101 or equivalent with a grade of C or better.	
Speech Communication 101 .....	3
Mathematics .....	3
Mathematics 110, 113 or any higher level Mathematics course numbered 108 or above with exception of 114.	
Minimum Total .....	30

<sup>1</sup>For explanation of groups or list of approved courses see University Core Curriculum requirements above.

In addition to the University Core Curriculum requirements, the student must complete the requirements specified in a contract to be developed between the student

and the academic unit or department representative. The contract must include two years of work (60 semester hours) after receiving the associate degree or equivalent certification and must list the remaining requirements for the baccalaureate degree.

#### PROCEDURES FOR APPLYING TO THE CAPSTONE OPTION

In order to qualify for admission to the Capstone Option, the student must:

1. Have made application for admission to Capstone by not later than the end of the first semester in the bachelor's degree program. The student may not have earned more than twelve hours toward the baccalaureate degree program prior to approval for Capstone. A student registered in a program in which Capstone is not available who changes to a program which does participate, must submit the Capstone application by no later than the end of the first semester in the new bachelor's program. The student who has been approved for Capstone in one program, who changes to another program which also participates in Capstone, must receive approval of the new program for continued participation in Capstone by not later than the end of the first semester in the new program and no more than twelve semester hours toward the new baccalaureate program.

2. Have earned an associate degree, or equivalent certification, in a non-baccalaureate-oriented program of 60 semester hours prior to the completion of the first semester in the baccalaureate program at Southern Illinois University at Carbondale. Equivalent certification, for the purposes of Capstone admission, is defined as the formal completion of a technically oriented program of two years duration (60 semester hours), resulting in the receipt of an equivalent associate degree, certificate, diploma, or other documentation as provided by the student's educational institution.

3. Have submitted all documentation of work prior to the associate degree by no later than the end of the second semester or session at the University. This documentation includes all official transcripts from institutions previously attended and may include test reports, evaluation of military experience or whatever other kind of training has been used to award the associate degree.

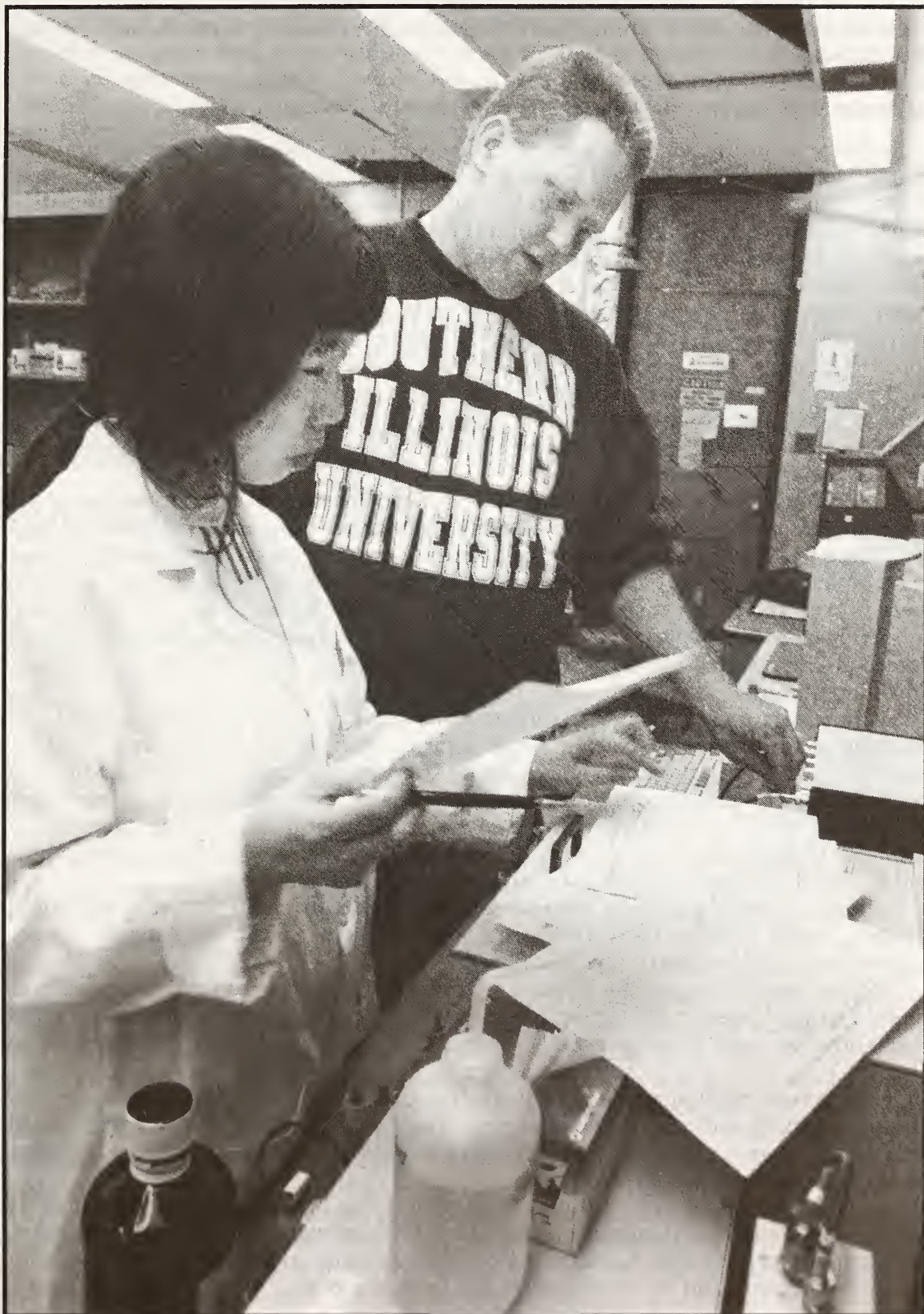
4. Have earned a minimum grade point average of 2.25 (4.0 scale) as calculated by the University grading regulations. The grade point average will be calculated on all accredited work prior to the awarding of the associate degree. An applicant denied admission to Capstone as a result of a low average upon completion of the associate degree may not be considered again after raising the average in subsequent work (credit beyond the associate degree).

5. Have entered a bachelor's degree program at the University which participates in the Capstone Option. The student must not have earned more than 12 semester hours in the baccalaureate major prior to Capstone approval.

6. Have received certification from the academic unit at the University that a bachelor's degree program can be completed within the 60 semester hours of additional work required for the bachelor's degree. The certification will be determined after the Capstone application has been filed.

Copies of the application for admission to the Capstone Option are available in the Office of Admissions and Records.

# 4 / Undergraduate Curricula and Faculty



## College of Agriculture

James M. McGuire, *Dean*

Departments: Agribusiness Economics; Agricultural Education and Mechanization; Animal Science, Food and Nutrition; Forestry; Plant and Soil Science

The College of Agriculture offers the following majors leading to the Bachelor of Science degree.

Agribusiness Economics	Animal Science	Forestry
Agriculture, General	Food and Nutrition	Plant and Soil Science

Students majoring in Agribusiness Economics may choose an Agricultural Resource Management or Applied Economics and Agribusiness option. Students pursuing the General Agriculture major in the Agricultural Education and Mechanization Department may specialize in Agricultural Education, Agricultural Information, Agricultural Mechanization, or Agricultural Production. Production, Science and Pre-Veterinary, and Equine Science specializations are available in the Animal Science major. Food and Nutrition majors may choose Dietetics or Hotel, Restaurant and Travel Administration specializations. In Forestry, one may choose a specialization in Forest Resources Management or in Outdoor Recreation Resources Management. Students in the Plant and Soil Science Department may take a concentration in crops, soils, or horticulture, with a Business, General, or Science specialization within that concentration. In addition, Landscape Horticulture and Environmental Studies specializations are available.

It is recommended that high school students who are planning to pursue one of the above majors include the following in their high school program: four years of English, three years of mathematics (algebra, geometry, advanced mathematics); three years of science (biology, chemistry, physics); three years of social studies; and two years of art, music, vocational education (may include agriculture), or foreign languages. For prospective agriculture majors or food and nutrition majors, high school classes in agriculture or home economics respectively are beneficial but are not specifically required.

For transfer students wishing to pursue a major in one of the agricultural, food and nutrition or forestry areas, courses taken prior to entering the University should include physical and biological sciences, social sciences, and humanities. In addition, a course in speech and appropriate sequences in English composition and college algebra should be included. A potential transfer student who has already identified a major for the bachelor's degree may select with greater precision the courses which will be transferred by consulting the curriculum for that major.

A student planning to take preprofessional courses in veterinary science should register in the College of Agriculture's four-year curriculum in Animal Science (Science and Pre-Veterinary specialization).

Qualified candidates for the Capstone Option are accepted into Agribusiness Economics, Animal Science, the General Agriculture major in Agricultural Education and Mechanization, and Plant and Soil Science. The Capstone Option is described in Chapter 3.

Of the recent graduates of the College of Agriculture, about 45% have been employed in private industry, 10% management and about 15% have been employed in each of: government (federal, state, county, and city); education or extension; graduate study or professional schooling.

Typical employment opportunities for Agribusiness Economics graduates include positions in credit and financial management, professional farm management, sales, and grain merchandising. A graduate from the Agricultural Education and Mechanization Department can be employed in the farm machinery or implement industry,

as a high school agricultural educator, as a news editor, or in agricultural sales or service. Animal Science majors seeking employment can investigate positions in livestock management or sales, and governmental positions such as meat inspectors, as well as veterinary school. Food and Nutrition majors will find numerous opportunities as registered dietitians or in the hotel and restaurant management industry. The major employer of Forestry graduates is the federal or state government, but they also work as private forestry consultants, in urban forestry, or at sawmills. The Plant and Soil Science graduate with a concentration in agronomy will find opportunities in industry such as agricultural chemical sales, in production agriculture, or with a governmental agency such as the Soil Conservation Service. Horticulture graduates can seek employment in nursery management, in the florist or interior plant maintenance industry, or with landscape design firms.

College of Agriculture students come from both rural and urban homes. Almost 40% of the undergraduates and nearly 45% of the graduates are women. Students who elect any one of the six majors in the College of Agriculture are counseled, for the most part, by individual faculty advisers prior to registration. Most faculty offer an open-door policy and much personal attention to their advisees as well as to students enrolled in their classes.

The Agriculture Building houses the offices, classrooms, and laboratories for the agriculture and forestry programs. The Food and Nutrition program has offices, classrooms, and laboratories in Quigley Hall. Other research and teaching facilities include over one-third acre in greenhouses plus 2,000 acres of farm and timberland. A \$1.4 million building and renovation program has resulted in state-of-the-art livestock teaching and research facilities.

## **Agribusiness Economics** (Department, Major, Courses)

The need to better utilize our natural resources and protect our environment, improve our rural infrastructure, and manage the activities of food production, processing, and distribution firms in an international setting is creating career opportunities at a quickening pace. Agribusiness economics offers a flexible program which, under the supervision of a faculty adviser, will allow the student to pursue either a comprehensive or more specialized course of study in preparation to assume an effective professional role in our dynamic, global, economic, and social environment.

Courses in agribusiness economics in the traditional areas of farm management and marketing emphasize accepted techniques to improve efficiency and farm profitability. Course offerings in agribusiness management, finance, sales, marketing, and commodity futures prepare students to assume positions with a broad range of businesses that comprise the agribusiness sector. Course offerings in environmental resource management, rural development, food policy and agricultural law introduce the needed applied economic skills for effective decision making and complement a more specialized course of study.

Within the Agribusiness Economics major there are two options. Both options emphasize a foundation of courses to equip students with professional skills in applied economics and management necessary for solving problems and communication skills necessary for positions of leadership. The agricultural resource management option provides the opportunity to combine the student's training in agribusiness economics with further knowledge about the technical aspects of agriculture and natural resources. This is achieved by developing a concentration of courses from the other units in the College of Agriculture, or by obtaining a minor in Animal Science, Food and Nutrition, Plant and Soil Science or Forestry. This option may appeal to students with an interest in conservation, natural resource management, production agriculture and the industries closely linked to production agriculture. The applied economics and agribusiness option provides the opportunity to combine the student's training in agribusiness economics with knowledge of business, economics or

other related disciplines. This is achieved by developing a concentration of courses from business, economics or other social sciences or by obtaining a minor in one of these disciplines. This option may appeal to a student with an interest in business management, banking and finance, marketing, trade, environmental policy, and rural development. Students planning to pursue an advanced degree in Agribusiness Economics at SIUC or other universities are encouraged to complement either option with additional courses in mathematics, economics, and statistics. For a number of courses taught in the department, there will be an additional charge for field trips, laboratory manuals or supplies.

### Bachelor of Science Degree, College of Agriculture

#### AGRIBUSINESS ECONOMICS MAJOR – AGRICULTURAL RESOURCE MANAGEMENT OPTION

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
Plant Biology 115 or 117 or 200 or Zoology 118	
Mathematics 110 or 113	
<i>Requirements for Major in Agribusiness Economics</i> .....	79
Chemistry 140a and 140b or equivalent .....	(3) + 5 <sup>1,2</sup>
Courses in Agribusiness Economics .....	28
Agribusiness Economics 204 <sup>1</sup> , 318, 350 or 360, 351, 362, 381-1, 450 or 461 .....	(3) + 16 <sup>1,2</sup>
Other Agribusiness Economics including 6 hours of 400 level courses .....	12
Courses in Business, Economics, and Quantitative Methods .....	9
Accounting 220 .....	3
Agricultural Education and Mechanization 318 or 418 .....	3
Economics 241 .....	3
Courses in Communication .....	6
Speech Communication 221, English 291 or Agricultural Education and Mechanization 314 or communication equivalent 200 level or above .....	6
Electives .....	31
Agriculture, Forestry, and related disciplines, excluding Agribusiness Economics .....	15
<i>Total</i> .....	120

#### AGRIBUSINESS ECONOMICS MAJOR – APPLIED ECONOMICS AND AGRIBUSINESS OPTION

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
Plant Biology 115 or equivalent, Mathematics 110 or 113 (Mathematics 108 or 139 recommended as a substitute.)	
<i>Requirements for Major in Agribusiness Economics</i> .....	79
Chemistry 140a .....	(3) + 1 <sup>1,2</sup>
Courses in Agribusiness Economics .....	28
Agribusiness Economics 204, 318, 350 or 360, 351, 362, 381-1, and 450 or 461 .....	(3) + 16 <sup>1,2</sup>
Other Agribusiness Economics including 6 hours of 400 level courses .....	12
Courses in Business, Economics, and Quantitative Methods .....	15
Accounting 220 and 230 .....	6
Agricultural Education and Mechanization 318 or 418 .....	3
Economics 240, 241 or 340, 341 .....	6
Courses in Communication .....	6
Speech Communication 221, English 291, or Agricultural Education and Mechanization 314, or communication equivalent 200 level or above .....	6

Electives .....	29	
Agriculture and Forestry electives excluding Agribusiness		
Economics .....	6	
Business, Economics and related disciplines .....	9	
Total .....		120

<sup>1</sup>Agribusiness Economics 204 substitutes for Economics 113 and Chemistry 140a-3 substitutes for Chemistry 106.  
<sup>2</sup>Courses in parenthesis are required in the major, but do not add to the hours in the major. They substitute for hours in the University Core Curriculum.

Minor

A minor in agribusiness economics is offered. A minor consists of 15 semester hours of credit. Normally 12 hours must be taken at Southern Illinois University at Carbondale. An adviser within the department must be consulted before selecting this field as a minor.

Agribusiness Economics Faculty

Beaulieu, Jeffrey, Associate Professor, Ph.D., Iowa State University, 1984.	Keeper, Wendell E., Professor, Emeritus, Ph.D., Cornell University, 1938.
Beck, Roger, Associate Professor, Ph.D., Pennsylvania State University, 1977.	Kraft, Steven E., Professor and Chair, Ph.D., Cornell University, 1980.
Eberle, Phillip, Associate Professor, Ph.D., Iowa State University, 1983.	Rendleman, C. Matthew, Assistant Professor, Ph.D., Purdue University, 1989.
Harris, Kim, Associate Professor, Ph.D., University of Illinois, 1985.	Solverson, Lyle, Associate Professor, Ph.D., University of Wisconsin, 1967.
Herr, William McD., Professor, Emeritus, Ph.D., Cornell University, 1954.	Wills, Walter J., Professor, Emeritus, Ph.D., University of Illinois, 1952.

Agricultural Education and Mechanization (Department, Major [General Agriculture], Courses)

The faculty in the Department of Agricultural Education and Mechanization do teaching, research, and service activities in the area of agricultural education, agricultural information transfer and processing, and in agricultural mechanization. The department offers the general agriculture major with four specializations. The primary objectives of this major are (1) to provide broad, basic academic preparation in agriculture for the specializations of the major, or for the undecided agriculture major, by requiring all students to complete an extensive core of agriculture classes, distributed among four of the departments of the College of Agriculture and (2) to provide the quality academic and professional preparation necessary for success in the several career fields of the four specializations. The following statements identify typical career opportunities for persons completing the respective specialization.

*Agricultural Education Specialization.* In this program a student receives the technical and professional training for certification as a teacher of applied biological and agricultural occupations in secondary schools, or to be employed in industry.

*Agricultural Information Specialization.* This specialization is intended for those students who plan to be involved in agricultural education programs in communication, extension, post-secondary educational institutions, and industry.

*Agricultural Mechanization Specialization.* Agricultural mechanization specialists pursue careers which apply technology to agricultural problems in the areas of power and machinery, structures and environment, electrical power and processing, and surveying for soil and water management.

*Agricultural Production Specialization.* This specialization provides basic preparation for many careers in general farming and in production-agriculture related positions in agricultural services, agricultural business and agricultural industry.

Qualified candidates for the Capstone Option are accepted in the department.  
For a number of courses taught in the department, there will be additional charges for field trips, laboratory manuals, or supplies.

**Bachelor of Science Degree, College of Agriculture**

**GENERAL AGRICULTURE MAJOR – AGRICULTURAL EDUCATION SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101, 102 and 121 or 204; SPCM 101; MATH 110, 113 or approved substitute; HIST 101a or approved substitute; HIST 110; AD 101, HIST 201, MUS 103 or THEA 101; POLS 114; CHEM 106; PLB 115; ANTH 202, HIST 202, 210 or SOC 215; Interdisciplinary Studies elective (humanities area); HED 101 or PE 101.	
<i>Requirements for Major in General Agriculture</i> .....	71
General Agricultural Core Classes .....	20
Agribusiness Economics 204 .....	3
Agricultural Education and Mechanization 170, 314, 318 .....	10
Animal Science 121, 122 .....	4
Plant and Soil Science 200 .....	3
Agricultural Education and Mechanization 311a, 311b and Agriculture 323 .....	8
Agriculture or Forestry electives .....	12
Professional Education Requirements (See College of Education) .....	28
Psychology 102 .....	3
<i>Electives</i> .....	8
<i>Total</i> .....	120

**Agricultural Education Suggested Curricular Guide**

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
CHEM 106.....	-		3	Select Core.....	6		4
PLB 115.....	3		-	PSYC 102 .....	3		-
Select Core .....	-		6	POLS 114 .....	-		3
ENGL 101, 102.....	3		3	SPCM 101 .....	3		-
MATH 108 .....	3		-	ABE 204 .....	-		3
HED 101/PE 101.....	2		-	AGEM 314.....	3		-
AGEM 170.....	-		4	PLSS 200.....	-		3
ANS 121 .....	3		-	English 121 or 204 .....	-		3
ANS 122 .....	1		-				
<i>Total</i> .....		15	16	<i>Total</i> .....		15	15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
Non-Western History Core.....	3		-	AG Elective .....	4		-
AGEM 318.....	3		-	EDUC 316.....	2		-
AG Electives .....	5		4	EDUC 317.....	2		-
EDUC 308 .....	3		-	AGEM 311b.....	3		-
EDUC 310 .....	2		-	AGRI 323.....	2		-
EDUC 311 .....	-		2	AG Elective .....	3		-
EDUC 314 .....	-		2	EDUC 401.....	-		12
EDUC 315 .....	-		3				
AGEM 311a.....	-		3				
<i>Total</i> .....		16	15	<i>Total</i> .....		16	12

**GENERAL AGRICULTURE MAJOR – AGRICULTURAL INFORMATION SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
To include Chemistry 106, Plant Biology 115, Sociology 108 or Psychology 102.	
<i>Agricultural Information Specialization Requirements</i> .....	46
General Agricultural Core Classes .....	20

Agribusiness Economics 204 .....	3
Agricultural Education and Mechanization 170, 314, 318 .....	10
Animal Science 121, 122 .....	4
Plant and Soil Science 200 .....	3
Agribusiness Economics elective .....	3
Agricultural Education and Mechanization 311a, 418, Agriculture 323 .....	8
Animal Science elective .....	3
Plant and Soil Science elective .....	3
Two additional courses, one in speech and one in writing, beyond University Core Curriculum requirements. ....	6
Agriculture or Forestry electives .....	3
Electives .....	33
Total .....	120

Agricultural Information Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 106 .....	-	3	SOC 108 or PSYC 102 .....	3	-
PLB 115 .....	3	-	Select Core .....	3	3
Select Core .....	3	6	SPCM 101 .....	3	-
ENGL 101, 102 .....	3	3	ABE 204 .....	3	-
MATH 108 .....	3	-	AGEM 314 .....	-	3
AGEM 170 .....	-	4	PLSS 200 .....	-	3
ANS 121 .....	3	-	Select .....	3	6
ANS 122 .....	1	-			
Total .....	16	16	Total .....	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AGEM 318 .....	3	-	AGRI 323 .....	2	-
AGEM 311a .....	-	3	ANS Elective .....	-	3
2nd Speech .....	3	-	AGEM 418 .....	3	-
ABE Elective .....	-	3	PLSS Elective .....	-	3
Elective .....	6	7	Elective .....	6	8
AG Elective .....	3	-	Writing Course .....	3	-
PHSL 201 .....	-	2			
Total .....	15	15	Total .....	14	14

GENERAL AGRICULTURE MAJOR – AGRICULTURAL MECHANIZATION SPECIALIZATION

University Core Curriculum Requirements .....	41
To include Chemistry 106, Plant Biology 115, three hours of Physical Science and Mathematics 108 or higher.	
Agricultural Mechanization Specialization Requirements .....	43
General Agricultural Core Classes .....	20
Agribusiness Economics 204 .....	3
Agricultural Education and Mechanization 170, 314, 318 .....	10
Animal Science 121, 122 .....	4
Plant and Soil Science 200 .....	3
Select 14 hours from the following courses: Agricultural Education and Mechanization 371, 372, 373, 374, 384, 402b, 472, 473, 476, 483 ...	14
Plant and Soil Science or Forestry elective .....	3
Physical Science beyond the University Core Curriculum requirements .....	3
Agriculture or Forestry elective .....	3
Electives .....	36
Total .....	120

**Agricultural Mechanization Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 106.....	-	3	Select Core.....	6	6
Select Core .....	3	2	SPCM 101 .....	-	3
ENGL 101, 102.....	3	3	ABE 204 .....	3	-
AGEM 170.....	-	4	PHYS 203a,b .....	3	3
ANS 121 .....	3	-	PLSS 200 .....	-	3
ANS 122 .....	1	-	Select Elective .....	3	-
MATH 108 .....	3	-			
Physical Science .....	-	3			
<i>Total</i> .....	13	15	<i>Total</i> .....	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AGEM 372.....	3	-	AGEM 483.....	3	-
AGEM 318.....	3	-	AGEM 476.....	-	3
AGEM 373.....	-	3	Select 400 (Ag Mech) .....	-	6
AGEM 384.....	3	-	Select ( Ag or Other) .....	12	6
Physics.....	-	3			
AGEM 314.....	3	-			
Select (Agem Mech) .....	-	3			
PLB 115.....	3	-			
Select Agem or Ag Elective .....	-	8			
<i>Total</i> .....	15	17	<i>Total</i> .....	15	15

**GENERAL AGRICULTURE MAJOR—AGRICULTURAL PRODUCTION SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
To include Zoology 118, Mathematics 108 or higher and a substitute of three hours of Chemistry 140a.	
<i>Agricultural Production Specialization Requirements</i> .....	50
General Agricultural Core Classes .....	20
Agribusiness Economics 204 .....	3
Agricultural Education and Mechanization 170, 314, 318 .....	10
Animal Science 121, 122 .....	4
Plant and Soil Science 200 .....	3
Plant Biology 200 .....	4
Chemistry 140a and 140b .....	(3) + 5 <sup>1</sup>
Zoology 118 .....	(3) + 1 <sup>1</sup>
Select 18 hours with 6 semester hours in each of three of the four following areas .....	18
A. Agribusiness Economics including either 350 or 351 .....	6
B. Agricultural Education and Mechanization including 372 or 384 .....	6
C. Animal Science 315 or 331 plus one production course .....	6
D. Plant and Soil Science 240 plus one production course .....	6
Agriculture or Forestry electives .....	2
<i>Electives</i> .....	29
<i>Total</i> .....	120

<sup>1</sup>Hours in parenthesis substitute into the University Core Curriculum.

Agricultural Production Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ZOOL 118 .....	4	-	Select Core .....	5	6
Select Core .....	-	6	SPCM 101 .....	-	3
ENGL 101, 102 .....	3	3	ABE 204 .....	-	3
AGEM 170 .....	-	4	AGEM 372 .....	-	3
ANS 121 .....	3	-	CHEM 140b .....	4	-
ANS 122 .....	1	-	PLB 200 .....	4	-
MATH 108 .....	3	-	PLSS 200 .....	3	-
CHEM 140a .....	-	4			
Total .....	14	17	Total .....	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
ABE 350 or 351 .....	3	-	Select Ag or Other .....	3	7
ANS 315 or 331 or PLSS 240 .....	-	3-4	AGEM 476 .....	-	3
AGEM 318 .....	3	-	AGEM 483 .....	3	-
AGEM 314 .....	3	-	ABE Elective .....	3	3
Select Core .....	3	-	ANS Elective .....	3	-
AG Elective .....	-	6	PLSS Elective .....	3	-
AGEM Elective .....	-	3	AGEM Elective .....	3	-
Elective (ABE, ANS or PLSS) .....	3	3			
Total .....	15	15-16	Total .....	15	13

Minor

A minor in General Agriculture is offered. A minor consists of 15 semester hours of credit. Normally 12 hours must be taken at Southern Illinois University at Carbondale. An adviser within the department must be consulted before selecting this field as a minor.

Agriculture Education and Mechanization Faculty

- Ilitis, Robert N.**, Lecturer, MS., Southern Illinois University at Carbondale, 1994.

**Legacy, James**, Professor, Ph.D., Cornell University, 1976.

**Steffen, Richard W.**, Assistant Professor, Ph.D., Iowa State University, 1993.
- Stitt, Thomas R.**, Professor, Ph.D., Ohio State University, 1967.

**Wolff, Robert L.**, Professor and *Chair*, Ph.D., Louisiana State University, 1971.

Animal Science (Major, Courses)

The animal science program is a part of the Department of Animal Science, Food and Nutrition. SIUC's internationally known animal science faculty is dedicated to teaching and to student development. Animal Science teachers at SIUC represent the range of topics in animal agriculture. There are specialists in animal genetics, reproductive physiology, nutrition and management for each of the species, international food programs, and veterinary medicine. The animal science teachers bring their exciting experience with them into every class they teach. The combination of the visionary and the practical makes a strong and vital faculty for students who want the best professional education they can get.

The department offers three specializations leading to a B.S. degree: production, equine science, and science and pre-veterinary medicine. The latter allows qualified students to transfer to accredited colleges of veterinary medicine prior to receiving the Bachelor of Science degree in Animal Science.

Most of the students' agriculture courses for the major will be in animal science, but students can also select courses from agronomy, horticulture, forestry, agricultural education, microcomputers in agriculture, agricultural mechanization, agribusiness and economics, and farm management. Other classes help the student meet basic University requirements in a way that will strengthen their abilities to think,

understand, and communicate about the social, physical and natural sciences important to animal scientists. Other departments offer supplemental coursework in physiology, genetics, nutrition, animal behavior, and other topics that many animal science students find valuable.

The animal science major is backed up with extensive facilities for several species of livestock, and every student has the opportunity to get involved in work, research, or observation at the University Farm. The core of our animal science program is the 2,000 acre farm system, which includes special centers for beef, dairy, horses, and swine.

Hundreds of distinct occupations exist within the animal agriculture field. There are opportunities in animal production work at farm operations, ranches, feedlots, stables and zoos. There are opportunities in feed and meat-packing industries, equipment suppliers, government and international agencies, veterinary medicine, and numerous other supporting industries that serve producers. Within each of these areas, animal science graduates are employed in such jobs as sales, service, education, communication, finance and business management.

There may be extra expenses for field trips, manuals or supplies in some courses.

### Bachelor of Science Degree, College of Agriculture

<i>University Core Curriculum Requirements</i> .....	41
Science: See requirements of the specialization	
Mathematics: See requirements of the specialization	
<i>Requirements for Major in Animal Science</i> .....	79
Core Requirements .....	33
Animal Science 121, 122, 210, 215, 315, 331, 332, plus one	
course from 409, 430, 465, or 485 .....	23
Agribusiness Economics 204 .....	(3) <sup>1</sup>
Agriculture electives, excluding Animal Science .....	5
Microbiology 201 .....	4
Physiology 208 .....	1
Specialization Requirements .....	46
Fulfill the requirements of one of the following specializations:	
<i>Total</i> .....	120

### PRODUCTION SPECIALIZATION

Substitute Chemistry 140a,b for Chemistry 106 .....	(3) <sup>1</sup> + 5
Substitute Zoology 118 or Plant Biology 200 for Zoology 115 .....	(3) <sup>1</sup> + 1
Substitute any higher level Mathematics course number 108 or above	
with exception of Mathematics 114 .....	(3) <sup>1</sup>
Animal Science 381 plus Animal Science electives including one	
additional 400-level course .....	7-9
Electives .....	31-33
<i>Total</i> .....	46

### EQUINE SCIENCE SPECIALIZATION

Substitute Chemistry 140a,b for Chemistry 106 .....	(3) <sup>1</sup> + 5
Substitute Zoology 118 or Plant Biology 200 for Zoology 115 .....	(3) <sup>1</sup> + 1
Substitute any higher level Mathematics course number 108 or above	
with the exception of Mathematics 114 .....	(3) <sup>1</sup>
Agribusiness Economics 350 .....	3
Animal Science 219, 409, 419, 431, 490 and a minimum of 4 credit	
hours in 112, 212, 312, or 412 .....	29
Electives .....	2-8
<i>Total</i> .....	46

SCIENCE AND PRE-VETERINARY SPECIALIZATION

Substitute Chemistry 200 for Chemistry 106 .....	(3) <sup>1</sup>
Substitute Zoology 118 for Zoology 115 .....	(3) <sup>1</sup> + 1
Chemistry 201, 210, 211, 340, 341, 350.....	14
Physics 203a,b and 253a,b .....	8
Mathematics 108 and 109 .....	(3) <sup>1</sup> + 3
Animal Science 381 plus Animal Science electives including one additional 400-level course .....	7
Electives .....	13
<b>Total</b> .....	<b>46</b>

<sup>1</sup>The numbers in parenthesis are counted as part of the 41 hour University Core Curriculum requirements.

Minor in Animal Science

The minor in animal science requires 16 semester hours, of which at least 12 must be earned at Southern Illinois University at Carbondale. An adviser within the department must be consulted before selecting this field as a minor.

Minor in Equine Studies

The minor in equine studies requires 16 semester hours, of which at least 12 must be earned at Southern Illinois University at Carbondale. Courses required are 215, 219, 315, 409, and 331 or Physiology 310, with additional hours to reach the 16 hour total selected from 319, 419, 431 or other courses in equine studies not to exceed 2 credit hours from equitation (112, 212, 312, or 412). The minor in Equine Studies is not awarded to students who have a major in Animal Science.

Animal Science Faculty

**Arthur, Robert D.**, Professor Ph.D., University of Missouri, 1970.  
**Carnevale, Elaine M.**, Assistant Professor, D.V.M., Colorado State University, 1985, Ph.D., University of Wisconsin, 1994.  
**Dado, Richard G.**, Assistant Professor, Ph.D., Michigan State University, 1994.  
**Goodman, Bill L.**, Professor, *Emeritus*, Ph.D., Ohio State University, 1959.  
**Hausler, Carl L.**, Associate Professor, Ph.D., Purdue University, 1970.  
**Hinners, Scott W.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1958.  
**Kamlade, W. G., Jr.**, Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1951.

**King, Sheryl S.**, Professor, Ph.D., University of California at Davis, 1984.  
**Kroening, Gilbert H.**, Professor and *Chair*, Ph.D., Cornell University, 1965.  
**Olson, Howard H.**, Professor, *Emeritus*, Ph.D., University of Minnesota, 1952.  
**Strack, Louis E.**, Associate Professor, *Emeritus*, D.V.M., University of Illinois, 1961.  
**Winters, Todd A.**, Assistant Professor, Ph.D., University of Wisconsin, 1992.  
**Woody, H. Dee.**, Associate Professor, Ph.D., Michigan State University, 1978.  
**Young, Anthony W.**, Professor, Ph.D., University of Kentucky, 1969.

Food and Nutrition (Major, Courses)

The food and nutrition program is a part of the Department of Animal Science, Food and Nutrition.

Students will be required to take field trips in those courses so designated with the expenses pro-rated for each student. Appropriate uniforms will be required of all students enrolling in those courses that involve preparation of food.

Bachelor of Science Degree, College of Agriculture

FOOD AND NUTRITION MAJOR – DIETETICS SPECIALIZATION

These courses give a strong scientific education to those interested in becoming dietitians in hospitals, college dormitories, industrial plants, health clinics, laboratories, or

public health and welfare organizations. They meet the American Dietetics Association Standards of Education for Plan V. Eligibility to write the registration examination to become a registered dietitian (RD) requires completion of academic and experiential requirements.

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
<i>Requirement for Major in Food and Nutrition with Specialization in Dietetics</i> .....	71-76
Anthropology 104 or Sociology 108 .....	(3)
Plant Biology 301i .....	(3)
Psychology 102, 323 .....	6
Economics 113 .....	(3)
Any Mathematics prefix course with the exception of 107, 114 .....	(3)
Zoology 115 or 118 .....	(3) + 1
Chemistry 140a, b .....	(3) + 5
Physiology 301, 310 or Allied Health Careers 141 .....	4-9
Microbiology 301 .....	4
Management 304 .....	3
Educational Psychology 402 or Agribusiness Economics 318 .....	3
Computer Science 212 or Information Management Systems 229 .....	3
Food and Nutrition 100, 206, 215, 256, 320, 321, 360, 363, 373, 410, 425, 470, 472, 480, 490 .....	42
<i>Electives</i> .....	3-8
<i>Total</i> .....	120

<sup>1</sup>The numbers in parentheses are counted as part of the 41-hour University Core Curriculum Requirement.

#### FOOD AND NUTRITION MAJOR – HOTEL, RESTAURANT AND TRAVEL ADMINISTRATION SPECIALIZATION

The Hotel, Restaurant and Travel Administration Specialization offers an undergraduate program as preparation for careers in hospitality management. The mission is to provide education and service activities with the goal of enabling students, professionals and the community to function in a changing global society. The specialization integrates other disciplines and addresses ongoing concerns and needs of the hospitality industry in its diverse environments. It is broad in scope and content. The specialization provides for theory development, experimentation and practice that fosters personal, social and intellectual pursuits for the enhancement of life-long learning.

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
<i>Requirements for Major in Food and Nutrition with Specialization in Hotel, Restaurant and Travel Administration</i> .....	69
Psychology 102 .....	(3)
Economics 113 .....	(3)
Food and Nutrition 101 .....	(2)
Any Mathematics prefix course with the exception of 107, 114 and 282 .....	(3)
Accounting 220 .....	3
Management 304 .....	3
Marketing 304 .....	3
Finance 270 or 280 .....	3
Geography 103 .....	3
Information Management Systems 229 or Computer Science 212 .....	3
Educational Psychology 402 or Agribusiness Economics 318 or Mathematics 282 .....	3
Psychology 322 or 323 .....	3

Food and Nutrition 156, 202, 206, 302, 335, 360, 361 or Marketing 305, 363, 371, 372, 373, 435, 460, 461, 473, .....	44
Approved Electives .....	10 <sup>2</sup>
Total .....	120

<sup>1</sup>The numbers in parentheses are counted as part of the 41-hour University Core Curriculum Requirement.  
<sup>2</sup>Students must complete 10 hours of electives in areas pertinent to the HRTA specialization.

Food and Nutrition Faculty

- Anderson, Sara Long, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1991.
- Ashraf, Hea-Ran L., Associate Professor, Ph.D., Iowa State University, 1979.
- Banz, William J., Assistant Professor, Ph.D., University of Tennessee, 1995.
- Boushey, Carol J., Assistant Professor, Ph.D., University of Washington, 1995.
- Corker, John W., Visiting Assistant Professor, M.B.A., Michigan State University, 1964.
- Endres, Jeannette M., Professor, Ph.D., St. Louis University, 1972.
- Girard, T.C., Assistant Professor, M.S., University of Wisconsin, 1992.
- Harper, Jenny M., Professor, Emerita, Ph.D., Cornell University, 1941.
- Konishi, Frank, Professor, Emeritus, Ph.D., Cornell University, 1958.
- Kroening, Gilbert H., Professor and Chair, Ph.D., Cornell University, 1965.
- Payne, Irene R., Professor, Emerita, Ph.D., Cornell University, 1960.
- Welch, Patricia, Professor, Ph.D., Southern Illinois University, 1982.

Forestry (Department, Major, Courses)

Two specializations are offered within the major in forestry: forest resources management and outdoor recreation resources management. University Core Curriculum requirements and a core of professional courses are similar for most specializations. Courses specifically required in the various specializations may not be taken for pass/fail credit by students majoring in the Department of Forestry. The forest resources management and outdoor recreation resources management specializations are accredited by the Society of American Foresters.

Available to the Department of Forestry for teaching and research in addition to resources present on campus are the following: the Crab Orchard National Wildlife Refuge; the Shawnee National Forest; a number of state parks and state forests; conservation areas and federal reservoirs. Collectively, these comprise more than a million acres of forest land, all in the vicinity of the University. Also accessible for forest products utilization teaching and research is a wood products plant located near the campus. Scientists with the U.S. Forest Service are affiliated with the Department of Forestry, and participate in the educational activities of the department.

The curricula of the Department of Forestry prepare graduates for employment with local, state and federal natural resource agencies, as well as private industry. In addition, many graduates continue their education in advanced masters and doctoral programs. Federal agencies employing our graduates include the Forest Service, Soil Conservation Service, Fish and Wildlife Service, National Park Service, Bureau of Reclamation, Bureau of Land Management, Environmental Protection Agency, Tennessee Valley Authority, and the Army Corps of Engineers. There are also employment opportunities in state government with agencies such as fish and game commissions, departments of natural resources and conservation, and forest services. At the local level, there are opportunities with urban forest and park systems. Private agencies have included Ducks Unlimited, the Nature Conservancy, the National Audubon Society and the American Forestry Association. Forestry graduates often are employed by private forestry consulting firms and by private industries such as Scott Paper Co., Weyerhaeuser Co., International Paper Co., Georgia Pacific Corporation and Westvaco.

**Bachelor of Science Degree, College of Agriculture****FORESTRY MAJOR – FOREST RESOURCES MANAGEMENT SPECIALIZATION**

The program in forest resources management includes instruction leading to careers in forest management and production, multiple-use resource management, and the forest products industries. The goal of the Forest Resources Management specialization is to develop individuals with sufficient understanding of the physical, biological and economic considerations required to make sound management decisions for the multiple uses of forest resources. The specialization includes areas of study recommended and accredited by the Society of American Foresters. Emphasis is upon integrated resource management of natural and renewable resources, coordinating forest utilization methods and conservation practices, and preserving our wildlands heritage. A five-week summer camp is required after the junior year to give the student practical field experience. Field study costs per student for off-campus living expenses and transportation are approximately \$150 per student and must be borne by the student. Other costs for equipment and supplies which are required for field study and certain other courses are specified in course descriptions.

<i>University Core Curriculum Requirements</i> .....	41
<i>Requirements for Major in Forestry with Forest Resources Management Specialization</i> .....	89
Forestry Core: 200, 201, 202a, 202b, 301, 310, 311, 314, 315, 331, 351, 381, 409, 410, 411 .....	38
Biology 307; Plant Biology 200; Chemistry 140a,b.....	(6) <sup>1</sup> + 9
Agribusiness Economics 204 or Economics 240.....	(3) <sup>1</sup>
English 101, 102, Speech Communication 101, Mathematics 110 or 140, Mathematics 282 or Plant Biology 360 or Agribusiness Economics 318 .....	(12) <sup>1</sup> + 3
Five-week early summer field studies: Forestry 310c, 314c, 320c, 351c, 360c .....	7
Forestry 416 .....	3
Plant and Soil Science 240 .....	4
Courses selected from: Forestry 313, 320, 350, 402, 403, 405, 408, 412, 414, 418, 420, 430, 431, 451, 454, 460, Zoology 118, 468, 469 .....	19
Restricted electives .....	6
<b>Total</b> .....	<b>130</b>

<sup>1</sup>Hours included in total for University Core Curriculum requirements.

**Forest Resources Management Suggested Curricular Guide<sup>1</sup>**

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
CHEM 140a,b .....	4	4		FOR 201 .....	3		-
PLB 200.....	4	-		FOR 202a,b.....	1		1
MATH 110 or 140.....	-	3		FOR 331.....	-		3
ENGL 101,102.....	3	3		PLSS 240 .....	4		-
FOR 200.....	1	-		MATH 282, PLB 360 or ABE 318 .....	-		3
Univ Core.....	3	5		Univ Core.....	6		3
				SPCM 101 .....	-		3
<b>Total</b> .....	<b>15</b>	<b>15</b>		<b>Total</b> .....	<b>14</b>		<b>16</b>
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
FOR 311 .....	3	-		FOR 411 .....	3		-
FOR 310.....	-	4		FOR 381 .....	-		1
FOR 410.....	3	-		FOR 416 .....	3		-
FOR 315.....	-	3		FOR 409.....	-		3
Elective.....	6-8	3-4		Elective .....	-		6-8
FOR 351.....	-	3		Selected Univ Core .....	3		3
FOR 301,314.....	3	3		Restricted Elective.....	4		3-4
<b>Total</b> .....	<b>15-17</b>	<b>16-17</b>		<b>Total</b> .....	<b>16-17</b>		<b>16-19</b>

<sup>1</sup> Also includes a five-week summer field study for seven hours. Courses included are: Forestry 310c, 314c, 320c, 351c.

FORESTRY MAJOR – OUTDOOR RECREATION RESOURCES MANAGEMENT SPECIALIZATION

The program in outdoor recreation resources management provides interdisciplinary training for management of the nation’s outdoor recreation heritage. The courses offered are among those recommended by the National Recreation and Park Association and the Society of American Foresters. The goal of the Outdoor Recreation Resources Management option is to prepare students for entry into professional careers in managing and administering wildlands for outdoor recreation and park uses in a variety of agencies operating programs in diverse geographic and natural settings. The outdoor recreation resource management student travels through selected sections of the United States on a park and recreation field studies session of outdoor recreation and park facilities. The summer camp requires the student pay transportation and living expenses. Other courses in this program may also require additional fees.

University Core Curriculum Requirements .....	41
Requirements for Major in Forestry with Outdoor Recreation Resources Management Specialization .....	89
Forestry Core: 200, 201, 202a, 202b, 301, 310, 311, 314, 315, 331, 351, 381, 409, 410, 411 .....	38
Plant Biology 200, Chemistry 140a,b .....	(6) <sup>1</sup> + 6
Agribusiness Economics 204 or Economics 240 .....	(3) <sup>1</sup>
English 101, 102, Speech Communication 101, Mathematics 110 or 140, Mathematics 282 or Plant Biology 360 or Agribusiness Economics 318 .....	(12) <sup>1</sup> + 3
Plant and Soil Science 240, 328a,b, Geography 310 .....	11
Forestry 422c (Park and Wildlands Management Camp) .....	4
Forestry 320, 420, 421, 423, 470 .....	13
Select at least five hours from Forestry 405, 416, 430, Zoology 468 or 469 .....	5-6
Restricted Electives .....	4-5
Total .....	130

<sup>1</sup>Hours included in total for University Core Curriculum requirements.

Forestry Outdoor Recreation Suggested Curricular Guide<sup>1</sup>

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 140a,b .....	4	4	FOR 201 .....	4	-
PLB 200 .....	4	-	FOR 202a,b .....	1	1
MATH 110 or 140 .....	-	3	FOR 331 .....	-	3
ENGL 101,102 .....	3	3	PLSS 240 .....	4	-
FOR 200 .....	1	-	MATH 282 or PLB 360 or ABE 318 .....	-	3
Univ Core .....	3	5	Univ Core .....	6	3
			GEOG 310 .....	-	3
			SPCM 101 .....	-	3
Total .....	15	15	Total .....	15	16

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
FOR 311.....	3	-	FOR 411.....	3	-
FOR 310.....	-	4	FOR 381.....	-	1
FOR 410.....	3	-	FOR 420, 421.....	3	3
FOR 315.....	-	3	FOR 409.....	-	3
PLSS 328a,b.....	4	-	FOR 405, 416, 430, ZOOL 468 or 469.....	5-6	-
FOR 351.....	-	3	FOR 423.....	-	3
FOR 314.....	-	3	FOR 470.....	-	2
FOR 301.....	3	-	Univ Core.....	3-4	-
FOR 320.....	-	2	Restricted Elective.....	3	4-5
Univ Core.....	3	-			
<i>Total</i> .....	16	15	<i>Total</i> .....	17-18	16-17

<sup>1</sup> Also includes a five-week summer field study for four hours (Forestry 422c for 4 semester hours).

### Forestry Faculty

**Aubertin, Gerald M.**, Associate Professor, Ph.D., Pennsylvania State University, 1964.

**Brown, Gregory G.**, Assistant Professor, Ph.D., University of Idaho, 1992.

**Budelsky, Carl A.**, Assistant Professor, Ph.D., University of Arizona, 1969.

**Burde, John H., III**, Professor, Ph.D., University of Arizona, 1975.

**Chen, Peter Y.S.**, Adjunct Assistant Professor, Ph.D., University of Minnesota, 1968.

**Chilman, Kenneth C.**, Associate Professor, *Emeritus*, Ph.D., University of Michigan, 1972.

**Fralish, James S.**, Associate Professor, *Emeritus*, Ph.D., University of Wisconsin, 1970.

**Kung, Fan H.**, Professor, Ph.D., Michigan State University, 1968.

**Mangun, Jean**, Assistant Professor, Ph.D., Purdue University, 1991.

**McCurdy, Dwight R.**, Professor and *Chair*, Ph.D., Ohio State University, 1964.

**Myers, Charles C.**, Associate Professor, *Emeritus*, Ph.D., Purdue University, 1966.

**Phelps, John**, Professor, Ph.D., University of Missouri, 1980.

**Rink, George**, Adjunct Assistant Professor, Ph.D., University of Tennessee, 1974.

**Roth, Paul L.**, Professor, Ph.D., Kansas State University, 1968.

**Stokke, Douglas D.**, Adjunct Assistant Professor, Ph.D., Iowa State University, 1986.

**Unger, Daniel R.**, Assistant Professor, Ph.D., University of Idaho, 1995.

**Van Sambeek, Jerome W.**, Adjunct Assistant Professor, Ph.D., Washington University, 1975.

## Plant and Soil Science (Department, Major, Courses)

The Department of Plant and Soil Science includes crop production, horticulture, and soils. There are many widely varied opportunities for students with an interest in plants or soils. Students may choose a general option within the department and select most of their upper division credits from a wide choice of electives throughout the College of Agriculture and the University. If interests are more specialized, students may elect the science option and specialize in one particular area, or may elect a specialization which will combine a broad background in plants and soils with selected business courses and business related electives. A specialization in environmental studies would familiarize the student with environmental problems relating to plants and soils.

Students selecting the landscape horticulture specialization can prepare for interesting careers in landscaping or gardening in parks, playgrounds, residential or industrial areas, road and street parkway improvement and maintenance, and in other public and private work to make the environment more pleasing and useful.

Opportunities for individual program development within the various options may be realized through work experience, internships, special studies, and seminars; however, no more than 30 hours of such unstructured coursework may be counted toward the degree. Students in all specializations are urged to make use of them to meet the goals and needs of their respective programs.

Students in all specializations must complete the plant and soil science core. These courses are Plant and Soil Science 200, 220, 240, one hour of 381, and Agricultural Education and Mechanization 318 or 418 or an acceptable substitute.

There may be extra expenses for field trips, manuals, or supplies in some courses.

	SPECIALIZATIONS		
Bachelor of Science Degree, College of Agriculture	General	Science	Business
University Core Curriculum Requirements .....	43 <sup>4</sup>	43 <sup>4</sup>	43 <sup>4</sup>
Foundation Skills			
English 101 and 102 .....	6	6	6
Mathematics 113.....	3	—	3
Mathematics 108 <sup>1</sup> .....	—	3	—
Speech Communication 101.....	3	3	3
Disciplinary Studies			
Fine Arts .....	3	3	3
Human Health.....	2	2	2
Humanities.....	6	6	6
Science - 6 <sup>4</sup>			
Chemistry 140a substituted for Chemistry 106 .....	4	—	4
Chemistry 200 and 201 substituted for Chemistry 106 .....	—	4	—
Plant Biology 200 substituted for Plant Biology 115 .....	4	4	4
Social Science - 6			
Agribusiness Economics 204 substitute for 1 Social Science requirement.....	3	3	3
Psychology 102 .....	—	—	3
Anthropology 104, Geography 103, History 110, 112, Political Science 114, Psychology 102 or Sociology 108 .....	3	3	—
Integrative Studies			
Multicultural: Diversity in the U.S.....	3	3	3
Interdisciplinary .....	3	3	3
Requirements for Major in Plant and Soil Science .....	58	73	69
Course in one other department other than Agricultural			
Education and Mechanization or Plant and Soil Science.....	3	3	3
Agricultural Education and Mechanization 318 (or approved substitute).....	3	3	3
Physics 203a <sup>2</sup> and b (or approved substitute) .....	—	6	—
Plant Biology 320.....	4	4	4
Chemistry 140b.....	4	—	4
Chemistry 210, 211, 340, 341, 350.....	—	13	—
Mathematics 109, 140.....	—	7	—
Plant and Soil Science 200, 220, 240, 381-1 .....	11	11	11
Other Plant and Soil Science courses at 300- and 400- level <sup>3</sup> .....	21	21	21
Other Agriculture electives.....	12	5	7
Accounting 210, Management 301 or 304, Marketing 304			
or Agribusiness Economics 360, Agribusiness Economics 333 or Agriculture 323 .....	—	—	11-12
Business electives and supporting courses.....	—	—	4-5

Electives .....	19	4	8
<b>Total</b> .....	<b>120</b>	<b>120</b>	<b>120</b>

<sup>1</sup>Mathematics 111 may be substituted.<sup>2</sup>Physics 205a may be substituted.<sup>3</sup>Plant and Soil Science electives must include 18 hours of structured coursework at the 300- or 400-level, with no less than 12 hours at the 400-level.<sup>4</sup>The University Core Curriculum requires 41 hours of courses. Chemistry and Plant Biology are 4 hour courses, but only 3 hours count toward core curriculum requirements.

### Plant and Soil Science, General Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 140a.....	4	-	Multicultural.....	3	-
PLB 200.....	-	4	Humanities.....	3	3
ABE 204.....	-	3	Agriculture Elective.....	-	3
Computer Requirement.....	3	-	PLSS 200.....	-	3
Fine Arts.....	3	-	MATH 113.....	3	-
Social Science.....	-	3	SPCM 101.....	-	3
ENGL 101,102.....	3	3	PLSS 220.....	3	-
Human Health.....	2	-	PLSS 240.....	-	4
Interdisciplinary.....	-	3	CHEM 140b.....	4	-
<b>Total</b> .....	<b>15</b>	<b>16</b>	<b>Total</b> .....	<b>16</b>	<b>16</b>
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
PLB 320.....	4	-	PLSS 381.....	1	-
Agriculture Elective.....	3	6	PLSS Upper Level Course.....	3	6
PLSS Upper Level Courses.....	6	6	Open Electives.....	10	9
AG Elective (no PLSS or AGEM).....	-	3			
<b>Total</b> .....	<b>13</b>	<b>15</b>	<b>Total</b> .....	<b>14</b>	<b>15</b>

### Plant and Soil Science, Science Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
PLB 200.....	-	4	PHYS 203a,b.....	3	3
CHEM 200, 201.....	4	-	CHEM 210, 211.....	-	4
CHEM 340, 341.....	-	5	PLSS 200, 220.....	6	-
ENGL 101, 102.....	3	3	PLSS 240.....	-	4
MATH 108, 109.....	3	3	ABE 204.....	3	-
Computer Requirement.....	3	-	MATH 140.....	-	4
Fine Arts.....	3	-	SPCM 101.....	3	-
<b>Total</b> .....	<b>16</b>	<b>15</b>	<b>Total</b> .....	<b>15</b>	<b>15</b>
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
PLB 320.....	4	-	PLSS 381.....	1	-
CHEM 350.....	-	4	Upper Level Courses.....	6	9
Agriculture Elective.....	3	2	Social Science.....	-	3
PLSS Upper Level Courses.....	3	3	Humanities.....	3	3
Human Health.....	2	-	Open Electives.....	4	-
Multicultural.....	3	-			
Interdisciplinary.....	-	3			
Agricultural Elective(no PLSS or AGEM).....	-	3			
<b>Total</b> .....	<b>15</b>	<b>15</b>	<b>Total</b> .....	<b>14</b>	<b>15</b>

### Plant and Soil Science, Business Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 140a.....	4	-	Multicultural.....	3	-
PLB 200.....	-	4	Interdisciplinary.....	-	3
ABE 204.....	-	3	Fine Arts.....	-	3
Computer Requirement.....	3	-	MATH 113.....	3	-
PSYC 102.....	3	-	SPCM 101.....	-	3
Humanities.....	-	6	Required Business Course.....	3	-
ENGL 101, 102.....	3	3	PLSS 200, 220.....	3	3
Human Health.....	2	-	PLSS 240.....	-	4
			CHEM 140b.....	4	-
<b>Total</b> .....	<b>15</b>	<b>16</b>	<b>Total</b> .....	<b>16</b>	<b>16</b>

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
PLB 320 .....	4	-	PLSS 381 .....	-	1
Required Business Courses .....	3	2	PLSS Upper Level Courses .....	6	6
Agriculture Elective .....	4	3	Required Business Course .....	-	3
PLSS Upper Level Courses .....	3	6	Elective Business Courses .....	4	-
Agricultural Elective (no PLSS or AGEM).....	-	3	Electives .....	4	4
Total.....	14	15	Total .....	14	14

Bachelor of Science Degree, College of Agriculture	SPECIALIZATIONS	
	Environmental Studies	Landscape Horticulture
University Core Curriculum Requirements .....	43 <sup>3</sup>	43 <sup>3</sup>
Foundation Skills		
English 101 and 102 .....	6	6
Mathematics 113 .....	3	—
Mathematics 108 <sup>1</sup> substituted for 110 or 113 .....	—	3
Speech Communication 101 .....	3	3
Disciplinary Studies		
Fine Arts .....	3	3
Human Health .....	2	2
Humanities .....	6	6
Science <sup>3</sup>		
Chemistry 140a substituted for Chemistry 106 .....	4	—
Chemistry 200 and 201 substituted for Chemistry 106 .....	—	4
Plant Biology 200 substituted for Plant Biol- ogy 115 .....	4	4
Social Science		
Agribusiness Economics 204 substitute for 1 Social Science requirement .....	3	3
Anthropology 104, Geography 103, History 110, 112, Political Science 114, Psychology 102 or Sociology 108 .....	3	3
Integrative Studies		
Multicultural: Diversity in the U.S. ....	3	3
Interdisciplinary .....	3	3
Requirements for Major in Plant and Soil Science .....	67-68	72-74
Biology 307 .....	3	3
Plant Biology 320 and 356 .....	8	8
Chemistry 140b .....	4	—
Chemistry 210, 211, 340, 341 and 350 .....	—	12-13
Agricultural Education and Mechanization 371, 374 .....	4	—
Agricultural Education and Mechanization 318	3	3
Zoology 316 .....	3	3
Agriculture 333 .....	—	2
Agribusiness Economics 401 .....	—	3
Geography 471 and 434 or Civil Engineering 310 .....	—	7
Political Science 445 or Geography 320 <sup>2</sup> or 426	—	3-4
Mathematics 109 <sup>1</sup> and 140 .....	—	7
Plant and Soil Science 200, 220, 240, 381-1, 420,		

447, 468 .....	—	21	
Plant and Soil Science 200, 220, 240, 322, 327, 328a,b, 381-1, 428, 429, 432 or 434 .....	30-31	—	
Agriculture electives .....	12	—	
<i>Electives</i> .....		9-10	3-5
Must be selected from Plant and Soil Science 305, 322, 325, 423, 430, 432, 436, 437, 441, 445, 446, 448 or 454			
<i>Total</i> .....		120	120

<sup>1</sup>Mathematics 111 may be substituted.<sup>2</sup>Requires permission from Plant and Soil Science chair.<sup>3</sup>The University Core Curriculum requires 41 hours of courses. Chemistry and Plant Biology are 4 hour courses, but only 3 hours count toward University Core Curriculum requirements.

### Landscape Horticulture Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 140a.....	4	-	PLSS 220 .....	3	-
PLB 200.....	-	4	PLSS 240 .....	-	4
ABE 204.....	-	3	PLSS 200 .....	-	3
Computer Requirement .....	3	-	AGEM 371.....	2	-
Social Science.....	3	-	AGEM 374.....	2	-
MATH 113 .....	-	3	CHEM 140b.....	4	-
Human Health .....	2	-	SPCM 101.....	-	3
Multicultural .....	-	3	Fine Arts.....	-	3
ENGL 101, 102.....	3	3	Humanities .....	3	3
<i>Total</i> .....	15	16	<i>Total</i> .....	14	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
PLB 320.....	-	4	PLSS 428 .....	3	-
PLB 356.....	-	4	PLSS 429 .....	-	3
PLSS 328a,b.....	4	-	PLSS 381 .....	1	-
PLSS 327 .....	3	-	BIOL 307.....	-	3
ZOOL 316 .....	3	-	Interdisciplinary .....	-	3
PLSS 432.....	-	3	PLSS Electives (400-Level) .....	4	-
PLSS 322.....	3	-	Agriculture Elective .....	6	6
PLSS Electives .....	3	3			
<i>Total</i> .....	16	14	<i>Total</i> .....	14	15

### Environmental Studies Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
PLB 200.....	4	-	Multicultural.....	-	3
CHEM 200, 201.....	4	-	Humanities .....	3	-
CHEM 340, 341.....	-	5	CHEM 210, 211.....	4	-
ABE 204.....	-	3	MATH 108, 109.....	3	3
Computer Requirement .....	3	-	SPCM 101.....	-	3
BIOL 307 .....	-	3	PLSS 200 .....	3	-
ENGL 101, 102.....	3	3	AGRI 333 .....	-	2
Human Health .....	2	-	PLSS 240 .....	-	4
			PLSS 220 .....	3	-
<i>Total</i> .....	16	14	<i>Total</i> .....	16	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
PLB 320.....	4	-	PLSS 420 .....	4	-
PLB 356.....	-	4	PLSS 468 .....	-	3
ABE 401 .....	4	-	PLSS 447 .....	-	3
MATH 140 .....	4	-	PLSS 381 .....	1	-
CHEM 350.....	-	4	CE 310.....	-	3
GEOL 426.....	-	4	ZOOL 316.....	3	-
Fine Arts.....	3	-	Major Course .....	-	3
Humanities .....	-	3	Social Science .....	3	-
			GEOG 471 .....	-	3
<i>Total</i> .....	15	15	Interdisciplinary .....	3	-
			<i>Total</i> .....	14	15

Minor

A minor in plant and soil science is also available to those interested in field crop production, horticulture, or soils. A total of 16 hours of credit is required with at least 12 hours taken at the University. One course may be selected from 200, 220, or 240; and at least eight hours from 300- or 400-level structured courses. The chair should be consulted for assistance in selecting this field as a minor.

Certification

Professional standards are needed for those whose activities affect the well-being of the general public. Such standards have been in use in medicine, law, engineering, etc. for many years. A certification program that identifies professionals for educational, scientific and service activities with public and private agencies is in the public interest. Certification assures that a student meeting these requirements is highly qualified in their discipline. It is becoming more common that employers require a student be certified as a condition of employment. The American Society of Agronomy through ARCPACS maintains and publishes a registry of certified professionals in several disciplines. Students may be certified as agronomist, crop scientist (specialist), or soil scientist, (specialist, classifier), or horticulturist by completing a program approved by ARCPACS: Federation of Certifying Boards in Agriculture, Biology, Earth and Environmental Sciences. Students with any of the above specializations may complete the certification academic requirements, although those with a science specialization will find they can complete the program with a few hours beyond the number required for a bachelor's degree. Most of the certification requirements can be completed with proper selection of courses as University Core Curriculum substitutes and by using elective courses to fulfill certification requirements. Students are encouraged to discuss their interests with a departmental representative to obtain additional information.

	AREA OF CERTIFICATION <sup>1</sup>			
	Agronomist	Crop Scientist	Soil Scientist	Horticulturist
University Core Curriculum Requirements .....	43 <sup>2</sup>	43 <sup>2</sup>	43 <sup>2</sup>	43 <sup>2</sup>
Chemistry 200 and 201 substituted for				
Chemistry 106 .....	4	4	4	4
Plant Biology 200 substituted for Plant				
Biology 115 .....	4	4	4	4
Agribusiness Economics 204 substitute for				
Economics 113 .....	3	3	3	3
English 101 and 102 .....	6	6	6	6
Speech Communication 101 .....	3	3	3	3
Mathematics 108 <sup>3</sup> .....	3	3	3	3
Other University Core Curriculum requirements .....	17	17	17	20
Requirements for Major in Plant and Soil Science .....	77	77	77	77
Courses in two other departments in				
agriculture (All options must take				
Agricultural Education and				
Mechanization 318. It fulfills additional				
mathematics requirements for				
Agronomist and Soil Scientist options) .....	6	6	6	—
Biological science elective .....	2	4	—	—
Plant Biology 320 .....	4	4	4	4
Chemistry 210, 211, 340, 341, 350, .....	9	9	9	9

Economics elective .....	3	3	—	—
Agribusiness Economics 333.....	—	—	—	3
Engineering elective.....	—	—	3	—
Geology 220.....	—	—	3	—
Plant and Soil Science 305 .....	—	—	—	4
Plant and Soil Science 200, 220, 240 and 381 ..	11	11	11	11
Pest management/plant protection (weed science, plant pathology/entomology, pest control, Plant and Soil Science 420 .....	6	6	—	6
Mathematics (including statistics requirement) 140 and 283.....	7	7	7	—
Other Plant and Soil Science courses: <sup>4</sup>				
Crop sciences .....	3	12	3	—
Soil sciences.....	3	3	11	—
Agronomy electives .....	9	3	3	—
Horticulture				
Plant and Soil Science 322, 423, 424, 432, 436, 437 .....	—	—	—	12
Plant and Soil Science 442, 445, 446, 447, 448 .....	—	—	—	3
Plant and Soil Science 325, 327, 328a, 328b, 422, 428, 429, 430, 434.....	—	—	—	6
Plant and Soil Science 405, 433, Plant Biology 356, 400, 409, Agricultural Education and Mechanization 318 <sup>5</sup> .....	—	—	—	6
Agriculture electives .....	11	6	14	13
<b>Total</b> .....	<b>120</b>	<b>120</b>	<b>120</b>	<b>120</b>

<sup>1</sup>Meets academic requirements for certification by ARCPACS: Federation of Certifying Boards in Agriculture, Biology, Earth and Environmental Sciences (includes Agronomy, Crop Science, Soil Science, Horticulture and other disciplines).

<sup>2</sup>The University Core Curriculum requires 41 hours of courses. Chemistry and Plant Biology are 4 hour courses, but only 3 hours count toward core curriculum requirements.

<sup>3</sup>Mathematics 111 may be substituted.

<sup>4</sup>Plant and Soil Science electives must include 18 hours of structured coursework at the 300- or 400- level with no less than 12 semester hours at the 400 level.

<sup>5</sup>Agricultural Education and Mechanization 318 or equivalent computer course is a departmental requirement.

## Plant and Soil Science Faculty

**Chong, She Kong**, Professor, Ph.D., University of Hawaii, 1979.

**Diesburg, Kenneth**, Assistant Professor, Ph.D., Iowa State University, 1987.

**Elkins, Donald M.**, Professor, *Emeritus*, Ph.D., Auburn University, 1967.

**Gibson, Paul T.**, Associate Professor, Ph.D., Iowa State University, 1981.

**Hillyer, Irvin G.**, Professor, *Emeritus*, Ph.D., Michigan State University, 1956.

**Jones, Joe H.**, Professor, *Emeritus*, Ph.D., Ohio State University, 1960.

**Kapusta, George**, Professor, Ph.D., Southern Illinois University, 1975.

**Klubek, Brian P.**, Professor, Ph.D., Utah State University, 1977.

**Leasure, J. K.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1953.

**Lightfoot, David A.**, Assistant Professor, Ph.D., University of Leeds, 1984.

**McGuire, James M.**, Professor and *Dean*, Ph.D., North Carolina State University, 1961.

**Midden, Karen L.**, Associate Professor, M.L.A., University of Georgia, 1983.

**Myers, Oval, Jr.**, Professor, Ph.D., Cornell University, 1963.

**Olsen, Farrel J.**, Professor, Ph.D., Rutgers University, 1961.

**Preece, John E.**, Professor, Ph.D., University of Minnesota, 1980.

**Schmidt, Michael E.**, Assistant Professor.

**Stucky, Donald J.**, Professor and *Chair*, Ph.D., Purdue University, 1963.

**Taylor, Bradley H.**, Associate Professor, Ph.D., Ohio State University, 1982.

**Tweedy, James A.**, Professor, *Vice Chancellor of Administration*, Ph.D., Michigan State University, 1966.

**Varsa, Edward C.**, Associate Professor, Ph.D., Michigan State University, 1970.

# College of Applied Sciences and Arts

Elaine M. Vitello, *Dean*

Technically oriented academic programs in the College of Applied Sciences and Arts can lead to the Associate in Applied Science and Bachelor of Science degrees. Educational offerings include:

- 1. Bachelor of Science programs for students with career goals in selected technical/professional areas.
- 2. Associate degree programs for entry of beginning students, transfer students from other institutions, or transfer students from other units within SIUC; and
- 3. Post-associate offerings in occupational areas related to the associate degree programs.

Requirements for Bachelor of Science and Associate in Applied Science degrees as well as additional information for each major offered can be found in program listings below. Several of these majors offer third-year-post-associate specializations to provide students who possess associate degrees with additional competencies.

Departments and programs within the College of Applied Sciences and Arts are:

Department Name	Program	Degree
Applied Arts	Architectural Studies	Baccalaureate
	Commercial Graphics-Design	Associate
	Construction Technology	Associate
	Interior Design	Baccalaureate
Applied Technologies	Automotive Technology	Associate and Baccalaureate
	Tool and Manufacturing Technology	Associate
Aviation Management and Flight	Aviation Flight	Associate
	Aviation Management	Baccalaureate
Aviation Technologies	Aviation Maintenance Technology	Associate
	Aviation Technologies	Baccalaureate
Health Care Professions	Dental Hygiene	Associate and Baccalaureate
	Dental Technology	Associate
	Health Care Management	Baccalaureate
	Mortuary Science and Funeral Service	Associate and Baccalaureate
	Physical Therapist Assistant	Associate
	Physician Assistant	Baccalaureate
	Radiologic Technology	Associate
	Radiologic Sciences	Baccalaureate
	Respiratory Therapy	Associate
Information Management Systems	Electronics Management	Baccalaureate
	Office Systems and Specialities	Associate
Technical and Resource Management	Advanced Technical Studies	Baccalaureate

Anyone interested in the following off-campus programs should contact the Office of Off-Campus Academic Programs, ASA, A 120 (618-536-6609).

Aviation Management  
Electronics Management

Fire Science Management  
Health Care Management

Students with educational and/or occupational backgrounds or with career objectives in the fields of aviation, electronics, fire science, health care, or interior design are encouraged to apply for admission to these career-specific programs. Students also may choose to apply for admission to Advanced Technical Studies which is designed especially for technically-oriented students seeking career enhancement where no specific Bachelor of Science degree is available. Admission to the Bachelor of Science degree program in Advanced Technical Studies does not imply admission to any College of Applied Sciences and Arts' associate degree program. Requirements for Bachelor of Science degree programs as well as additional information for each of these majors can be found later in this chapter.

Students eligible for admission to the Bachelor of Science programs must meet University entrance requirements and program requirements for admission to the major. Transfer students admitted to SIUC in good standing are eligible to apply for admission to the college's programs. A minimum of 30 semester hours in the core and major courses *must* be taken at SIUC, with at least 24 of these hours to be taken *after* admission to a program. Students must complete all course work in the program core and major requirements as well as the elective areas with a gpa of 2.00 or better to qualify for completion. Students may be admitted to the college's off-campus academic programs if the foregoing requirements and those stated in the *SIUC Military Programs Supplement* to the undergraduate catalog have been met. Additionally, students must fulfill all SIUC requirements including the University Core Curriculum requirements, total hour requirements, residence requirements, and gpa requirements to qualify for completion.

The Capstone Option is an alternative to completion of the University Core Curriculum requirements and is available to qualified students. Students eligible for the Capstone Option are able to complete their bachelor's degree in 60 additional semester hours as approved by the department. To make an application to the Capstone Option, the student must have a 60-hour Associate of Applied Science degree or its equivalent from an occupational or technical training program; a 2.25 or higher gpa on all accredited work prior to the associate degree; and send an application for the Capstone Option by no later than the student's first semester in a participating Capstone major. The student may not have more than 12 hours of course work from the chosen baccalaureate major prior to application. More information about the Capstone Option can be found in Chapter 3.

Provision is made for recognizing various forms of previous educational, military, and occupational experience. This credit is awarded via program/departmental evaluation. Also, cooperative education experience, as well as internship and independent study opportunities, are available.

Additional information on the College of Applied Sciences and Arts and its programs and course offerings is available through the Office of Enrollment Services, College of Applied Sciences and Arts, Southern Illinois University at Carbondale, Carbondale, Illinois 62901.

## Advanced Technical Studies (Major, Courses)

The Bachelor of Science degree in Advanced Technical Studies (ATS) is designed specifically for the student who has entered a career path for which a traditional baccalaureate degree is not available. The student develops an individualized learning

contract with the assistance of an Advanced Technical Studies adviser. The Advanced Technical Studies major is designed to build upon an individual’s educational and occupational experiences through courses selected to meet technical career objectives. It is ideally suited for community college and technical institute graduates possessing occupationally-oriented associate degrees. Students interested in technical areas not available through associate degrees are also encouraged to consider this major. The individualized nature of this program affords the flexibility to meet the needs of students from many diverse backgrounds who desire to enhance their career opportunities and develop skills in management of their technology.

The Capstone Option is available for eligible students who have obtained an Associate of Applied Science (AAS) degree or its equivalent and have a gpa of 2.25 on a 4.0 scale on all accredited coursework prior to the award of the AAS degree. Application to the Capstone Option must be made no later than the end of the student’s first semester in the baccalaureate degree program. See Chapter 3 for more information regarding the Capstone Option.

Graduates find employment in business and industry in such fields as construction, automotive, data processing systems, office management, architectural drafting/design, graphic design, advertising, property management, small business applications, and allied health careers.

**Bachelor of Science Degree, College of Applied Sciences and Arts**

The Bachelor of Science degree in Advanced Technical Studies requires a minimum of 120 semester hours, with a minimum of 60 semester hours at SIUC or an accredited four-year college.

University Core Curriculum Requirements <sup>1</sup> .....	41
Requirements for Major in Advanced Technical Studies .....	36
ATS Core Requirements (or approved equivalents): Advanced Technical Studies 364, 383, 416, and one of the following: 332 or 421 .....	12
Nine hours selected from Advanced Technical Studies 361, 362, 363, 421, 426, 464, 483 or approved equivalents .....	9
Fifteen hours of approved upper level electives .....	15
Approved Technical or Career Electives .....	43
An associate in applied science degree from an accredited community col- lege meets this requirement.	
A maximum of 12 credit hours of internship, work experience or inde- pendent study may be part of these 43 hours.	
Total .....	120

<sup>1</sup> The first and second years are usually satisfied by an Associate of Applied Science (AAS) degree and students enter ATS as juniors.

**Advanced Technical Studies Suggested Curricular Guide<sup>1</sup>**

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ATS 416 .....	3	-	ATS 464 .....	3	-
ATS 364 .....	3	-	ATS 332 or 421.....	-	3
ATS 383 .....	-	3	University Core <sup>1</sup> .....	6	6
University Core <sup>1</sup> .....	3	6	ATS 483 and/or Approved Electives <sup>2</sup> .....	3	3
ATS 361 or 362 <sup>2</sup> .....	3	-	Approved Elective .....	-	3
ATS 362 or 426 <sup>2</sup> .....	-	3	CEFM 341 or 465 <sup>2</sup> .....	3	-
Approved Elective.....	3	3	Total .....	15	15
Total .....	15	15			

<sup>1</sup>Some students will have transferred in with more university core course equivalents than other students. Those needing less core or just hours at a four-year school can substitute elective courses, work experience or internship.  
<sup>2</sup>Certain AAS majors may substitute advanced coursework offered by the college, AAS majors or other Advanced Technical Studies courses.

## Architectural Studies (Major, Courses)

The most basic human response to the earth's environment has been the development of methods which increase the probability of survival. The most obvious of these was the creation of shelters by which the impact of climate and the changing seasons could be controlled. From this simple reaction, architecture has evolved which reflects and promotes the cultural, economic and philosophical trends of our societies.

The four-year curriculum in architectural studies offers the beginning level of education for those who intend to pursue a career in this profession or a related field. A structured sequencing of courses is included which provides for a gradual interactive development of required knowledge and skills. This pre-professional preparation is combined with the University Core Curriculum courses to provide a comprehensive scholarly foundation for advancement.

The degree currently meets minimum educational requirements for licensure in architecture in the State of Illinois as overseen by the Department of Professional Regulation. Students also are eligible for participation in the Intern Development Program sponsored by the National Council of Architectural Registration Boards. A wide variety of employment options exists. Some areas include design, planning, preservation, government regulation, construction, building products and facilities management.

To support students in their educational endeavors, department facilities include a resource library complete with books and reference texts, sample room, current manufacturers' catalogs and professional periodicals. A dedicated computer laboratory also is available for investigations in computer-aided drawing and design.

While facilities are provided for use, cost for supplies, individual equipment and required field trips necessary to the successful completion of the program are borne by the student. Due to variation in individual materials used, it is impossible to predict the exact costs for each student. A reasonable estimate of additional expenses is in the range of \$600 per academic year.

Enrollment may be subject to selective admission.

### Bachelor of Science Degree, College of Applied Sciences and Arts

University Core Curriculum.....	41 <sup>1</sup>
As per university requirements for baccalaureate degrees, but must include Art and Design 101 or History 201 and History 101a,b or Philosophy 103a,b.	
<i>Requirements for Major in Architectural Studies</i> .....	(6) + 79
MATH 140 .....	(3) + 1
ASA 126 .....	(3) + 1
ARC 111, 112, 113, 115, 118, 124, 125, 214, 215, 216, 219, 220, 223, 226, 315, 316, 324, 371, 372, 415, 471 each with a minimum grade of C.....	77_____
<b>Total</b> .....	<b>120</b>

<sup>1</sup>Two courses required for the major ( Applied Sciences and Arts 126 and Mathematics 140) will apply toward six hours of University Core Curriculum making a total of 41 in that area.

Architectural Studies Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ARC 111 .....	5	-	ARC 113 .....	3	-
ARC 112 .....	3	-	ARC 125 .....	4	-
ARC 115 .....	-	4	ARC 223 .....	-	3
ARC 118 .....	3	-	MATH 140 .....	4	-
ARC 124 .....	-	5	HIST 101a or PHIL 103a.....	3	-
ENGL 101,102 .....	3	3	ASA 126.....	-	4
AD 101 or HIST 201.....	-	3	PLB 117.....	-	3
Core Human Health.....	-	2	HIST 101b or PHIL 103b .....	-	3
			SPCM 101 .....	-	3
Total .....	14	17	Total .....	14	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
ARC 214 .....	5	-	ARC 315 .....	4	-
ARC 215 .....	-	4	ARC 316 .....	-	3
ARC 216 .....	4	-	ARC 371 .....	-	3
ARC 219 .....	2	-	ARC 372 .....	3	-
ARC 220 .....	-	2	ARC 415 .....	-	6
ARC 226 .....	-	4	ARC 471 .....	-	3
ARC 324 .....	-	4	Core Social Science .....	3	-
Core Social Science .....	3	-	Core Interdisciplinary .....	3	-
Core Multicultural .....	3	-			
Total .....	17	14	Total .....	13	15

Automotive Technology (Major, Courses)

Offering both A.A.S. and B.S. degrees, the Automotive Technology program in the College of Applied Sciences and Arts provides students with an opportunity to obtain a solid foundation of knowledge, experience and skills that will assist in job entry and career advancement in the automotive service field.

Current automotive trends indicate that the automobile will continue to experience changes that include expanded use of electronics and computerized controls for improving engine performance, fuel efficiency, on board diagnostics, exhaust emissions and passenger comfort and safety. These changes will require service technicians who are knowledgeable and highly skilled in specialized areas of automotive technology. This program offers the student an opportunity to specialize in chosen automotive subject areas during the last two semesters of study in the associate degree program. The bachelor's degree program offers the opportunity to develop technical, communication and supervisory skills. The student should expect to spend about \$700 for a required basic tool kit consisting of both standard and metric tools and a digital multimeter.

The Automotive Technology program has achieved master certification by the National Institute for Automotive Service Excellence. Instruction is offered in all eight areas of ASE certification—engine repair, automatic transmissions/transaxles, manual drive trains and axles, front end, brakes, electrical systems, heating and air conditioning and engine performance. All graduates are encouraged to complete the certification process by taking the ASE certification tests.

An advisory committee composed of leaders in the automotive field provides additional guidance to the program. Current members include representatives from General Motors and GM divisions, Ford Motor Company, Chrysler Corporation, Toyota Motor Sales, Nissan Motor Corporation, Mitsubishi Motor Sales, Moog Automotive, Electronic Data Systems, NAPA, automotive dealerships and wholesale/retail outlets.

Associate in Applied Science Degree

During the first year, each student will enroll in core courses that provide opportunities to develop technical skills considered essential to all automotive technicians.

During the second year, the student may choose four areas of study from a selection of automotive technology courses offered. This allows the student to select courses that will assist in developing the chosen career path.

The associate degree can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable educational experience.

2-Year Cooperative Education Programs Offered

**CHRYSLER DEALER APPRENTICESHIP PROGRAM (CAP)**

A cooperative work/study program is offered by the Chrysler Corporation, its participating dealers, and the College of Applied Sciences and Arts' Automotive Technology program. This associate degree program is two calendar years in length. Final selection for admission to this program is determined by the corporation and its dealer.

**GENERAL MOTORS AUTOMOTIVE SERVICE EDUCATIONAL PROGRAM (ASEP)**

A cooperative work/study program is offered by General Motors, its participating dealers and the College of Applied Sciences and Arts' Automotive Technology program. This associate degree program is two calendar years in length. Final selection for admission to this program is determined by the corporation and its dealers.

Associate in Applied Science Degree, College of Applied Sciences and Arts

Requirements for Major in Automotive Technology

Social Science Elective.....	3
ENGL 101 .....	3
SPCM 101 .....	3
IMS 125 or equivalent .....	3-4
ASA 126 or equivalent .....	3-4
Approved Electives .....	6
AUT 120, 150, 160, 170, 180.....	23
Twenty hours of selected 200- and 300-level Automotive Technology courses .....	20
Total .....	64-66

Associate in Applied Science Auto Technology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AUT 150,170 .....	5	5	Elective (Core or Major) .....	3	-
AUT 160,180 .....	5	5	AUT 200 or 300 Level .....	10	10
ENGL 101.....	3	-	SPCM 101 .....	3	-
AUT 120.....	3	-	Core Social Science .....	-	3
Elective (Core or Major) .....	-	3	Physics.....	-	3
Math .....	-	3			
Total .....	16	16	Total .....	16	16

Bachelor of Science Degree

The Bachelor of Science Degree in Automotive Technology is designed to provide a combination of automotive technical education, computing skills and communication skills along with theoretical and practical knowledge concerning supervision and management to students interested in careers in the automotive service industry. The program can strengthen previous automotive training received from technical institutes, community college, proprietary institutions, industry-related training programs, and the military. The Capstone option is available to qualified A.A.S. graduates entering the Automotive Technology bachelor's degree program as explained in

this catalog. Major automotive manufacturers, dealerships and the automotive after-market industry are seeking four-year automotive technology graduates. The number of job titles in the area of automotive technology reflects the nature of a diverse and expanding field. Job titles include district manager in training-service, district manager-service, customer assistance specialist, customer service coordinator, service advisor, dealership service manager, technical training specialist, district manager-sales, zone service manager, field executive, technical writer, field service engineer, and district parts manager. Most of these positions require a four-year degree with skills in communications, management and consumer relations, as well as technical knowledge.

4-Year Cooperative Education Programs Offered

MOOG COOPERATIVE PROGRAM

Moog Automotive, a division of Cooper Industries, offers a work/study program in conjunction with the SIUC Automotive Technology program. The program is four calendar years in length and leads to a B. S. degree in Automotive Technology. Participants are selected by employer interviews of students currently enrolled in the Automotive Technology Program.

Bachelor of Science Degree, College of Applied Sciences and Arts

University Core Curriculum .....	41
Requirements for Major in Automotive Technology .....	45
(Minimum of 29 hours in 300/400 level courses)	
Major Core Requirements (or Approved Equivalents).....	27
AUT 325, 435 .....	7
Twenty hours selected from the following: (Minimum of 10	
hours in 300/400 level courses) AUT 280, 285, 290, 295,	
320, 360, 370, 380, 390, 430, or 475.....	20
Support Courses (or Approved Equivalents).....	18
Select one course from the following: MGMT 304, 350, ATS	
364.....	3
Select one course from the following: ENGL 491, WED 302,	
ATS 416 .....	3
Select two courses from the following: ATS 383, 421, ACCT	
210, FIN 270, MKTG 304, 350.....	6
Select one course from the following: IMS 229, CS 212 .....	3
Select one course from the following: CEFM 465, AUT 485,	
ATS 332 .....	3
Approved Technical or Career Electives .....	34
Total .....	120

Bachelor of Science Automotive Technology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AUT 150 .....	5	-	IMS 229 .....	3	-
AUT 160 .....	4	-	Physics.....	3	-
ENGL 101,102 .....	3	3	SPCM 101 .....	3	-
AUT 120 .....	3	-	AUT 325 .....	4	-
AUT 170 .....	-	5	Core Social Science .....	3	3
MATH.....	-	3	AUT 280 .....	-	5
AUT 180 .....	-	4	AUT 285 .....	-	5
Total.....	15	15	Total .....	16	13

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Core Science.....	3	-	ATS 364 .....	3	-
ATS 416 .....	3	-	Human Health.....	2	-
MKTG 304.....	3	-	Interdisciplinary.....	3	-
Fine Arts.....	3	-	AUT 435 .....	3	-
Humanities .....	3	3	ACCT 210 .....	3	-
AUT 290 .....	-	5	AUT 370 .....	-	5
AUT 360 .....	-	5	AUT 380 .....	-	5
AUT 485 .....	-	3	Multicultural.....	-	3
			ATS 421 .....	-	3
Total .....	15	16	Total .....	14	16

Aviation Flight (Major, Courses)

The Aviation Flight program is designed to prepare beginning students for the Federal Aviation Administration Commercial Pilot Certificate including the multi-engine and instrument ratings. Instruction is conducted at Southern Illinois Airport, Carbondale, Illinois. Flight theory courses will supplement and complement each flight course. In order to maintain the highest possible standards for flight and theory courses, each lesson of every course is submitted to and approved by the Federal Aviation Administration. FAA designated check pilots will examine the student's performance and effectiveness periodically during each flight course. University Core Curriculum Requirements and basic science courses will be supplemented with a required core of flight courses and other related technical courses to enhance the student's professional value to the aviation industry. In addition to the University tuition and fees, substantial lab fees are assessed for each flight course. For current charges, contact Aviation Flight.

The associate of Applied Science degree can be completed in two academic years plus one summer semester at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-instructional educational experience, however, the twenty-one semester hours of aviation flight courses must be taken at SIUC. Credit may be granted for a Private Pilot certificate earned prior to enrollment at SIUC. A departmental evaluation of student's competence is required before posting credit for outside training or beginning further training in the program.

The aviation flight degree program requires the submission of a program application in addition to the University admission application. You can not be fully admitted to the SIUC Aviation Flight Program until the response to the second application is received.

Associate In Applied Science Degree, College of Applied Sciences and Arts

<i>University Core Curriculum Requirements</i>	
English 101, 102, Speech Communication 101 and University Core Curriculum mathematics or equivalent .....	12
<i>Requirements for the Major in Aviation Flight</i>	
Applied Sciences and Arts 126 or Physics 203a and 253a .....	4
Geography 330 .....	3
Approved elective course.....	3
Core Requirements .....	38
Aviation Flight Courses: 201, 203, 204, 206, 207a, b .....	21
Aviation Flight Technical Courses: 200, 202, 205, 210, 260 .....	17
Total .....	60

Aviation Flight Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AF 200, 202 .....	3	3	Elective .....	3	-
AF 201, 203 .....	5	5	AF 260.....	-	4
ENGL 101, 102 .....	3	3	AF 204, 205.....	5	3
MATH .....	-	3	AF 210, 206.....	4	2
GEOG 330 .....	3	-	SPCM 101 .....	3	-
			ASA 126a,b .....	-	4
			AF 207a,b .....	2	2
Total .....	14	14	Total .....	17	15

Aviation Maintenance Technology (Major, Courses)

Skilled technicians are in demand in the aviation industry, both in airlines and general aviation. The industry demands people who possess a wide range of knowledge and ability provided by University Core Curriculum Requirements as well as special technical training.

Students enrolled in Aviation Maintenance Technology learn reciprocating and jet powerplants; cabin environment and jet transport systems; hydraulics; fuel systems; ignition-starting systems; carburetion and lubricating systems; instruments; and powerplant testing in coordinated classroom and laboratory work. The program is fully accredited by the Federal Aviation Administration. Students who wish to qualify for the FAA Airframe and Powerplant (A+P) Certificate are required to take a two-course post-associate specialization. Upon completion of the associate degree program, students may continue their studies toward a baccalaureate degree. (see Aviation Technologies).

Instruction is conducted at the Southern Illinois Airport between Carbondale and Murphysboro in a combination laboratory-classroom-hangar facility.

The student should expect to spend approximately \$500 for a personal tool kit and special study materials.

Executives in the aviation industry constitute an advisory committee which serves the Aviation Maintenance Technology program. Current members are: Loren Doughty, Director of Customer Training, Bell Helicopter Textron, Fort Worth, Texas; Robert Bauman, RAB Consulting Services, Makanda, Illinois; Raoul Castro, Aerospace International Management, Upland, California; Joe Cooley, UPS, Aircraft Records, Louisville, Kentucky; Joseph DePaola, Xionix Simulation Inc., Euless, Texas; Patrick Graham, Section Manager, Douglas Aircraft Company, Long Beach California; Robert A. Harms, Chief of Maintenance, Archer Daniels Midland Co., Decatur, Illinois; Dennis Hitt, Manager of Customer Service, Bendix-King Radio Corporation, Olathe, Kansas; James A. Kennedy, Manager, Avionics Department, Midcoast Aviation, Inc., Cahokia, Illinois; Robert Long, Hartzell Propeller Products, Piqua, Ohio; James F. McNamara, Captain, Fleet Manager A300, American Airlines, DFW Airport, Texas; Terry Washow, Manager, Maintenance Administration, American Airlines, Chicago, Illinois; Mike Kelly, Bendix/King Radio Corporation, General Aviation-Avionics Division, Olathe, Kansas; Harry B. Fanning, Group Manager F-15 Repairs, McDonnell Douglas Aerospace, St. Louis, Missouri.

Associate in Applied Science Degree, College of Applied Sciences and Arts

<i>Requirements for Major in Aviation Maintenance Technology</i>	
English 101, Speech Communication 101 .....	6
Information Management Systems 125 or University Core Mathematics .....	3-4
Aviation Maintenance Technology 110, 111, 112, 113, 114, 116, 201, 203, 204, 205, 206, 210, 211, 212, 213, 214, 215, 216 .....	67

Elective (in social science) .....	3
<b>Total</b> .....	<b>79-80</b>

## Aviation Management (Major, Courses)

The aviation management major is designed to build upon technical training in aviation maintenance, flight, avionics technology, air traffic control, aircraft operations support or other aviation-related fields. The technical training may be gained through Southern Illinois University at Carbondale, other post-secondary institutions, proprietary schools, and military, government agencies (international or domestic) or through government certified flight or maintenance training schools. Students entering the Aviation Management major are encouraged to complete the requirements of an aviation-related associate degree under the provision of the Capstone option as explained in Chapter 3. As an alternative to an associate degree in aviation, students in aviation management should have aviation-related work experience, internship experience or technical training. Finally, concurrent enrollment in aviation-related degree programs, internships or technical training is required for those students not having prior aviation training, experience or education. The aviation management degree program requires the submission of a program application in addition to the University admission process.

Students who major in aviation management have the opportunity to participate in the following aviation management-related programs:

1. The Federal Aviation Administration (FAA) approved Airway Science Curriculum at SIUC.
2. The Federal Aviation Administration approved Air Traffic Control Cooperative Education Program at SIUC. (FAA has suspended this program nationally since 1993.)
3. The United Airlines/SIUC Cooperative Education Program in Aviation Flight and Aviation Management.
4. The Delta Airlines Internship in Flight Operations and Management.
5. The United Parcel Service Airlines Flight Operations Intern Program.

Graduates of the Aviation Management program obtain professional, technical and management positions in aviation manufacturing, the airlines, general aviation, military aviation and government agencies related to aviation.

## Bachelor of Science Degree, College of Applied Sciences and Arts

<i>University Core Curriculum Requirements</i> .....	41
<i>Requirements for Major in Aviation Management</i> .....	48
Core Requirements: Advanced Technical Studies 364, 416, and two of the following: Aviation Management 385, 402 and/or Advanced Technical Studies 383 .....	12
Fifteen hours selected from Aviation Management 360, 370, 371, 372, 373, 374, 375, 376, 377, 386, 401, 460 .....	15
Twelve hours selected from the following as approved by the adviser: Advanced Technical Studies 363; Aviation Management 319, 320, 350; or approved equivalent .....	12
Nine hours of additional Aviation Management courses or adviser approved specialization electives .....	9
<i>Approved Career Electives</i> .....	31
<b>Total</b> .....	<b>120</b>

Aviation Management Suggested Curricular Guide

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ATS 364 .....	3	-	AVM 373 .....	3	-
ATS 416 .....	3	-	AVM 375 <sup>2</sup> .....	3	-
AVM 371 .....	3	-	AVM 402 .....	3	-
ECON 240 <sup>1</sup> or 241 <sup>1</sup> .....	3	-	Core Science .....	-	3
Core Social Science or Science ...	3		POLS 114 <sup>1</sup> or Core Social Sci-		
ATS 363b <sup>2</sup> .....	3	-	ence .....	-	3
AVM 385 .....	-	3	Core Integrative Studies <sup>1</sup> .....	3	-
AVM 386 .....	-	3	ATS 363 a,d <sup>2</sup> .....	3	-
AVM 370 or AVM 360 <sup>1</sup> .....	-	3	AVM 372 .....	-	3
Computer Elective <sup>1</sup> .....	-	3	AVM 374 .....	-	3
Core Humanities .....	-	3	AVM 376 <sup>2</sup> .....	-	3
ATS 363a,c <sup>2</sup> .....	-	3	AVM 377 or MKTG 304 <sup>1</sup> .....	-	3
			Core Humanities or Fine Arts <sup>1</sup> ...	3	-
			ATS 363e <sup>2</sup> .....	-	3
Total .....	15	15	Total .....	15	15

<sup>1</sup> On campus only  
<sup>2</sup> Off-campus only

Aviation Technologies (Major, Courses)

Whether general aviation aircraft or transport, modern aircraft require highly-trained technicians to manage hardware, troubleshoot systems and maintain airframe structures and powerplants. The programs in the Department of Aviation Technologies are ranked among the best in the country, and were developed with input from industry representatives and the Federal Aviation Administration (FAA), to provide the requisite skills and broad educational experience necessary in today's competitive environment. Optional paths within the major provide a great deal of flexibility in preparing for a career in the aviation industry. Students may qualify for the FAA Airframe and/or Powerplant certificates only, or in conjunction with a degree program, may forego certification entirely to concentrate on a particular area of interest. The Bachelor of Science degree program in Aviation Technologies is designed to enhance technical training students have received in aviation maintenance or electronics. This technical training may be obtained through SIUC (see Aviation Maintenance Technology) or be received at other post-secondary institutions, in the military, or in the case of aviation maintenance, at other FAA approved maintenance schools certified under F.A.R. Part 147.

Students entering the Aviation Technologies program are encouraged to have completed an appropriate associate degree or it's equivalent under the provisions of the Capstone option as explained in Chapter 3. This option allows qualified students to fulfill their degree requirements by completing no more than 60 semester hours of coursework beyond their associate degree. There are three specializations: Aircraft Maintenance, Helicopter Maintenance and Aviation Electronics.

Courses in each of these areas have been selected and designed to provide the student with optimum exposure to theory in the classroom and develop practical, hands-on skills both in the hanger and in specially-designed, task-dedicated laboratories. The Aviation Technologies facilities, located at Southern Illinois Airport between Carbondale and Murphysboro, Illinois, provides students with more than 10 million dollars of the best available equipment including fixed and rotary wing aircraft, airline-type cockpit procedure trainers (CPT's), an advanced composite structures laboratory, and computer laboratory. The student should expect to spend about \$600 for a tool kit.

**Bachelor of Science Degree, College of Applied Sciences and Arts**

**AIRCRAFT MAINTENANCE SPECIALIZATION**

The aircraft maintenance specialization provides students who have completed an FAA approved airframe and powerplant program with the opportunity to advance their technical skills in aviation and to develop management level skills essential to industry.

<i>University Core Curriculum Requirements</i> .....	41
Requirements for Major in Aviation Technologies.....	42
Core Requirements.....	12
AVT 317.....	3
AVT 318.....	3
AVT 376.....	3
AVM 385 or ATS 364 .....	3
Specialization Requirements.....	18
AMT 405 .....	3
AVT 410.....	3
AVT 416.....	3
AVT 324.....	5
AVT 325.....	4
Specialization Electives.....	12
Advisor approved electives to reflect students career interest and goals. May be any combination of coursework to include AVT, AVM, AMT, ATS.	
<i>Technical or Career Electives</i> .....	37
An Associate in Applied Science degree or equivalent certification in Aviation Maintenance (Airframe and Powerplant) from an accredited college, community college, or technical institute meets this requirement.	
<i>Total</i> .....	120

**Aircraft Maintenance Suggested Curricular Guide**

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102.....	3	3	Core Science.....	3	-
MATH 108 .....	3	-	Core Social Science .....	-	3
SPCM 101.....	-	3	Technical Electives .....	13	5
Technical Elective .....	10	9	Specialization Elective .....	-	6
<i>Total</i> .....	16	15	<i>Total</i> .....	16	14
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Core Humanities .....	3	3	Core Social Science .....	3	-
Core Science.....	-	3	Core Fine Arts.....	3	-
Specialization Elective .....	6	-	Multicultural.....	3	-
AVT 317 .....	3	-	Core Human Health .....	-	2
AVT 318 .....	3	-	Interdisciplinary .....	-	3
AVT 324 .....	-	5	AMT 405.....	3	-
AVT 325 .....	-	4	AVT 410, 416.....	3	3
<i>Total</i> .....	15	15	AVM 385 or ATS 364 .....	-	3
			AVM 376 .....	-	3
			<i>Total</i> .....	15	14

**Bachelor of Science Degree, College of Applied Sciences and Arts**

**AVIATION ELECTRONICS SPECIALIZATION**

The aviation electronics specialization is designed to accommodate students who have an aviation maintenance or electronics background. The airframe and powerplant student will develop flight line maintenance and troubleshooting skills in avia-

tion electronics. The electronics student will develop both flight line maintenance and bench repair skills in aviation electronics.

University Core Curriculum Requirements .....	41
Requirements for Major in Aviation Technologies .....	43
Core Requirements .....	12
AVT 317 .....	3
AVT 318 .....	3
AVM 376 .....	3
AVM 385 or ATS 364 .....	3
Specialization Requirements .....	21
AVT 233 .....	3
AVT 237 .....	3
AVT 321 .....	2
AVT 324 .....	5
AVT 325 .....	4
AVT 323 .....	4
Specialization Electives .....	10
Advisor approved electives from AVT 320, 322, 330, 360, 365 or 370.	
Technical or Career Electives .....	36
An Associate in Applied Science degree or equivalent certification in Aviation Maintenance (Airframe and Powerplant) or Electronics from an accredited college, community college, or technical institute meets this requirement.	
Total .....	120

Aviation Electronics Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102 .....	3	3	Core Social Science <sup>1</sup> .....	3	-
MATH 108 .....	3	-	Core Science .....	-	3
SPCM 101 .....	-	3	Core Humanities <sup>2</sup> .....	-	3
Approved Technical Electives .	10	10	Approved Technical Elective ...	10	6
			AVT 233 .....	3	-
			AVT 237 .....	-	3
Total .....	16	16	Total .....	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Core Social Science <sup>1</sup> .....	3	-	Core Science .....	-	3
Core Humanities <sup>2</sup> .....	3	-	Interdisciplinary .....	3	-
Multicultural .....	-	3	Core Human Health .....	-	2
Core Fine Arts .....	-	3	AVT 323 .....	4	-
AVT 321 .....	2	-	Approved Specialization Elect...	6	4
AVT 317 .....	3	-	AVM 385 or ATS 364 .....	-	3
AVT 318 .....	3	-	AVM 376 .....	-	3
AVT 324 .....	-	5			
AVT 325 .....	-	4			
Total .....	14	15	Total .....	13	15

<sup>1</sup>Students may take only one history course to satisfy this requirement.  
<sup>2</sup>Students may take one course from groups 1 and 2 or may select a sequence in History, Philosophy or English.

Bachelor of Science Degree, College of Applied Sciences and Arts

HELICOPTER SPECIALIZATION

The helicopter specialization provides students who have completed an FAA approved airframe and powerplant program with the opportunity to advance technical skills in helicopter theory, maintenance and overhaul, and inspection. Additional management level courses compliment this specialization.

University Core Curriculum Requirements .....	41
Requirements for Major in Aviation Technologies .....	42
Core Requirements.....	12
AVT 317.....	3
AVT 318.....	3
AVM 376.....	3
AVM 385 or ATS 364 .....	3
Specialization Requirements.....	18
AMT 301 .....	3
AMT 302.....	6
AMT 304.....	3
AMT 306.....	6
Specialization Electives.....	12
Advisor approved electives to reflect students career interests and goals. May be any combination of coursework to include AVT, AVM, AMT or ATS.	
Technical or Career Electives.....	37
An Associate in Applied Science degree or equivalent certification in Aviation Maintenance (Airframe and Powerplant) from an accredited college, community college, or technical institute meets this requirement.	
Total.....	120

Helicopter Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	Core Science.....	3	-
MATH 108 .....	3	-	Core Social Science <sup>2</sup> .....	-	3
SPCM 101.....	-	3	Technical Elective .....	13	5
Technical Elective .....	10	9	Specialization Elective .....	-	6
Total .....	16	15	Total .....	16	14
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Core Humanities <sup>1</sup> .....	3	3	Core Social Science <sup>2</sup> .....	3	-
Core Science.....	-	3	Core Fine Arts.....	3	-
Specialization Elective .....	6	-	Multicultural.....	-	3
AVT 317 .....	3	-	Core Human Health .....	-	2
AVT 318 .....	3	-	Interdisciplinary .....	-	3
AMT 301.....	-	3	AMT 304.....	3	-
AMT 302.....	-	6	AMT 306.....	6	-
Total .....	15	15	AVM 385 or ATS 364 .....	-	3
			AVM 376 .....	-	3
			Total .....	15	14

<sup>1</sup> Students may take only one history course to satisfy this requirement.  
<sup>2</sup> Students may take one course from group 1 and 2 or may select a sequence in History, Philosophy, or English.

Commercial Graphics – Design (Major, Courses)

The advertising business is a growing field, presenting ever increasing opportunities for men and women who have creative and artistic ability. Trained people are needed to develop story illustrations, advertising layouts, billboard design, point-of-purchase displays, package designs, direct mail pieces, annual report designs, television commercials, finished lettering, fashion illustrations, airbrush and photo-retouching, and many others. Students in the program develop multiple art skills so they may qualify for initial positions in many different areas of advertising art and design. Each individual has a base upon which to build a career according to personal special interests and talents.

Each graduating design student is required to pass, with 90% accuracy, a vocabulary proficiency test and to have compiled a professionally acceptable portfolio of work.

The student should expect to spend approximately \$1,500 to \$2,000 for supplies, equipment, and materials over a two year period.

An active advisory committee whose members represent large corporations and departments, large and small advertising agencies, and freelance designers and illustrators, serve the program. At the general meeting each year in April all graduating students will be interviewed with their portfolios to prepare them for their first job search efforts.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience. Eligible students may wish to continue work toward the Advanced Technical Studies bachelor of science degree in the College of Applied Sciences and Arts.

An individual must first be accepted academically to the university, present a portfolio of required pieces, and participate in a workshop drawing test. The 45 best qualified will be invited to enter the program the following fall.

Associate in Applied Science Degree, College of Applied Sciences and Arts

Requirements for Major in Commercial Graphics-Design

Psychology 102 .....	3
English 101, 102, Speech Communication 101 .....	9
Commercial Graphics 110, 120, 122, 124, 130, 132, 133, 134, 210, 215, 222, 224, 230 .....	56
Commercial Graphics 109 or 150 .....	2
Graphic Design Proficiency Examination requirement .....	0
Total .....	70

Commercial Graphics-Design Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CG 109 <sup>1</sup> .....	2	-	CG 150 <sup>1</sup> .....	2	-
CG 110a,b .....	3	3	CG 210 .....	6	-
CG 120 .....	4	-	CG 215 .....	-	6
CG 122 .....	4	-	CG 222 .....	-	6
CG 124 .....	4	-	CG 224 .....	6	-
CG 130 .....	-	4	CG 230 .....	-	1
CG 132 .....	-	4	ENGL 102 .....	3	-
CG 133 .....	-	1	PSYC 102 .....	3	-
CG 134 .....	-	4			
SPCM 101 .....	-	3			
ENGL 101 .....	3	-			
Total .....	18-20	19	Total .....	18-20	13

<sup>1</sup>Students are required to take either Commercial Graphics 109 or Commercial Graphics 150.

Construction Technology (Major, Courses)

The Construction Technology curriculum is designed to meet the needs of the construction industry. Particular emphasis is placed upon residential and light commercial construction. The technician working in construction must be able to communicate in the language of the industry, understand and interpret construction drawings, specifications, and methods of building fabrication and assembly. Technicians also must be capable of working in the area of middle management that exists between architect and craftsman. The technician is expected to carry out the mandates of building design. The program provides sufficient theory and laboratory work so that the graduate can perform in areas of design, drafting, construction methods, estimating, and supervision.

The curriculum is designed to accept both new freshmen and transfer students. Students entering with industrial experience or courses taken in the military may be given credit by proficiency or transcript evaluation.

Students entering this program should expect to spend about \$150 over a two-year period for instruments, tools, materials, and supplies.

The program is served by an advisory committee whose members have extensive experience in the construction field.

Graduates of the program may find employment as construction engineering aides, assistants within the construction supervision field, building materials sales representatives, building code inspectors, and estimators.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experiences.

**Associate in Applied Science Degree, College of Applied Sciences and Arts**

*Requirements for Major in Construction Technology*

English 101 and Speech Communication 101 .....	6
Information Management Systems 120, 125, Applied Sciences and Arts 126 .....	11
Construction Technology 100, 102, 103, 104, 105, 110, 125, 203, 207, 208, 209, 210, 211, 212, 225 .....	45
Electives (in Humanities or Social Sciences) .....	3
<b>Total .....</b>	<b>65</b>

**Construction Technology Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CST 100 .....	1	-	CST 105.....	2	-
CST 102 .....	4	-	CST 125.....	3	-
CST 103 .....	-	4	CST 207.....	-	3
CST 104 .....	4	-	CST 209.....	4	-
CST 110 .....	5	-	CST 210.....	-	3
CST 203 .....	-	3	CST 211.....	3	-
CST 208 .....	-	3	CST 212.....	-	3
IMS 125.....	4	-	CST 225.....	-	3
ASA 126.....	-	4	SPCM 101 .....	-	3
ENGL 101.....	-	3	Elective .....	-	3
			IMS 120.....	3	-
<b>Total .....</b>	<b>18</b>	<b>17</b>	<b>Total .....</b>	<b>15</b>	<b>18</b>

**Dental Hygiene** (Major, Courses)

The program leading to a baccalaureate degree in dental hygiene is designed to prepare the graduate to successfully enter the oral health profession of dental hygiene in any one of the six designated roles of the dental hygienist as defined by the American Dental Hygienists' Association: clinician, educator/health promoter, manager, researcher, consumer advocate and change agent. In addition, the graduate is prepared to continue their education in graduate or professional programs. The curriculum is designed to assist students in the development of knowledge, skills, attitudes and values that will enable them to adapt to a complex and changing health care delivery system. Special emphasis is placed on the development of skills related to periodontal disease, skills and attitudes to meet the needs of the geriatric population, and access to care for those persons unable to attain care, especially the underserved rural segment of the population. Students are required to complete all dental hygiene courses with a grade of C or higher.

Dental hygiene is a licensed profession. In order to meet licensure requirements, the student must graduate from an accredited program and successfully pass a writ-

ten National Board Examination, as well as the appropriate State/Regional Practical (clinical) Board Examination.

Admission requirements are the same as for all the baccalaureate entrance requirements at SIUC. Once accepted into the University, the student must submit a separate application to the dental hygiene program. All applicants who apply to the dental hygiene program are evaluated on high school mathematics and science grades, ACT scores, college mathematics and science grades, overall grade point average and earned credits according to SIUC calculations, and previous experience as dental assistant or experience in any health related field. In order to be considered for admission into the professional sequence, you must be accepted into Southern Illinois University at Carbondale and have completed a minimum of 35 semester hours of college credit. These hours must include the following courses or approved substitutions: English 101, English 102, Mathematics 108 or 113, Zoology 118, Psychology 102, Sociology 108, Microbiology 201, Allied Health Careers Specialties 141 and Chemistry 140a,b. Prospective students may complete the University Core Curriculum and the basic science courses at other colleges or universities as well as at SIUC. Thirty-six students begin the professional sequence in fall semester. In addition to textbooks and tuition, expenses of approximately \$2,500 are required to cover the cost of instruments, uniforms and other professional supplies.

The dental hygiene program offers an on-site clinic to provide the student with practical clinical instruction. Students perform dental hygiene services in the clinic under the direct supervision of dental hygiene faculty composed of licensed dental hygienists and licensed dentists. Students also are involved in the provision of care and education through a variety of community projects. The program is served by an advisory committee composed of representatives from community dental practices, dental education, dental industry and the professional community.

The program also is designed to serve as a degree completion program for dental hygienists who have completed an associate degree in dental hygiene from any accredited dental hygiene program. The Capstone Option is available to eligible students who have obtained an Associate of Applied Science with a 2.25 (4.0 scale) or higher gpa.

The program in dental hygiene is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Commission on Recognition of Post-secondary Accreditation and by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 312 440-2719 or at 211 East Chicago Avenue, Chicago IL 60611.

**Associate in Applied Science Degree, College of Applied Sciences and Arts**

*Requirements for Major in Dental Hygiene*

Chemistry 106 .....	3
Psychology 102 .....	3
Sociology 108 .....	3
English 101 .....	3
Speech Communication 101 .....	3
Microbiology 201 .....	4
Food and Nutrition 215 .....	2
Allied Health Careers Specialties 141 .....	4
Dental Hygiene 101, 206, 207, 210, 212, 218a,b, 220, 226, 233, 247, 315, 318, 320, 322, 340, 341, 347, 348, 355, 414, 440 .....	55
<b>Total .....</b>	<b>80</b>

**Bachelor of Science Degree, College of Applied Sciences and Arts**

<i>University Core Curriculum</i> .....	41
Including: CHEM 140a <sup>1</sup> , ENGL 101 and 102, MATH 108, SPCM 101, PSYC 102, SOC 108 and ZOOL 118 <sup>1</sup> .	
<i>Requirements for Major in Dental Hygiene</i> .....	79
Including: DH 101, 206, 207, 210, 212, 218a,b, 220, 226, 233, 247, 315, 318, 320, 322, 340, 341, 347, 348, 355, 414, 415, 440, 441 and 442, AHC 141, CHEM 140b, FN 215, HCM 365 and MICRO 201	
<i>Total</i> .....	120

<sup>1</sup>These two courses are required for a major in dental hygiene and are approved substitutions for the University Core Curriculum requirements in science. The additional hours will be included in the total hours required for the degree.

**Dental Hygiene Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	DH 101, 212.....	1	1
MATH 108 .....	3	-	DH 207.....	3	-
ZOOL 118 .....	4	-	DH 218a,b .....	3	2
SOC 108.....	3	-	DH 206.....	2	-
CHEM 140a, 140b .....	4	4	DH 226.....	2	-
MICRO 201 .....	-	4	DH 233.....	2	-
PSYC 102.....	-	3	SPCM 101 .....	3	-
AHC 141.....	-	4	DH 210.....	-	3
			DH 220.....	-	3
			DH 247.....	-	3
			DH 318.....	-	4
<i>Total</i> .....	17	18	<i>Total</i> .....	16	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
DH 340, 347 .....	2	2	DH 414, 315.....	2	2
DH 320, 355 .....	3	3	DH 441, 442.....	3	3
DH 341, 322 .....	3	2	DH 348.....	2	-
HCM 365.....	3	-	DH 415, 440.....	2	2
FN 215 .....	2	-	University Core .....	3	6
University Core .....	2	6			
<i>Total</i> .....	15	13	<i>Total</i> .....	12	13

**Dental Technology (Major, Courses)**

The dental technology program prepares the student to be a competent dental technician in the commercial laboratory, an educational institution, a dental manufacturing company, or the private dental office. To implement the goal, the prospective student must satisfactorily meet the requirements of courses in both the dental technology area and in the science, business, and humanities area.

Persons interested in careers in dental technology should have a sincere interest in working with their hands and find satisfaction in their creative work.

Enrollment of beginning students is limited by size of faculty and physical facilities with new students admitted only in the fall semester. Admission to the University qualifies the applicant for admission to the Dental Technology program. Students must meet baccalaureate entry requirements.

The program is served by an advisory committee made up of practicing dentists, dental laboratory owners, dental technicians, dental sales representatives, and a second year dental technology student.

Graduates of the two-year dental technology program find that career opportunities are excellent. The trained dental technician not only has a wide choice of geographic location for the pursuit of a career, but can also choose working conditions. Graduates are employed by commercial dental laboratories, dental schools, dental supply companies, private dental offices, or are self-employed in their own dental laboratories.

The student should expect to spend about \$1000 for a dental kit, laboratory jacket, Delta Tau Club, and recognized graduate exam fee over the two-year period.

This associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Applied Sciences and Arts

Requirements for Major in Dental Technology

English 101, Speech Communication 101 .....	6
Physics 101, Chemistry 106 .....	6
Applied Sciences and Arts 120 .....	3
Information Management Systems 229 .....	3
Dental Technology 102, 103a,b, 104a,b, 110, 113a,b, 128, 143, 202, 204a,b, 205, 206a,b, 210 .....	61
Total .....	79

Dental Technology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
DT 102, 110 .....	4.5	4.5	DT 202 .....	4.5	-
DT 103a,b .....	4.5	4.5	DT 204a,b .....	9	-
DT 104a,b .....	4.5	4.5	DT 206a,b .....	-	9
DT 143 .....	1	-	DT 205 .....	1	-
ENGL 101 .....	3	-	DT 113b .....	2	-
CHEM 106 .....	3	-	IMS 120, 229 .....	3	3
DT 113a .....	-	2	DT 210 .....	-	4.5
DT 128 .....	-	1	SPCM 101 .....	-	3
PHYS 101 .....	-	3			
Total .....	20.5	19.5	Total .....	19.5	19.5

Electronics Management (Major, Courses)

The Electronics Management (ELM) major provides an essential foundation in basic electronics and offers a blend of advanced technical and managerial course work for students pursuing careers in the electronics industry. The program allows students the flexibility to choose a curriculum that will compliment their career goals and work experience.

The 120-semester hour ELM curriculum consists of two areas: A 41-semester hour University Core Curriculum and a 79-semester hour major in Electronics Management. The University Core Curriculum provides a foundation for students to be successful in their major and life beyond the university. Students entering the program as freshman are not required to have a background in electronics. Requirements for the major provide a sequential program in electronics and allow students to select classes which lead toward various careers in the electronics industry.

A student in Electronics Management may choose the Electronics Technology Specialization. This specialization allows the student to select advanced technical curricula focused on particular areas within the electronics industry. Graduates with an Electronics Technology Specialization possess the skills required of the technologist entering areas such as biomedical equipment technology, communication technology, industrial electronics, or microcomputer technology.

The ELM program is well suited for individuals possessing an AS or AAS degree, electronics training through the military or civilian agencies, or work experience in the electronics industry. Credit for post secondary course work, military training and work experience is evaluated on an individual basis. Students with an approved AAS degree in Electronics Technology or its equivalent may be able to transfer up to 36

hours of approved career electives. In addition, transfer credit for University Core Curriculum requirements varies depending on previous course work. An individual who has earned an AAS degree also may qualify for the Southern Illinois University at Carbondale Capstone Option. Capstone is a two-year option that gives maximum credit for previous academic and work experience in the student's occupational field. More information about the Capstone Option can be found in Chapter 3.

**Bachelor of Science Degree, College of Applied Sciences and Arts**

**ELECTRONICS MANAGEMENT MAJOR**

Individuals choosing the Electronics Management curriculum are provided with the technical background necessary for entry level technical positions and the managerial background for advancement into areas requiring management and supervisory skills. This curriculum focuses on the skills and knowledge necessary to effectively integrate technology into the work place.

The process of evaluating and acquiring new and existing technologies, maintaining and managing technological systems and effectively utilizing human resources will be studied. The graduate from this course of study will be able to communicate effectively and coordinate the efforts of skilled technicians in managing complex systems. Skills acquired will allow the graduate to train people in the use and maintenance of complex systems, plan and prioritize efforts to maximize the use of technological resources, and explain technical ideas to non-technical personnel.

<i>University Core Curriculum Requirements</i> .....	41
<i>Requirements for Major in Electronics Management</i> .....	79
Approved Career Electives .....	31-36 <sup>1</sup>
Electronics Management 101, 102, 111, 112, 121, 201, 202, 211, 212, 221, 224, Information Management Systems 102 (or approved equivalents)	
Management Core .....	21-24 <sup>1</sup>
Advanced Technical Studies 364 and 416 .....	6
Electronics Management 441 and 451 .....	6
Electronics Management 365, 385, 387 and/or 388 .....	9-12 <sup>1</sup>
Technical Core .....	15
Electronics Management 302, 340, 341, 303 or 342, 313 or 343	
Internship, independent study, or approved equivalent .....	4-12 <sup>1</sup>
<i>Total</i> .....	120

<sup>1</sup> As approved by the Department.

**Electronics Management Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ELM 101, 102 .....	3	3	ELM 201, 202 .....	3	3
ELM 111, 112 .....	3	3	ELM 211, 212 .....	3	3
ELM 121 .....	-	3	ELM 221, 224 .....	3	3
ENGL 101, 102 .....	3	3	IMS 102 .....	3	-
Mathematics .....	3	-	SPCM 101 .....	3	-
Science .....	-	3	Science .....	-	3
Humanities .....	3	-	Fine Arts .....	-	3
<i>Total</i> .....	15	15	<i>Total</i> .....	15	15

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ELM 340, 341 .....	3	3	ELM 302 .....	3	-
ELM 365 .....	-	3	ELM 342 .....	3	-
ELM 385 .....	-	3	ELM 343 .....	3	-
ATS 364 .....	3	-	ELM 387, 388 .....	3	3
ATS 416 .....	3	-	ELM 441 .....	-	3
Humanities .....	3	-	ELM 451 .....	-	3
Interdisciplinary .....	-	3	ELM Electives .....	-	4
Social Science .....	3	3	Human Health .....	-	2
			Multicultural .....	3	-
Total .....	15	15	Total .....	15	15

Bachelor of Science Degree, College of Applied Sciences and Arts

ELECTRONICS MANAGEMENT MAJOR - ELECTRONICS TECHNOLOGY SPECIALIZATION

The Electronics Management major who chooses the Electronics Technology Specialization will take course work designed to provide an effective school-to-work transition for specific careers in the electronics industry. A mandatory internship ensures that students receive field experience within their chosen career field. The curriculum places emphasis on skills necessary to achieve long-term career goals within one of the following segments of the electronics industry:

- Biomedical Equipment Technology
- Communications Technology
- Industrial Technology
- Microcomputer Technology

Completion of this specialization provides graduates with advanced skills required by electronic technologists. Technical skills include: the planning and implementation of preventive maintenance programs and the testing, troubleshooting and calibration of electronic equipment and systems. In addition, the specialization will include skills in writing, interpreting and presenting technical documentation.

University Core Curriculum .....	41
Requirements for the Major in Electronics Management with a specialization in Electronics Technology .....	79
Approved Career Electives .....	36
Electronics Management 101, 102, 111, 112, 121, 201, 202, 211, 212, 221, 224, and Information Management Systems 102	
Electronics Technology Specialization .....	43
Specialization Core Requirements .....	22
Electronics Management 319, 340, 341, 404, 414, 451 and Advanced Technical Studies 416	
Specialization Electives .....	17-18 <sup>1</sup>
Selected from the following: Electronics Management 301, 302, 303, 304, 305, 306, 307, 309, 311, 312, 313, 314, 317, 337, 342, 343, 365, 441, or Allied Health Careers 105	
Internship independent study, or approved equivalent .....	3-4
Total .....	120

<sup>1</sup> As approved by the Department.

**Electronics Management with a Specialization in Electronics Technology  
Suggested Curricular Guide**

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ELM 101, 102 .....	3	3	ELM 201, 202 .....	3	3
ELM 111, 112 .....	3	3	ELM 211, 212 .....	3	3
ELM 121 .....	-	3	ELM 221, 224 .....	3	3
ENGL 101, 102.....	3	3	IMS 102.....	3	-
Mathematics .....	3	-	SPCM 101 .....	3	-
Science.....	-	3	Science .....	-	3
Humanities .....	3	-	Fine Arts.....	-	3
Total .....	15	15	Total .....	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
ELM 340, 341 .....	3	3	ELM 319 .....	-	4
ELM Electives.....	3	6	ELM 404 .....	3	-
ATS 416 .....	3	-	ELM 414 .....	3	-
Humanities .....	3	-	ELM 451 .....	-	3
Interdisciplinary.....	-	3	ELM Electives.....	6	6
Social Science.....	3	3	Human Health.....	-	2
Total .....	15	15	Multicultural.....	3	-
			Total .....	15	15

**Fire Science Management** (Major, Courses)

This Bachelor of Science in Fire Science Management is designed to provide advanced practical course work in the areas of management and supervision. It is designed primarily for individuals who possess or are nearing completion of the Associate in Applied Science degree or its equivalent in a fire science-related field from a technical institute or community college.

The Capstone Option is available for eligible students who have obtained a fire science-related Associate in Applied Science (AAS) degree or its equivalent and have a gpa of 2.25 on a 4.0 scale on all accredited course work prior to the award of the AAS degree. Application to the Capstone Option must be made no later than the end of the student's first semester in the baccalaureate degree program. (See Chapter 3 for more information regarding the Capstone Option.)

Graduates of this program may find employment in supervisory and management positions in the fire service, insurance industry, fire equipment manufacturing industry, and other related fields.

Currently this major is offered only at off-campus locations. For additional information about this major, contact the Office of Off-Campus Academic Programs.

**Bachelor of Science Degree, College of Applied Sciences and Arts**

<i>University Core Curriculum Requirements</i> .....	41
<i>Requirements for Major in Fire Science Management</i> .....	48
Core Requirements: Fire Science Management 332, 421 and Advanced Technical Studies 364, 416 .....	12
Twenty-four hours from Fire Science Management 383, 387, 388, 398, 402, 413, Advanced Technical Studies 321 and 412 .....	24
Twelve hours selected from Advanced Technical Studies 363a, b, c, d or e .....	12
<i>Approved Career Electives</i> .....	31
<i>Total</i> .....	120

Fire Science Management Suggested Curricular Guide

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ATS 416 .....	3	-	FSM 398 .....	3	-
ATS 364 .....	3	-	FSM 402 .....	3	-
FSM 332 .....	3	-	ATS 321 .....	3	-
ATS 363b .....	3	-	ATS 363a,d .....	3	-
FSM 383 .....	-	3	FSM 413 .....	-	3
FSM 387 .....	-	3	FSM 421 .....	-	3
FSM 388 .....	-	3	ATS 412 .....	-	3
ATS 363a,c .....	-	3	ATS 363e .....	-	3
Electives .....	3	3	Electives .....	3	3
Total .....	15	15	Total .....	15	15

Health Care Management (Major, Courses)

The Health Care Management major is designed to provide course work and experience in the areas of management and supervision for individuals who have training in health-oriented fields from colleges and universities, technical institutes, community colleges, proprietary institutions or military technical schools. Graduates from diploma programs also may be eligible for admission.

This major builds upon many career specialties including dental hygiene, dental technology, laboratory technology, medical assisting, medical corps, medical records, medical service corps, mortuary science, nursing, physical therapist assistant, radiologic technology, and respiratory therapy.

The Capstone Option is available to eligible students who have obtained a health care related associate of applied science, or its equivalent, and have a gpa of at least 2.25 on a 4.0 scale (SIUC calculation) on all work prior to the completion of the associate of applied science degree. Application to the Capstone Option must be made no later than the end of the student's first semester or twelve semester hours in the baccalaureate degree program. More information about the Capstone Option may be found in Chapter 3.

To be considered for enrollment into Health Care Management, prospective students must first obtain admission to the University as a Health Care Management major. To be approved for entry into the professional sequence, applicants must submit additional application materials which will be sent to those admitted to the University.

Selection will be based on the academic credentials submitted for admission into the University and an interview with a designated Health Care Management academic advisor.

Prospective students attending another college or university prior to transferring to SIUC should concentrate on completing articulated or approved substitutes for SIUC's University Core Curriculum. Prior to taking courses that appear to equate to a professional sequence course requirement, the applicant should consult with the Health Care Management academic advisor. Students will be selected for the professional sequence either summer, fall or spring semesters.

Students must attain a minimum gpa of 2.0 within the Health Care Management major for graduation. Students must earn a minimum grade of C in all Health Care Management courses to qualify for an internship experience. Graduates may obtain management and supervisory positions in various health and medical care facilities such as hospitals, nursing homes, public health departments, voluntary health agencies and health care training institutions.

**Bachelor of Science Degree, College of Applied Sciences and Arts**

<i>University Core Curriculum Requirements</i> .....	41
<i>Requirements for Major in Health Care Management</i> .....	48
Core Requirements: 360, 364, 365, 366 and 381 .....	15
Hours selected from other HCM courses .....	12
Internship, independent study or equivalent .....	12
Health care management electives approved by the adviser .....	9
<i>Approved Career Electives</i> .....	31
<i>Total</i> .....	120

**Health Care Management Suggested Curricular Guide**

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
HCM 360, 366 .....	3	3	HCM Elective .....	3	3
HCM 364, 381 .....	3	3	Career Electives .....	12	-
HCM 365, 385 .....	3	3	HCM 422 or ATS 363 .....	-	12
Elective .....	6	6			
<i>Total</i> .....	15	15	<i>Total</i> .....	15	15

**Interior Design (Major, Courses)**

The Interior Design program is continually responsive to the demands and standards of qualification of the profession and its related fields. A four-year curriculum is offered resulting in a Bachelor of Science degree in Interior Design. The program holds first professional degree accreditation from the Foundation of Interior Design Education Research.

Students receive a comprehensive, interdisciplinary education in preparation for design and administrative positions in the fields of residential, commercial, and contract design. The successful candidate is qualified to practice professionally in a wide range of positions with interior and architecture firms, corporations, government agencies, or independently.

The approach toward interior design education at SIUC provides a comprehensive technical emphasis as the basis for problem solving. At the core of the required course work are classes and studios which provide knowledge of design and the design process including programming, schematic design, design development, and construction documents. Support courses to complement and enhance the core consist of drawing, presentation, furniture, materials, interior design history, lighting, plumbing, acoustics, mechanical systems, and professional practice and current topics.

To support students in their educational endeavors, program facilities include a resource library complete with sample room, current manufacturers' catalogs, professional periodicals, and a computer laboratory for investigations in computer-aided drafting and design.

While facilities are provided for use, costs for supplies, individual equipment, and required field trips necessary to the successful completion of the program are borne by the student. Due to the variation in individual materials use, it is impossible to predict the exact costs for each student. A reasonable estimate of additional expenses is in the range of \$600 per academic year.

**Bachelor of Science Degree, College of Applied Sciences and Arts**

<i>University Core Curriculum Requirements</i> .....	41
As per University requirements for baccalaureate degrees, but must include AD 101.	

Requirements for Major in Interior Design .....	83
Art and Design 110, 120 .....	6
Workforce Education and Development 335 .....	2
Interior Design 111, 112, 121, 122, 211, 231, 232, 251, 252, 271, 272, 274, 351, 371, 372, 391, 392, 432, 451, 471, 491, 492, and 3 hours professional elective at the 300- or 400-level as approved by the adviser .....	75 <sup>1</sup>
Total .....	124

<sup>1</sup>All major courses require a minimum grade of C.

Interior Design Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ID 111, 112 .....	4	4	ID 211 .....	3	-
ID 121, 122 .....	3	3	ID 231, 232 .....	3	3
ENGL 101, 102 <sup>1</sup> .....	3	3	ID 251 .....	-	3
Core Humanities <sup>2</sup> .....	3	-	ID 271, 272 .....	3	3
AD 101, 110 .....	3	3	ID 274 .....	-	3
AD 120 .....	-	3	MATH 108 <sup>1</sup> .....	3	-
			SPCM 101 <sup>1</sup> .....	3	-
			Core Science <sup>2</sup> .....	-	3
Total .....	16	16	Total .....	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
ID 252 .....	3	-	ID 432 .....	-	3
ID 351 .....	3	-	ID 451, 471 .....	3	3
ID 371, 372 .....	3	3	ID 491, 492 .....	4	4
ID 391, 392 .....	4	4	Elective .....	3	-
WED 335 .....	2	-	Core Humanities <sup>2</sup> .....	3	-
Core Science <sup>2</sup> .....	-	3	Core Social Science <sup>2</sup> .....	3	-
Core Social Science <sup>2</sup> .....	-	3	Core Interdisciplinary <sup>2</sup> .....	-	3
Core Human Health <sup>2</sup> .....	-	2	Core Multicultural <sup>2</sup> .....	-	3
Total .....	15	15	Total .....	16	16

<sup>1</sup>Required University Core Curriculum courses for Interior Design major.  
<sup>2</sup>Select for University Core Curriculum

Mortuary Science and Funeral Service (Major, Courses)

This baccalaureate program is the only Mortuary Science and Funeral Service program offered in a public university in the state of Illinois. Course work includes advanced content to prepare the student for the National Board Examination and requirements for licensure within the profession. The Mortuary Science and Funeral Service graduate is prepared to assume all traditional roles in the funeral service profession and obtain management/ownership positions. The program was initially developed in response to a request from the Illinois Funeral Directors Association. It is accredited by the American Board of Funeral Service Education and meets licensing requirements of the Illinois Department of Professional Regulations.

This program is designed to accept students directly from high school or to accommodate students transferring from other accredited post-secondary institutions. Thirty students will be selected to begin the professional sequence each fall semester. Enrollment of beginning students is limited due to the number of faculty and physical facilities.

To be considered for enrollment in the Mortuary Science and Funeral Service program, prospective students must first obtain admission to the University as a Mortuary Science and Funeral Service major. To be approved for entry into the professional sequence, applicants must submit additional application materials which will be sent to those admitted to the University. Selection will be based on a candidate's high school rank, grades in high school mathematics and science courses, and ACT results. For transfer students, the grade point average as calculated by SIUC and the earned

college level credits will be used for selection criteria. Recommendations of funeral directors and others are required. Decisions on who is selected into the professional sequence will be made beginning in January on a rolling basis.

Prospective students attending another college or university prior to transferring to SIUC should concentrate on completing courses articulated or approved as substitutes for SIUC's University Core Curriculum requirements. Prior to taking courses that appear to equate to the professional sequence, the applicant should consult with Mortuary Science and Funeral Service.

In addition to professional course work, the student will be responsible for the University Core Curriculum as well as a number of courses which will lead to an understanding of the psychological, sociological and theological implications of life and death. Faculty members in the professional courses are licensed funeral directors and embalmers with experience in the profession. The program's Advisory Committee is composed of mortuary science and funeral service professionals.

Professional courses are offered in the program's preparation room-laboratory. The student is required to complete the Hepatitis B vaccine series before participating in the laboratory classes. The vaccine may be acquired at the SIUC Health Service, a local health department or through a private physician. The cost of this vaccine is the responsibility of the student, and documentation showing completion of the vaccine must be presented to the advisor prior to registration. In addition to the Hepatitis B vaccine requirement, there is a laboratory fee of \$150 to cover the expense of personal protective equipment.

Graduates of the program will be eligible to take the National Board Examination in embalming and funeral directing. Since laws governing the profession are enacted at the state level, licensing and qualifications vary among states. Prospective students should contact the licensing body of the state in which they wish to attempt licensure. Career opportunities are excellent and to date all graduates who desire placement within the profession have been offered entry level employment.

The mortuary science and funeral service program can be completed at Southern Illinois University at Carbondale or in combination with an institution of higher education.

**Associate in Applied Science Degree, College of Applied Sciences and Arts**

*Requirements for Major in Mortuary Science and Funeral Service*

Chemistry 106 .....	3
Zoology 115/118 .....	3
Psychology 102 .....	3
English 101, 102 .....	6
Speech Communication 101 .....	3
Information Management Systems 120 .....	3
Office Systems Specialities 208 .....	3
Health Education 334 .....	3
Mortuary Science and Funeral Service 101, 108, 225a,b, 230, 245, 256, 257, 351, 352, 410, 411, 412 .....	48
<b>Total .....</b>	<b>75</b>

**Bachelor of Science Degree, College of Applied Sciences and Arts**

<i>University Core Requirements .....</i>	<b>41</b>
<i>Requirements for Major .....</i>	<b>70</b>
MSFS 101, 108, 225a,b, 230, 240, 245, 255, 256, 257, 270, 302, 340, 351, 352, 360, 401, 410, 411, 412 .....	
<i>Approved Career Electives .....</i>	<b>9</b>
<b>Total .....</b>	<b>120</b>

Mortuary Science and Funeral Service Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ZOOL 115 or 118.....	3-4	-	ENGL 102.....	3	-
MATH 113.....	3	-	CHEM 106.....	3	-
PSYC 102.....	3	-	SPCM 101.....	3	-
MUS 103.....	3	-	MSFS 230.....	4	-
MSFS 101, 108.....	3	3	Major Elective.....	4	-
ENGL 101.....	-	3	Core Elective.....	-	3
IMS 120.....	-	3	MSFS 256.....	-	3
SOC 108.....	-	3	IMS 208.....	-	3
PHIL 103a.....	-	3	MSFS 245.....	-	4
			MSFS 240.....	-	3
Total.....	15-16	15	Total.....	17	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
MSFS 302.....	4	-	MSFS 360.....	4	-
MSFS 225a,b.....	4	4	MSFS 351.....	4	-
MSFS 255.....	3	-	MSFS 352.....	3	-
MSFS 257.....	3	-	MSFS 401.....	3	-
MSFS 270.....	2	-	MSFS 410.....	-	5
MSFS 340.....	-	3	MSFS 411.....	-	5
PHIL 104.....	-	3	MSFS 412.....	-	2
PHSL 201.....	-	2			
Core Elective.....	-	3			
Total.....	16	15	Total.....	14	12

Office Systems and Specialties (Major, Minor, Courses)

Recent developments in office systems and related technologies have resulted in many new career opportunities for administrative personnel with enhanced general office skills or specific training in the medical, legal, or court reporting fields. Both men and women have opportunities for rewarding business careers in office support positions in these areas. A major in Office Systems and Specialties may lead to an Associate in Applied Science Degree and prepares a student for an exciting career by offering a combination of courses designed to improve keyboarding skills, computer literacy, English language usage, office procedures competency, and document production techniques.

Each student selects one of four areas of specialization: Administrative Assistant, Legal Office Assistant, Medical Office Assistant, or Court and Conference Reporting. In each of these four areas, specialized courses are required which enhance the student's office skills and introduce the student to specialized vocabulary and procedures.

A student selecting the Administrative Assistant specialization will take advanced courses in word processing concepts and applications, transcription, office management, and administrative procedures. For a student more interested in an office support position as a legal office assistant, advanced courses in applied law, legal document preparation, legal terminology, shorthand, and legal office support procedures are offered. Basic anatomy and physiology, medical terminology, medical transcription, medical administrative procedures, and health insurance form preparation are some of the courses required of students in the Medical Office Assistant Specialization. Students choosing the Court and Conference Reporting Specialization follow a five-semester regime which includes legal and medical terminology, machine shorthand, two-voice and four-voice dictation and transcription, and applied law.

All students in Office Systems and Specialties are required to complete either a one-semester cooperative office internship (at least four credit hours) or a court reporting internship which involves the verification of at least forty clock-hours of actual writing time on the shorthand machine. Students in both of these learning situations are closely supervised by faculty.

A student majoring in Office Systems and Specialties may, in addition to taking

regularly scheduled courses, transfer credits from an accredited post secondary school (such as a community college); pass a proficiency examination; or receive credit for significant office-related experience.

Students entering the Court Reporting specialization must be able to type thirty words per minute. In addition, good language skills are important. Court and Conference Reporting may be pursued within the associate degree program or as a post-associate offering for those who have completed an associate degree in a related field at a community college or other post-secondary institution.

Many courses will require students to purchase consumable supplies for use in those courses. In addition to these materials, students enrolled in court reporting are required to supply their own shorthand machine with realtime capabilities.

### **Associate in Applied Science Degree, College of Applied Sciences and Arts**

#### *Requirements for Specialized Major in Office Systems and Specialties*

English 101, 102 .....	6
Office Systems and Specialties 101, 111, 112, 113, 114, 208, and/or 209 .....	18-21
Specialization Requirements .....	37-49
Administrative Assistant .....	37-38
Legal Office Assistant .....	38
Medical Office Assistant .....	37
Court and Conference Reporting .....	49
<b>Total .....</b>	<b>64-73</b>

#### *Administrative Assistant Specialization Requirements*

Speech Communication 101 .....	3
College of Applied Sciences and Arts 120 .....	3
Office Systems and Specialties courses .....	27-28
(a). Shorthand option: 107, 109, 118, 131, 132, 140, 205, 232, 233 .....	27
(b). Non-shorthand option: 107, 109, 118, 140, 205, 233, 240, 241, Information Management Systems 109 and elective approved by adviser .....	28
Office Systems and Specialties 290, Cooperative Office Experience .....	4
<b>Total .....</b>	<b>37-38</b>

#### *Legal Office Assistant Specialization Requirements*

Speech Communication 101 .....	3
Information Management Systems 120 .....	3
Office Systems and Specialties 131, 132, 20 credit hours chosen from 107, 109, 118, 182, 220, 221, 223, 233 .....	28
Office Systems and Specialties 290, Cooperative Office Experience .....	4
<b>Total .....</b>	<b>38</b>

#### *Medical Office Assistant Specialization Requirements*

Speech Communication 101 .....	3
College of Applied Sciences and Arts 120 .....	3
Allied Health 141 .....	4
Office Systems and Specialties 107, 109, 118, 261, 262, 263, 264 and an elective approved by adviser .....	23
Office Systems and Specialties 290, Cooperative Office Experience .....	4
<b>Total .....</b>	<b>37</b>

#### *Court and Conference Reporting Specialization Requirements<sup>1</sup>*

Allied Health 141 .....	4
Office Systems and Specialties 180, 182, 186, 187, 188, 261, 281, 282,	

283, 284, 288, 289, 385 <sup>2</sup> 386 <sup>3</sup> , 389 <sup>4</sup> .....	45
Total .....	49

<sup>1</sup>Includes requirement of two five-minute timed writings at 60 gross words per minute typing speed with a maximum of five errors (Office Systems and Specialties 113 or 114 will fulfill this requirement).

<sup>2</sup>Includes requirement of passing three five-minute dictation tests with 95% accuracy at 225 wpm using a two-voice question and answer format (Office Systems and Specialties 385 will fulfill this requirement—a grade of C or better is required).

<sup>3</sup>Includes requirement of passing three five-minute jury charge/legal dictation tests with 95% accuracy at 200 wpm and three five-minute literary dictation tests with 95% accuracy at 200 wpm (Office Systems and Specialties 386 will fulfill this requirement—a grade of C or better is required).

<sup>4</sup>Internship includes requirement of 40 hours of verified writing time on a shorthand machine, a 40-page usable transcript, and transcription of simulated RPR skills test (Office Systems and Specialties 389 will fulfill this requirement—a grade of C or better is required).

Administrative Assistant Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
OSS 101 .....	3	-		OSS 107.....	2	-	
OSS 109 .....	3	-		OSS 113.....	-	3	
OSS 111 .....	3	-		OSS 140.....	3	-	
OSS 112 .....	-	3		OSS 205.....	-	3	
OSS 114 .....	-	3		OSS 208, 209.....	3	3	
OSS 118 .....	-	3		OSS 233.....	3	-	
ENGL 101, 102 .....	3	3		OSS 240, 241.....	3	3	
IMS 109 .....	-	3		OSS 290.....	-	4	
SPCM 101.....	3	-		IMS 120.....	3	-	
				Elective .....	-	3	
Total.....	15	15		Total .....	17	19	

Court and Conference Reporting Specialization Suggested Curricular Guide <sup>1</sup>

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
OSS 112, 113 .....	3	3		OSS 114, 101.....	3	3	
OSS 180 .....	1	-		OSS 283.....	3	-	
OSS 182 .....	-	3		OSS 284.....	3	-	
OSS 186, 187 .....	4	4		OSS 289, 288.....	3	3	
OSS 188 .....	-	3		OSS 385.....	-	3	
OSS 261 .....	3	-		OSS 386.....	-	3	
ENGL 101, 102 .....	3	3		OSS 389.....	-	3	
				AHC 141.....	4	-	
Total.....	14	16		Total .....	16	15	

<sup>1</sup> A summer session of nine hours to include OSS 208 or 209, 281 and 282 is also part of the curriculum. If summer courses are unavailable, another semester will be required due to course sequencing.

Legal Office Assistant Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
OSS 101, 112 .....	3	3		OSS 107.....	2	-	
OSS 109, 114 .....	3	3		OSS 113.....	3	-	
OSS 111, 118 .....	3	3		OSS 132.....	-	4	
OSS 131, 182 .....	3	3		OSS 208, 209.....	3	3	
ENGL 101, 102 .....	3	3		OSS 220, 221.....	3	3	
SPCM 101.....	3	-		OSS 233, 223.....	3	3	
IMS 120 .....	-	3		OSS 290.....	-	4	
Total.....	18	18		Total .....	14	17	

Medical Office Assistant Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
OSS 107 .....	-	2		OSS 101.....	3	-	
OSS 109, 118 .....	3	3		OSS 113, 114.....	3	3	
OSS 111, 112 .....	3	3		OSS 208, 209.....	3	3	
AHC 141 .....	-	4		OSS 261, 262.....	3	3	
ENGL 101, 102 .....	3	3		OSS 263, 264.....	3	3	
IMS 120 .....	3	-		OSS 290.....	-	4	
SPCM 101.....	3	-		Elective .....	3	-	
Total.....	15	15		Total .....	18	16	

Minor in Office Systems and Specialties (for students with a major in Spanish)

The minor in Office Systems and Specialties is intended for students with a major in

Spanish who wish to train as bilingual office assistants. For those skilled in the office support areas of shorthand, keyboarding, and transcription, the minor requirements are Office Systems and Specialties 101, 107, 109, 205, 208, 232, 233, 290, and six to ten credit hours of approved electives in Office Systems and Specialties courses. For those unskilled in the office support areas of shorthand, keyboarding, and transcription, the minor requirements include the courses above and Office Systems and Specialties 111, 112, 113, 114, 118, 131 and 132.

## **Physical Therapist Assistant** (Major, Courses)

The physical therapist assistant program, which has been accredited by the Commission on Accreditation in Physical Therapy Education, is designed to prepare the student to work under the direction of a licensed physical therapist to treat disabilities resulting from birth defects, disease, or injury. Physical therapy helps the patient to develop strength, mobility, coordination, and skills needed to manage pain.

Students will learn massage, exercise, physical agents, and other therapeutic techniques in actual practice in the University's Clinical Center. They will work with physical therapists and physical therapist assistants performing therapeutic techniques and assessments. The student should expect to spend approximately \$150 for uniforms and professional dues during their course of study. Students are expected to provide documentation of immunization or waiver for HBV. Many hospitals are now requiring HBV before internship experiences. Before graduation the student will serve a twelve-week internship in two separate facilities away from the University Campus.

The program is served by an advisory committee made up of practicing physical therapists, physical therapist assistants, students and educators who provide expertise to assure a curriculum which will prepare graduates to meet the physical therapy needs of the public.

Increasing numbers of elderly and chronically ill persons and the rapid expansion of health care programs in both urban and rural areas have created an urgent demand for physical therapy personnel. Employment opportunities are available in hospitals, rehabilitation centers, extended care facilities, out patient clinics and schools. Physical therapy provides a unique service and requires a close interpersonal relationship with the patient. The student must possess the following qualities to work with people: (1) good mental and physical health, (2) stamina, (3) good coordination and manual dexterity, and (4) spirit of cooperation and a positive attitude, and (5) the ability to problem solve.

There is a limited enrollment to this program, students must meet baccalaureate entrance requirements, and admission is selective. Prospective applicants should make early application to the University. Once admitted in the pre-Physical Therapist Assistant category, the student will receive a second application specific to the program. Selection into the program is based upon evaluation on both applications in relationship to other applicants.

This associate degree program may be completed entirely at Southern Illinois University at Carbondale or in combination with community colleges or other extra-institutional educational experiences. This associate degree can be completed in one calendar year if the applicant has successfully completed the appropriate college level courses before program entry.

The credits from the physical therapist assistant major will not necessarily transfer to a professional physical therapy program.

**Associate in Applied Science Degree, College of Applied Sciences and Arts**

*Requirements for Major in Physical Therapist Assistant*

Zoology 115, Physiology 208 and 209 and either Chemistry 106 or Physics 101 or Information Management Systems 229 .....	10-11
Psychology 102 .....	3
English 101 .....	3
Speech Communication 101 .....	3
Allied Health Careers Specialties 105 .....	2
Health Education 334 .....	3
Physiology 220 (with a minimum grade of C) .....	3
Physical Education 302, 320, and 325 or 326 .....	7-8
Psychology 301, or 303, or 304, or 305 .....	3
Physical Therapist Assistant 107, 113, 202, 203, 204, 205, 208, 209, 213, 214, 321, 322 (each with a minimum grade of C) .....	36
<b>Total</b> .....	<b>73-75</b>

**Physician Assistant** (Major, Courses)

The Physician Assistant program is offered by the Department of Health Care Professions in the College of Applied Sciences and Arts through collaboration with the School of Medicine. The curriculum provides didactic and clinical training to prepare primary care physician assistants to practice medicine with physician supervision.

The physician assistant is often the first health care provider to see a patient and performs a variety of primary care tasks including collecting historical and physical data from the patient and ordering appropriate laboratory tests. Working with the physician, the physician assistant summarizes this information and participates in formulating and executing a treatment plan to meet the patient's needs. Under physician supervision, the physician assistant makes assessments and provides therapy for basic health-related problems. Also, the physician assistant can evaluate psychological aspects of a patient's health, counsel when appropriate, and teach patients about primary health problems. With physician approval, the physician assistant makes referrals when indicated. The physician assistant can perform technical skills, such as EKGs, venipuncture, minor suturing and giving injections. Graduates of the Physician Assistant program are trained as primary care providers and awarded the Bachelor of Science degree.

To be considered for enrollment in the Physician Assistant program, prospective students must be admitted to the University and have completed both the University Core and biological science requirements. Prospective students must complete the following courses: Allied Health Careers 105, Biology 306, Chemistry 140a and b, Mathematics 108, Microbiology 201, Physiology 201 and 208, Psychology 102 and Zoology 118. Completion may be at SIUC or from another accredited institution. Approved substitutions may also be used. Students who have not completed the University Core and biological science requirements should contact the College of Science Advisement Office for admission as a pre-physician assistant student and for advisement on the University Core and biological science requirements.

Students who have completed the University Core and biological science requirements should contact the Physician Assistant program advisor in the Department of Health Care Professions for program application information. Enrollment in the Physician Assistant program is limited and based on a competitive process. Selection is based on grade point average and earned credits according to SIUC's calculations, completion of the program application, and an interview. Preference will be given to applicants who have health care experience. Approximately fifty students will be se-

lected for an interview with a maximum of thirty students being admitted to the professional sequence.

Students will be selected for the professional sequence to begin study only in the summer session. Those accepted into the program will be notified of acceptance during the spring semester prior to the summer of entry. The curriculum is a structured two-year sequence with one year of classroom, laboratory and clinical experiences and one-year clinical rotation with seminars.

**Bachelor of Science Degree, College of Applied Sciences and Arts**

<i>University Core Requirements</i> .....	41
<i>Biological Science Requirements</i> .....	15
Chemistry 140a,b, Biology 306, Microbiology 201, Physiology 201, 208	
<i>Requirements for Major in Physician Assistant Program</i> .....	72
First Year Sequence: .....	40
Physician Assistant 300, 310, 320	
Second Year Sequence: .....	32
Physician Assistant 420, 430, 440, 450	
<i>Total</i> .....	128

**Physician Assistant Suggested Curricular Guide**

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
PA 310 .....	16	-	PA 430.....	12	-
PA 320 .....	-	16	PA 440.....	-	12
			PA 450.....	-	2
<i>Total</i> .....	16	16	<i>Total</i> .....	12	14
FIRST SUMMER	SUMMER		SECOND SUMMER	SUMMER	
PA 300 .....	8		PA 420.....	6	
<i>Total</i> .....	8		<i>Total</i> .....	6	

**Radiologic Sciences (Major, Courses)**

The program in Radiologic Sciences prepares qualified health care professionals. These health care professionals function as first assistants to the physician in medical practice, utilizing radiant energy, ionizing radiation (X-Ray), other forms of electromagnetic energy, and sound waves for the imaging, diagnosis, and treatment of disease. Each distinct specialty option has its own educational criteria, accreditation and clinical training requirements. The traditional medical specialties of radiography, radiation therapy, medical diagnostic sonography, and magnetic resonance imaging/computed tomography, are available at SIUC.

The program prepares technologists for entry-level positions and also prepares the technologist who wishes to gain additional expertise. The basic radiologic technology curriculum is designed to meet the guidelines for the Joint Review Committee on Education in Radiologic Technology. The baccalaureate with options in either medical diagnostic sonography, magnetic resonance imaging/computed tomography, or radiation therapy meets specific accreditation guidelines and provides opportunities for professional growth for radiologic technologists.

To be considered for enrollment into the Radiologic Sciences program, prospective students must first obtain admission to the University. To be approved for entry into the major and professional sequences, applicants must submit additional application material.

Prospective students must complete the following courses at SIUC or approved articulated substitutes at another accredited college or university before beginning the

professional sequence courses: English 101 and 102, Speech Communication and Media Arts 101, Mathematics 108, Zoology 115, Philosophy 104, Psychology 102, Allied Health Careers 141, Chemistry 106 or Physics 101. All applicants who apply to the program are evaluated on college mathematics and science grades and the number of hours of college credit and the college gpa. An applicant's grade point average as calculated by SIUC and the total earned credits will be considered. Preference will be given to Illinois residents residing in central and southern Illinois (Interstate 80 and below).

Accreditation guidelines place limits on the enrollment in this program. Thirty-five students begin the professional sequence each fall. In addition, approximately twenty graduates from associate degree radiologic technology programs will be accepted in each option for degree completion. Admission is available either summer, fall or spring semesters. The professional sequence begins in the fall semester only.

### **Bachelor of Science Degree, College of Applied Sciences and Arts**

The Bachelor of Science degree in Radiologic Sciences consists of forty-one semester hours of University Core Curriculum requirements, fifty-three professional core hours, and twenty-six semester hours in one of the Radiologic Sciences' options.

#### **MEDICAL DIAGNOSTIC SONOGRAPHY (ULTRASOUND) OPTION**

This option is designed to prepare qualified medical diagnostic sonographers. The courses and clinical experiences meet accreditation criteria.

Ultrasound, one of the more recently developed specialties in diagnostic radiology, utilizes a high frequency sound wave similar to sonar. The reflected echoes from the body tissues are displayed as two-dimensional images on a video monitor. Some medical problems that are diagnosed with ultrasound include gallstones, tumors, cysts and fetal abnormalities. The technologist who performs the examination is called a sonographer. Sonographers work under the supervision of either a doctor of medicine or osteopathy who is responsible for the use and interpretation of the ultrasound procedure.

While most sonographers work in hospitals, particularly in radiology, cardiology, vascular surgery and obstetrical departments, many will also find employment in outpatient clinics and mobile services. Ultrasound equipment manufactures also employ sonographers to market their products.

#### **RADIATION THERAPY OPTION**

Radiation therapy technologists assist radiation oncologists in all aspects of the administration of radiation therapy treatment; their primary responsibility consists of exposing specific areas of the patient's body to prescribed doses of ionizing radiation. Radiation therapy technologists also provide appropriate patient care; this includes exercising judgment when administering treatment and adhering to the principle of radiation protection for the patient, self and others.

#### **MAGNETIC RESONANCE IMAGING/COMPUTED TOMOGRAPHY OPTION**

This option is designed to prepare technologists in the advanced areas of magnetic resonance imaging (MRI) and computed tomography (CT). The MRI and CT components will emphasize physics, technology, instrumentation and sectional anatomy. Technologists employed in these capacities will be supervised by a board certified radiologist, but will be afforded a greater amount of responsibility and independence in the performance of their duties.

<b>Bachelor of Science Degree in Radiologic Sciences, College of Applied Sciences and Arts</b>	
<i>University Core Requirement</i> .....	41
Including: CHEM 106 or PHYS 101, PHIL 104, PSYC 102 , ZOOL 115, MATH 108, ENGL 101 and 102, SPCM 101	
<i>Professional Core Requirements</i> .....	53
Including: AHC 141, RAD 102, 112, 132, 202, 212, 222, 232, 312, 332, 342, 352, 372a,b	
<i>Radiologic Sciences Option (Select One)</i> .....	26
Ultrasound: RAD 361, 371, 381, 391, 401, 411, 421, 431	
Radiation Therapy: RAD 360, 370, 380, 390, 400, 410, 420	
MRI/CT: RAD 363, 373, 383, 393, 403, 413	
<i>Total</i> .....	120

**Radiologic Sciences Suggested Curricular Guide with Options in Ultrasound, Radiation Therapy and MRI**

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 02.....	3	3	RAD 102 .....	3	-
MATH 108 .....	3	-	RAD 222 .....	-	10
SPCM 101 .....	-	3	RAD 112 .....	3	-
ZOOL 115 .....	3	-	RAD 372a .....	-	1
AHC 141 .....	4	-	RAD 132 .....	3	-
CHEM 106 .....	-	3	RAD 212 .....	-	2
PHIL 104 .....	3	-	RAD 202 .....	3	-
PSYC 102 .....	-	3	Core Elective .....	3	2
Core Elective .....	-	3			
<i>Total</i> .....	16	15	<i>Total</i> .....	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
RAD 332 .....	10	-	Option Courses .....	13	13
RAD 372b .....	1	-			
RAD 342 .....	3	-			
RAD 232 .....	-	3			
RAD 312 .....	-	3			
RAD 352 .....	-	4			
Core Electives .....	3	6			
<i>Total</i> .....	17	16	<i>Total</i> .....	13	13

**Radiologic Technology (Major)**

Radiography is an allied health specialty concerned with the production of x-ray films which enable the physician to diagnose disease processes occurring in the human body. The course of study involves mastering the ability to control radiation production and the ability to position the body properly in order to obtain radiographs of the required anatomical structure.

The curriculum is designed to prepare students to become registered radiologic technologists. Completion of the program provides graduates with the educational requirements necessary to take the national certification examination administered by the American Registry of Radiologic Technologists.

To be accepted into the radiologic technology degree program, the student must have completed the requirements for the allied health careers specialties program and be admissible under the University baccalaureate entry requirements. These advanced radiologic technology courses combine classroom and clinical education, which upon completion allows the graduate to become registry eligible and to receive an Associate in Applied Science degree in radiologic technology.

The professional courses can be completed in two summer sessions and four regular academic semesters. The summer sessions and the regular semester sessions will utilize both classroom and clinical education learning experiences.

Associate in Applied Science Degree, College of Applied Sciences and Arts

<i>Requirements for Major in Radiologic Technology</i>	
English 101 .....	3
Speech Communication 101 .....	3
Mathematics 110 or 113 .....	3
Chemistry 106 or Physics 101 .....	3
Allied Health Careers Specialties 105 and 141 .....	6
Information Management Systems 229 .....	3
Guided Electives/Support Courses .....	10
Major Courses .....	58
Radiologic Sciences 102, 112, 132, 202, 212, 222, 232, 312, 322, 332, 342, 352, 362, 372a,b,c	
Total .....	89

Respiratory Therapy Technology (Major, Courses)

Respiratory therapy is an allied health specialty concerned with the treatment, diagnostic testing, management, control and care of patients with deficiencies and abnormalities associated with respiration. It involves the therapeutic use of medical gases and administering apparatus, environmental control systems, medications, ventilator control and breathing exercises, cardiopulmonary resuscitation, maintenance on natural, artificial and mechanical airways, and diagnostic cardiac and pulmonary function studies.

The respiratory therapy curriculum is designed to prepare students to become registered respiratory therapists. Completion of the course provides graduates with the educational requirements necessary to take the national registry examination administered by the National Board of Respiratory Care (NBRC) and the Pulmonary Specialty Exam (CPFT).

To be considered for enrollment into the Respiratory Therapy program, prospective students must first obtain admission into the University. To be approved for entry into the professional sequence, applicants must submit additional application material.

Prospective students must complete the following courses at SIUC or approved articulated substitutes offered at another accredited college or university before taking the first professional sequence courses: Allied Health Careers 105 and 141, Chemistry 106, English 101, Physics 101, Psychology 102, Speech Communication and Media Arts 101, Mathematics 110 or 113, Zoology 118 and Microbiology 201. An applicant's grade point average as calculated by SIUC and the total earned credits will be considered. Preference will be given to Illinois residents residing in central and southern Illinois (Interstate 80 and below).

Accreditation guidelines place limits on the enrollment in this program. Twenty-five students will be selected to begin the professional sequence each fall. The professional sequence begins in the fall only.

A firm background in science and the ability to communicate is mandatory to satisfactorily complete the program. The professional respiratory therapy courses consist of both formal classroom, laboratory and clinical experiences. The clinical experience will be in a variety of locations to provide maximum opportunity for procedures. These sites are chosen in consultation with the student and the clinical coordinator of the program. It is highly advisable that the student complete all prerequisites before starting the professional sequence in the second year. The student should have all program application materials completed as soon as possible, since enrollment is limited. The minimum length of time to complete this program is two and one-half calendar years (five academic semesters and one summer session). While the regular

semesters will utilize classrooms, laboratories and clinical education experiences, the final fall semester is a full-time clinical internship at a designated full-service hospital. In the final semester, exit evaluations are administered by the program and adjunct faculty to assess clinical and theoretical competency. Students are required to complete these satisfactorily to obtain a certificate of completion from the program. Articulation with other programs can offer the ability to apply program course requirements fully toward baccalaureate credit.

**Associate in Applied Science Degree, College of Applied Sciences and Arts**

<i>Requirements for Major in Respiratory Therapy Technology</i>	
University Core Curriculum Requirements .....	19
English 101, Speech Communication 101, Mathematics 110 or 113, Chemistry 106, Physics 101, Psychology 102, Zoology 118	
Support Courses .....	15
Allied Health Careers Specialties 105 and 141, Health Care Man- agement 364, Microbiology 201, Information Management Sys- tems 229	
Major Courses .....	48
Respiratory Therapy 203, 213, 223, 243, 253, 263, 273, 283, 293, 303, 313, 323, 343, 353, 363, 373a,b	
Total .....	82

**Tool and Manufacturing Technology (Major, Courses)**

The Tool and Manufacturing Technology major offers three specializations: Machine Tool (computer aided machining), Metal Fabrication and Processes, and Tool Design. These options provide training in a variety of manufacturing processes needed to successfully compete in today's job market in manufacturing, construction, and mining industry.

Graduates of Machine Tool (CAM) specialization should have the technical skills to assist engineers in research, development, and testing. They should also have skills in metal cutting and Computer Numerical Control (CNC) programming needed to successfully compete for jobs such as tool and die maker, tool room machinist, CNC machine tool programmer, CNC machine tool operator, model maker and maintenance machinist.

The Metal Fabrication and Processes specialization provides an opportunity to blend basic machining skill, computer aided manufacturing, robotics, machine tool programming, welding and fabrication skills with the technical skills needed to successfully compete for jobs in research and development, computer aided fabrication, robotic welding, model maker, materials testing, construction welding, maintenance welding and metal fabrication shops.

The Tool Design specialization provides the in-depth training required to develop computer aided design skills. Emphasis will be on the design of production tooling, stamping and form dies, mold dies, jigs, and fixtures for CNC tools. Basic machining and welding skills in combination with concentrated computer aided drawing and design skills provide the graduate with the technical skills to enter the manufacturing industry as qualified tool design technicians.

The tool and manufacturing curriculum is designed to award credit where applicable for industrial experience, special courses taken during military training, and transfer work from community colleges. Graduates of recognized area vocational centers or private vocational schools will be given an opportunity to qualify for advanced placement and proficiency credit.

The tool and manufacturing curriculum fits between the areas occupied by the me-

chanical and manufacturing engineer and the skilled trades person. It includes theory procedures, techniques, and skills from each of these areas and falls approximately halfway between.

Students in this program will have the advantage of courses in computer aided manufacturing, computer aided design, robotics, and computer integrated manufacturing in addition to traditional metal working and related classes. Students should learn to program CNC equipment, read working drawings, design basic jigs and fixtures, make shop sketches, build progressive dies, form dies, modify and repair equipment, select proper materials for repair and construction, heat treat tool steels, perform sophisticated welding operations and develop process planning sequences for manufacturing.

Advanced courses beyond the A.A.S. degree requirements are offered to enable a student to acquire advanced technical knowledge and skills. If a student chooses to pursue a baccalaureate degree in the College of Applied Sciences and Arts' Advanced Technical Studies Division, the 300 level Tool and Manufacturing Technology classes can be a part of this curriculum.

Students in tool and manufacturing technology should expect to spend about \$150 for instruments, tools, and supplies.

Representatives of industry and education form an Advisory Committee which helps to keep the program responsive to the needs of the manufacturing field. Representatives from industry include: McDonnell Douglas Co.; Carbondale Belcan Tooling Center; Maytag Co.; Coal Age Service Corporation; Multiplex Display Fixture Co.; Olin Corporation, East Alton; Department of Technology, SIUC; and G. M. Metal Centers Operations, Pontiac, MI.

The associate degree program can be completed in two academic years at Southern Illinois University at Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Applied Sciences and Arts

TOOL AND MANUFACTURING TECHNOLOGY MAJOR – MACHINE TOOL (COMPUTER AIDED MACHINING) SPECIALIZATION

English 101 .....	3
Social Science Elective .....	3
Speech Communication 101 or English 102 .....	3
Information Management Systems 125, Applied Sciences and Arts 126 .....	8
Tool and Manufacturing Technology 101, 102, 125, 126, 185, 186, 208, 210, 211, 220, 221, 225, 275, 276 .....	53
Total .....	70

Machine Tool Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ASA 126 .....	-	4	SPCM 101 or ENGL 102 .....	3	-
ENGL 101 .....	-	3	Soc Science .....	-	3
IMS 125 .....	4	-	TT 208 .....	3	-
TT 101, 102 .....	6	6	TT 210, 211 .....	7	7
TT 125, 126 .....	3	3	TT 220, 221 .....	3	3
TT 185, 186 .....	3	3	TT 275, 225 .....	2	2
			TT 276 .....	-	2
Total .....	16	19	Total .....	18	17

## TOOL AND MANUFACTURING TECHNOLOGY MAJOR – METAL FABRICATION AND PROCESSES SPECIALIZATION

English 101 .....	3
Social Science Elective .....	3
Speech Communication 101 or English 102 .....	3
Information Management Systems 125, Applied Sciences and Arts 126 .....	8
Tool and Manufacturing Technology 101, 102, 125, 126, 180, 181, 182, 183, 185, 225, 275, 276, 310 .....	50
<b>Total .....</b>	<b>67</b>

**Metal Fabrication/Processes Specialization Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101.....	-	3	Soc Science .....	-	3
IMS 125.....	-	4	ASA 126.....	4	-
TT 101, 102.....	6	6	TT 182.....	3	-
TT 125, 126.....	3	3	TT 183.....	2	-
TT 180, 181.....	3	3	TT 225.....	-	2
TT 185.....	3	-	TT 275, 276 .....	2	2
			TT 310.....	7	5
			ENGL 102 or SPCM 101 .....	-	3
<b>Total .....</b>	<b>15</b>	<b>19</b>	<b>Total .....</b>	<b>18</b>	<b>15</b>

## TOOL AND MANUFACTURING TECHNOLOGY MAJOR – TOOL DESIGN SPECIALIZATION

English 101 .....	3
Social Science Elective .....	3
Speech Communication or English 102 .....	3
Information Management Systems 125, Applied Sciences and Arts 126 .....	8
Tool and Manufacturing Technology 101, 102, 125, 126, 180, 185, 186, 208, 225, 230, 231, 240, 241, 275, 276 .....	52
<b>Total .....</b>	<b>69</b>

**Tool Design Specialization Suggested Curriculum Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ASA 126.....	-	4	SPCM 101 or ENGL 102 .....	-	3
ENGL 101.....	-	3	TT 208 .....	3	-
IMS 125.....	4	-	TT 225 .....	-	2
TT 101, 102.....	5	5	TT 230, 231 .....	6	6
TT 125, 126.....	6	-	TT 240, 241 .....	3	3
TT 180.....	-	3	TT 275, 276 .....	2	2
TT 185, 186.....	3	3	Soc Science Core.....	3	-
<b>Total .....</b>	<b>18</b>	<b>18</b>	<b>Total .....</b>	<b>17</b>	<b>16</b>

<sup>1</sup>Student may take only one history course to satisfy this requirement<sup>2</sup>Students may take one course from groups 1 and 2 or may select a sequence in History, Philosophy or English.

## College of Applied Sciences and Arts Faculty

**Applied Arts**

**Bramlet, James E.**, Assistant Professor, Commercial Graphics-Design, M.A., Western Illinois University, 1970.

**Davey, Jon**, Associate Professor, Architectural Studies, M.S., Southern Illinois University, 1987.

**Davis, L. Noel**, Assistant Professor, *Emeritus*, Architectural Studies, B.S., University of Illi-

nois, 1948.

**DeMattei, Michael**, Lecturer, Construction Technology, M.S., Southern Illinois University Carbondale, 1993.

**Dobbins, John**, Assistant Professor, Architectural Studies, M. Arch., University of Illinois, 1986.

**Frisch, Scott**, Visiting Lecturer, Architectural Studies, M.S.Ed., Southern Illinois University at Carbondale, 1994.

**Gimenez, Atilio M.**, Assistant Professor, Architectural Studies, M. Arch., University of Buenos Aires, 1964.

**Hays, Denny M.**, Associate Professor, Interior Design, M. Arch., University of Utah, Salt Lake City, 1971.

**Heckman, Thad**, Visiting Assistant Instructor, Architectural Studies, B.A., Southern Illinois University at Carbondale, 1979.

**Lach, Norman**, Assistant Professor, Architectural Studies, M.Arch., University of Illinois, 1974.

**Ladner, Joel Brooks**, Associate Professor, Architectural Studies, M.Arch., University of Houston, 1984.

**LaGarce, Melinda**, Assistant Professor, Interior Design, M.F.A., Texas Technology University, 1972.

**Little, Harold E.**, Associate Professor, *Emeritus*, B.S., Pennsylvania State University, 1951.

**Mailloux, Lawrence O.**, Assistant Professor, *Emeritus*, Commercial Graphics-Design, B.F.S., Rhode Island School of Design, 1947.

**Miller, Craig A.**, Visiting Lecturer, Architectural Studies, M. Arch., University of Illinois, 1993.

**Miller, Kevin R.**, Visiting Assistant Instructor, B.A., Melbourne, 1984.

**Murray, Chad R.**, Visiting Lecturer, Commercial Graphics-Design, M.S., Murray State, 1992.

**Osborn, Harold W.**, Assistant Professor,

*Emeritus*, Construction Technology, M.S.Ed., Southern Illinois University, 1960.

**Owens, Terry A.**, Associate Professor and Chair, Applied Arts, M.S., Southern Illinois University at Carbondale, 1984.

**Poggas, Christy**, Assistant Professor, Architectural Studies, M.S.Ed., Southern Illinois University at Carbondale, 1990.

**Rutledge, Clifton D.**, Associate Professor, *Emeritus*, M. Arch., Kansas State University, 1968.

**Smith, Peter B.**, Visiting Assistant Professor, Interior Design, M. Arch., University of Illinois, 1980.

**Tully, Timothy R.**, Assistant Professor, Interior Design, M.S., Southern Illinois University at Carbondale, 1990.

**Van Hurley, Vickie L.**, Visiting Assistant Instructor, Commercial Graphics-Design, B.A., Albion College, 1987.

**Walker, Gregory**, Lecturer, Construction Technology, B.S., Southern Illinois University at Carbondale, 1985.

**Wessel, Stewart P.**, Assistant Professor, Architectural Studies, M.F.A., University of North Texas, 1992.

**White, David J.**, Assistant Professor, Commercial Graphics-Design, M.S.Ed., Southern Illinois University at Carbondale, 1991.

**White, Robert**, Associate Professor, *Emeritus*, M.S., Southern Illinois University at Carbondale, 1962.

**Yack, John L.**, Associate Professor, *Emeritus*, Commercial Graphics-Design, M.F.A., University of Oklahoma, 1959.

## Applied Technologies

**Beauchamp, Clarence**, Assistant Professor, *Emeritus*, M.S., University of Wisconsin, Stout, 1949.

**Behrmann, Michael**, Assistant Professor, Automotive Technology, M.S.Ed., Southern Illinois University at Carbondale, 1995.

**Cash, Joe R.**, Associate Professor, Automotive Technology, M.S.Ed., Southern Illinois University at Carbondale, 1970.

**Collard, Rodney**, Assistant Professor, Automotive Technology, M.S.Ed., Southern Illinois University at Carbondale, 1990.

**Crenshaw, J. Howard**, Instructor, *Emeritus*, Mathematics and Science, M.S., University of Illinois, 1940.

**Ferketich, Gregory**, Lecturer, Tool and Manufacturing Technology, M.A., California State University, 1989.

**Gilbert, David W.**, Assistant Professor, Automotive Technology, M.S., Oklahoma State University, 1981.

**Greer, Jack**, Assistant Professor, Automotive Technology, B.S., Southern Illinois University at Carbondale, 1974.

**Harbison, James L.**, Instructor, *Emeritus*, Mathematics and Science, M.S., University of Illinois, 1940.

**Jeralds, Lawrence E.**, Assistant Professor,

Automotive Technology, M.S., Southern Illinois University at Carbondale, 1988.

**Jones, Paul**, Instructor, *Emeritus*, Automotive Technology.

**Kazda, Joseph G.**, Assistant Professor, Automotive Technology, M.S.Ed., Southern Illinois University at Carbondale, 1965.

**Lampman, Duncan**, Associate Professor, *Emeritus*, Construction Technology and Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University at Carbondale, 1956.

**Lappin, Michael J.**, Visiting Assistant Instructor, Tool and Manufacturing Technology, B.S., Southern Illinois University at Carbondale, 1993.

**Morris, Michael**, Instructor, Automotive Technology, B.S., Southern Illinois University at Carbondale, 1991.

**Romack, Charles**, Assistant Professor, Automotive Technology, B.S., Southern Illinois University at Carbondale, 1965.

**Sanders, Eugene**, Assistant Professor, Tool and Manufacturing Technology, B.S., Southern Illinois University at Carbondale, 1956.

**Schultz, James R.**, Instructor, Tool and Manufacturing Technology, B.S., Southern Illinois University at Carbondale, 1982.

**Simpson, Jerry**, Assistant Professor, *Emeritus*, Automotive Technology, M.S., Colorado State University, 1966.

**Soderstrom, Harry R.**, Professor, *Emeritus*, Tool and Manufacturing Technology, M.S., Bradley University, 1952.

**Traylor, George Lelon**, Associate Professor, *Emeritus*, Tool and Manufacturing Technology, M.S.Ed., Southern Illinois University at

Carbondale, 1965.

**Tregoning, Philip**, Assistant Professor, Tool and Manufacturing Technology, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1965.

**White, James E.**, Assistant Professor and *Chair*, Applied Technologies, B.S.Ed., Southern Illinois University at Carbondale, 1961.

### Aviation Management and Flight

**Baumgardner, Barbara**, Visiting Assistant Professor, M.P.A., Golden Gate University, 1989.

**Biggs, V. Eugene**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1971.

**Bowman, Terry S.**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1993.

**Falkenberry, W. A.**, Visiting Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1980.

**Kaps, Robert W.**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1996.

**Kmiecik, Kip**, Lecturer, B.S., Southern Illinois University at Carbondale, 1987.

**Martinez, Richard**, Lecturer, B.S., California State University at Los Angeles, 1983.

**Mortag, Keith**, Assistant Instructor/Charter Pilot, B.S., Southern Illinois University at Carbondale, 1989.

**NewMyer, David**, Associate Professor and *Chair*, Aviation Management and Flight, Ph.D., Southern Illinois University at Carbondale, 1987.

**Ruiz, Jose**, Assistant Professor, M.A.S., Embry-Riddle Aeronautical University, 1986.

**Sharp, Susan**, Assistant Professor, M.E., Northeast Louisiana University, 1983.

**Thiesse, James**, Assistant Professor, *Emeritus*, Ed.D., Auburn University, 1980.

**Voges, John K.**, Visiting Lecturer, B.A., Sangamon State University, 1988.

**Widick, Leland**, Assistant Professor, M.A., Southern Illinois University at Carbondale, 1994.

**Wohlheuter, James A.**, Visiting Lecturer, B.S., University of Michigan, 1974.

**Worrells, David**, Assistant Professor, M.A.M. Embry-Riddle Aeronautical University, 1985.

### Aviation Technologies

**Birkhead, Larry M.**, Assistant Professor, *Emeritus*, M.S., Southern Illinois University at Carbondale, 1986.

**Cannon, Richard H.**, Assistant Professor, *Emeritus*, B.S., Southern Illinois University at Carbondale, 1982.

**Cotter, John D.**, Assistant Professor, M.S.Ed., Southern Illinois University at Carbondale, 1988.

**Kolkmeier, Robert O.**, Associate Professor, M.S.Ed., Southern Illinois University at Carbondale, 1971.

**Milton, William C.**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1986.

**Most, Michael T.**, Assistant Professor, M.A., Central Washington University, 1974.

**O'Brian, Benjamin H.**, Assistant Professor, *Emeritus*, M.S., Southern Illinois University at Carbondale, 1985.

**Ohman, Lennart R.**, Assistant Professor, B.S., University of Illinois, 1964.

**Rodriguez, Charles L.**, Assistant Professor, M.S.Ed., Southern Illinois University at Carbondale, 1987.

**Russell, Lewis G.**, Assistant Professor, M.S.Ed., Southern Illinois University at Carbondale, 1978.

**Sanders, Robert F.**, Assistant Professor, M.S.Ed., Southern Illinois University at Carbondale, 1986.

**Schafer, Joseph A.**, Associate Professor, B.S., Lewis College, 1960.

**Staples, Laurence C.**, Assistant Professor and *Chair*, B.S., Southern Illinois University at Carbondale, 1975.

**Verner, Gerry D.**, Assistant Professor, B.S., Southern Illinois University at Carbondale, 1973.

### Health Care Professions

**Adams, Deborah K.**, Visiting Assistant Professor, M.A., Southern Illinois University at Carbondale, 1983.

**Aubertin, Mary A.**, Assistant Professor, Dental Hygiene, DMD., Washington University School of Dental Medicine, 1988.

**Beaver, Shirley**, Associate Professor, Dental Hygiene, RDH, Ph.D., Southern Illinois University at Carbondale, 1995.

**Callaghan, Mary E.**, Assistant Professor, *Emerita*, Dental Hygiene, R.D.L., M.A., University of San Francisco, 1962.

**Cittadino, Dominic**, Adjunct Associate Professor, Dental Hygiene, DDS.

**Clark, Cindy**, Visiting Instructor, Dental Hygiene, RDH, M.S., Mankato State University, 1991.

**Craven, M. Joyce**, Assistant Professor, Health Care Management, Ph.D., Southern Illinois University at Carbondale, 1988.

**DeMattei, Ronda**, Assistant Professor, Dental Hygiene, RDH, M.S., Southern Illinois University at Carbondale, 1986.

**Elliott, J. Roy**, Associate Professor, *Emeritus*, Dental Hygiene, RDH, D.D.S., University of Tennessee, 1953; M.S., Ohio State College of Dentistry, 1962.

**Grace, Linda M.**, Associate Professor, Health Care Management, Ph.D., Southern Illinois University at Carbondale, 1985.

**Grey, Michael**, Assistant Professor, Radiologic Technology, RT(R), M.S., Southern Illinois University at Carbondale, 1991.

**Griffith, Cydney A.**, Assistant Professor, Mortuary Science and Funeral Services, M.S., Southern Illinois University at Carbondale, 1991.

**Hall, James E.**, Visiting Assistant Professor, Health Care Management, M.A., Bowie State University, 1992.

**Hees, Alice Jane**, Assistant Professor, Health Care Professions, RN, Ph.D., Southern Illinois University at Carbondale, 1991.

**Heischmidt, Cynthia Jo**, Associate Professor, Dental Hygiene, RDH, Ph.D., Southern Illinois University at Carbondale, 1991.

**Hertz, Donald G.**, Associate Professor, *Emeritus*, Mortuary Science and Funeral Service, Ed.M., University of Oklahoma, 1953.

**Holland, Susan**, Assistant Professor, Respiratory Therapy, RRT, M.A., University of Manitoba, 1973.

**Ijams, Kayleonne**, Assistant Professor, Dental Technology, CDT, M.S., Southern Illinois University at Carbondale, 1980.

**Jefferies, Dan P.**, Assistant Professor, Dental Hygiene, RDH, M.S., University of North Carolina, 1986.

**Jensen, Steven**, Associate Professor, Radiologic Technology, RT(R), Ph.D., Southern Illinois University at Carbondale, 1987.

**Laake, Dennis J.**, Associate Professor, Dental Technology, CDT, M.S.Ed., Southern Illinois University at Carbondale, 1973.

**Lautar, Charla**, Assistant Professor, Dental Hygiene, RDH, University of Calgary, 1995.

**Lukes, Sherri M.**, Visiting Instructor, Dental Hygiene, RDH, B.S., Southern Illinois University at Carbondale, 1984.

**Maurizio, Sandra J.**, Visiting Instructor, Dental Hygiene, RDH, M.S., Southern Illinois University at Carbondale, 1993.

**McMurry, William S.**, Visiting Associate Professor, *Emeritus*, Dental Hygiene, D.D.S., University of Missouri, 1950.

**Milkevitch, Joseph**, Visiting Assistant Professor, *Emeritus*, Health Care Management, M.B.A., Golden Gate University, 1982.

**Morgan, Frederic L.**, Associate Professor and *Chair*, Health Care Professions, Ed.D., Ball State University, 1969.

**Okita, Ted Y.**, Professor, *Emeritus*, Physical Therapist Assistant, RPT, M.A., Northwestern University, 1964.

**Paulk, Marilyn**, Assistant Professor, Dental Hygiene, RDH, M.S., Southern Illinois University at Carbondale, 1987.

**Pearson, Stanley**, Assistant Professor, Respiratory Therapy, RRT, M.S., Southern Illinois University at Carbondale, 1986.

**Rogers, Janet L.**, Assistant Professor, Physical Therapist Assistant, Ph.D., Southern Illinois University at Carbondale, 1995.

**Shaw, Thomas**, Assistant Professor, Mortuary Science and Funeral Service, M.B.A., Amber University, Garland, Texas, 1990.

**Szekely, Rosanne**, Assistant Professor, Radiologic Technology, RT(R), M.S., Southern Illinois University at Carbondale, 1995.

**Tiebout, Leigh**, Assistant Professor, Dental Technology, CDS, M.S., Southern Illinois University, 1988.

**Turnage, Virginia**, Visiting Assistant Professor, M.S., Memphis State University, 1992.

**VanStone, Christina**, Visiting Instructor, Dental Hygiene, RDH, B.S., Southern Illinois University at Carbondale, 1994.

**Vitello, Elaine M.**, Professor and *Dean*, Ph.D. Southern Illinois University, 1977.

**Weltscheff, William K.**, Visiting Assistant Professor, Dental Hygiene, D.D.S., University of Missouri-Kansas City, 1976.

**Westphal, Dwight**, Assistant Professor, Dental Technology, CDT, B.S., Southern Illinois University at Carbondale, 1977.

**Winings, John R.**, Associate Professor, Dental Technology, M.A., Governors State University, 1972.

**Zacharie, Ngoyi Bukonda**, Assistant Professor, Health Care Management, Ph.D., University of Minnesota, 1994.

## Information Management Systems

**Ashworth, Edwin Robert**, Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University, 1972.

**Caldwell, Paul N.**, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1965.

**Cook, F. Roger**, Assistant Professor, *Emeritus*, M.S., Southern Illinois University at Carbondale, 1987.

**Davis, Diane**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1990.

**Devenport, William R.**, Assistant Professor, M.S., Illinois State University, 1985.

**Dotson, Michael**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1986.

**Einig, Raymond G., Jr.**, Assistant Professor, M.S., St. Louis University, 1962.

**Ellner, Jack R.**, Professor, *Emeritus*, Ph.D., New York University, 1969.

**Evans, Candy Duncan**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1992.

**Fisher, Valerie**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1975.

**Gonzenbach, Nancy**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1990.

**Hampton, Robbye Joanna**, Assistant Professor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1965.

**Harre, Paul A.**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1995.

**Henry, Janice Schoen**, Associate Professor and *Chair*, Ph.D., Southern Illinois University at Carbondale, 1987.

**Hudson, Shirley A.**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1988.

**Jeralds, Lawrence E.**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1988.

**Kearney, Brian**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1990.

**Keim, William**, Visiting Professor, *Emeritus*, Ed.D., University of Southern California, 1969.

**Morgan, Barbara**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1992.

**Morse, H. Pauletta**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1989.

**Novak, Mary Ann**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1987.

**Payne, Michael A.**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1992.

**Rehwaldt, Susan S.**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1982.

**Richey, Helen E.**, Assistant Professor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1953.

**Sheets, Joyce**, Associate Professor, M.S., Southern Illinois University at Carbondale, 1985.

**Sheets, Leslie P.**, Associate Professor, M.S., Southern Illinois University at Carbondale, 1976.

**Shin, Wangshik**, Associate Professor, M.S., Southern Illinois University at Carbondale, 1963.

**Shupe, William G.**, Associate Professor, M.S., Southern Illinois University at Carbondale, 1977.

**Stanley, Charles R.**, Assistant Professor, *Emeritus*, M.S., University of Houston, 1976.

**Stitt, Beverly A.**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1980.

**Tregoning, Elizabeth**, Lecturer, B.S., University of Illinois, 1979.

**Vaughn, F. Eugene**, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1961.

**Wolfson, Ruth Ann**, Lecturer, B.S., Eastern Illinois University, 1976.

**Woolard, Linda**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1984.

## Technical and Resource Management

**Armstrong, Connie J.**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1989.

**Clarke, David S.**, Professor, Ph.D., California University for Advanced Studies, 1986.

**Graziano, Joseph R.**, Assistant Professor, M.S., Eastern Kentucky University, 1971.

**Hertz, Vivienne**, Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1980.

**Hoffman, Nancy L.**, Visiting Instructor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1969.

**Horton, John B.**, Visiting Assistant Professor, *Emeritus*, M.Ed., Clemson University at Carbondale, 1972.

**Isberner, Fred R.**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1984.

**Laedtke, Ralph**, Visiting Assistant Professor, *Emeritus*, M.A., Webster College, 1977.

**Magney, John**, Assistant Professor, Ph.D., University of Michigan at Ann Arbor, 1977.

**Novick, Jehiel**, Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1970.

**Richard, Harold**, Associate Professor, *Emeritus*, Ed.D., Pennsylvania State University, 1976.

**Robb, James A.**, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1974.

**Troutt-Ervin, Eileen**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1986.

**Walton, Gary**, Visiting Assistant Professor, M.A., Webster College,

**Yates, Loyd**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1981.

# College of Business and Administration

Thomas L. Keon, *Dean*

Departments: Finance; Management; Marketing  
School: Accountancy

The College of Business and Administration aims to prepare students to perform successfully in business and other organizations such as government and other not-for-profit organizations functioning within a changing social, economic, and political environment. Study provides the student with fundamental principles and practices of organizational behavior and allows the mastering of knowledge and skills for effective management. The curriculum provides a broad base for understanding business while simultaneously allowing in-depth study within an area of concentration. Students find that the professional education they receive in the college is desired by business, governmental units, and other public institutions. The advanced curriculum and related programs provide students not only with a meaningful education but also with a means of relating that education to organizations and commerce.

The College of Business and Administration offers the following majors leading to the Bachelor of Science degree.

Accounting	Business Economics	Management
Business and	Finance	Marketing
Administration		

All programs offered in the College of Business and Administration are accredited by the American Assembly of Collegiate Schools of Business.

The College of Business and Administration offices are located in Henry J. Rehn Hall; the classes are conducted in various buildings throughout the campus.

## Pre-College Preparation

High school and preparatory school students are urged to follow a program which includes at least four units of English and three units of mathematics, with a substantial portion of the remainder of their study programs devoted to such academic subject areas as humanities, the sciences, and social studies.

## Transferred Credits in Business Courses

Subject to the policies of the University and of the American Assembly of Collegiate Schools of Business regarding acceptance of transferred credits, the college accepts college-level credit earned in business and economics courses from accredited two- or four-year institutions of higher education and counts such credit toward the 120 semester hours required for graduation. However, if such courses are offered at the lower division (freshman and sophomore level) at the institution where completed, only those courses shown below will be treated as equivalencies to college- or departmental-required courses.

Subject .....	Hours
Principles of accounting .....	6
Economic principles .....	6
Business economics statistics .....	3
(where college algebra is a prerequisite)	
Basic computer course <sup>1</sup> .....	3
Legal and social environment of business .....	3

<sup>1</sup>Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration core computer requirement if that course has been approved as an equivalent course by the College of Business and Administration.

Students also have the opportunity of validating additional coursework and nothing in the above statement abridges a student's right to satisfy graduation requirements by proficiency (or competency) examinations. Such examinations are treated as a student right by the college and are available for most courses.

### **Admission Policy**

The College of Business and Administration admission policy shall be the same as that of the University. All qualified new students are admitted to the College of Business and Administration with a specific departmental major classification or as an unclassified student.

*Reentering and Southern Illinois University at Carbondale Students.* Students who are currently enrolled or were previously enrolled at the University in a major outside the College of Business and Administration may request admission to a Business program. These students will be considered for admission to the College of Business and Administration provided that they are in good standing with the University.

*International Students.* International students must meet admission requirements comparable to those of native students. While admission credentials such as ACT and class rank are generally not submitted by international students, applicants do submit credentials which reflect their achievement in some subject areas similar to those of the United States students. Therefore, beginning international freshmen as well as transfer students will have their applications and documents reviewed in a manner similar to domestic students for admission to the College of Business and Administration.

*Grade Point Average Calculation.* In calculating a student's grade point average for admission purposes for continuing, new, and reentering students, the admission office will follow the SIUC grading policy and procedures for all collegiate (not remedial) work attempted at SIUC and other collegiate institutions.

### **Retention Policy, Collegiate Warning and Dismissal Policy for Students Who Were Admitted to the College Prior to Summer 1990**

Students who were admitted to the College prior to Summer 1990 must meet the following requirements:

In order to continue enrollment in the College of Business and Administration, students must maintain a 2.2 Southern Illinois University at Carbondale cumulative grade point average. Students must also complete the following nine courses with an overall C average, before attaining junior status (56 semester hours). It is also necessary for students to have completed with a grade of C or better seven of these nine courses. The nine retention courses or the equivalencies are English 101; Psychology 102; Mathematics 139 and 140; Management/Accounting 208 and Economics 214 or 241; Accounting 220 and 230; and Computer Science 212 or Information Management Systems 229. Students who have completed 42 semester hours or more without completing at least six of the prescribed nine courses will be subject to termination from the college.

*Collegiate Warning.* Students who do not achieve an accumulative 2.20 Southern Illinois University at Carbondale grade point average in any semester or who fail to meet the retention course requirements as described above are subject to collegiate warning. Students who are on collegiate warning and do not earn a 2.20 Southern Illinois University at Carbondale grade point average in a subsequent semester will be placed on a status of collegiate dismissal.

A student who has been placed on collegiate dismissal will be transferred to Pre-Major Advisement or may seek transfer to another University program if the student has an overall Southern Illinois University at Carbondale grade point average of 2.0. Students who are placed on collegiate dismissal and have less than an overall 2.0 University grade point average for work completed at the University but have not been suspended from the University will be placed in Pre-Major Advisement.

*First Collegiate Dismissal.* The student on collegiate dismissal may not be readmitted to the college until the student has interrupted education in the college for a minimum of two semesters and shows evidence that the program of study can be successfully completed. For this purpose, a summer session will be considered a semester.

After the two term interruption, the student may apply to the college scholastic committee for readmission. In this petition, the student should supply written evidence to include: (1) any extraordinary circumstances that contributed to the collegiate dismissal; (2) why the student thinks there is a reasonable chance to succeed in studies; and (3) what the student was doing during the interruption period that will contribute to further success. Insufficient documentation to justify the request will result in denial of the request for that semester.

Business students on collegiate dismissal who are eligible to continue at the University may be readmitted in certain cases upon approval of the scholastic committee without the two semester interruption.

*Second and Subsequent Dismissals.* A student on collegiate dismissal for a second or subsequent time may apply for readmission after an interval of no less than two calendar years. There are no exceptions. Students requesting readmission who have been on dismissal two or more times must be referred to the scholastic committee as described above.

*Admission to Business and Administration Classes.* Students on collegiate dismissal who are eligible to continue at Southern Illinois University at Carbondale can take only those business courses that are not restricted to business majors. Students are not restricted from taking other required non-business courses.

### Grade Point Average Requirement

Graduation from the College of Business and Administration requires achievement of a 2.00 grade point average in all business-prefix (ACCT, BUS, ECON, FIN, MGMT, MKTG) courses taken at Southern Illinois University at Carbondale. Accounting majors are subject to the additional requirement of achieving a grade of C or better in accounting-prefix (ACCT) courses completed at the University; Marketing majors must earn a C grade in all marketing courses that are taken to satisfy major requirements; and Finance majors must maintain a cumulative 2.00 grade point average in Finance prefix courses taken at SIUC. Business courses may be taken only three times. This is, if a course is failed, a student has two additional attempts to pass the course. Students may not repeat courses in which they have earned a grade of C or better.

### Pass/Fail Policy of the College

Business majors may not register on a Pass/Fail basis for courses used to satisfy requirements in the College of Business and Administration unless the course is designated Mandatory Pass/Fail.

### Course Sequencing

It is of the utmost importance that required courses be sequenced properly. Sequencing guides are available from the college's academic advisement center and are

published in the College of Business and Administration's *Student Handbook*. Courses on the 300 to 400 levels are reserved for juniors and seniors.

**Forty Percent Rule**

At least 50% of the coursework of all business majors must be devoted to courses offered outside the College of Business and Administration; at least 40%, to courses offered by the College of Business and Administration.

**Multiple Majors in Business**

Business majors may choose to complete two or more of the six majors offered by the college. While all requirements of each major must be satisfied, this can usually be accomplished through judicious use of electives without extending anticipated graduation dates beyond one semester. All majors will be noted on the diploma issued on completion of the Bachelor of Science degree.

**University Core Curriculum Courses Prescribed for Business Majors**

Students in the College of Business and Administration must complete the University Core Curriculum requirements. The following courses are required and will count toward partial fulfillment of these:

- Psychology 102
- Economics 241 to substitute for Economics 113 in the University Core
- English 101, 102
- Mathematics 139 to substitute for University Core Mathematics
- Speech Communication 101

**Professional Business Core**

The professional business core, required of all College of Business and Administration students, is comprised of the following courses:

<i>Courses.....</i>	<i>Semester Hours</i>
Accounting 220, 230 .....	6
Business 402 .....	1
Management 202, 208 <sup>5</sup> , 304, 318, 481 .....	15
Computer Science 212/Information Management Systems 229 <sup>2</sup> .....	3
Economics 241 <sup>1</sup> , 240 .....	(3) <sup>1</sup> + 3
Finance 270 <sup>3</sup> , 330 .....	6
Marketing 304 .....	3
Mathematics 139 <sup>1</sup> and 140 <sup>4</sup> .....	(3) <sup>1</sup> + 4
<i>Total .....</i>	<i>41</i>

<sup>1</sup>See University Core Curriculum courses prescribed for business majors.  
<sup>2</sup>Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration core computer requirement if that course has been approved as an equivalent course by the College of Business and Administration.  
<sup>3</sup>The combination of Finance 280 and 380 may be substituted for 270.  
<sup>4</sup>Mathematics 150 may be substituted for 140.  
<sup>5</sup>Also listed as Accounting 208.

**Accountancy (School)**

Accounting is the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information. Such information is required and used by parties, both internal and external to a business, a not-for-profit organization, and other entities.

The curriculum is designed to prepare a student with basic conceptual accounting and business knowledge necessary to develop a foundation for accounting career development. The curriculum consists of three segments, each designed for a specific purpose. The University Core Curriculum segment is designed to develop students' capacity for inquiry, abstract logical thinking, and critical analysis. A knowledge of humanities, arts, sciences, and general literacy which includes writing, reading, speaking, and listening provides the broad knowledge base and skills upon which to build professional study. The second segment provides general business and professional accounting education. The primary purpose of this segment is to provide students with the knowledge, sensitivities, and abilities all accountants should have for entry into the accounting profession and the capacity to apply these qualities under reasonable supervision. A broad systems orientation as well as a more specific professional accountancy orientation is developed within this segment. The third segment dealing with specialization is very limited at the undergraduate level. A student desiring to specialize in taxation, audit/systems, or other areas should consider graduate study through a fifth year and the Master of Accountancy degree. The five year sequence is required for CPA examination purposes by the AICPA and most states, including Illinois and Missouri.

Accounting majors must achieve a 2.0 grade point average in accounting prefix courses taken at Southern Illinois University at Carbondale, as well as meet the College of Business and Administration's graduation requirement of 2.00 grade point average in business-prefix courses taken at Southern Illinois University at Carbondale. In addition they must also achieve a grade of C or better in upper-level accounting-prefix courses taken at Southern Illinois University at Carbondale offered to satisfy the requirements of the major in accounting. The School of Accountancy enforces all prerequisites for accounting prefix courses which may in some cases include a grade higher than C.

Accounting (Major, Courses)

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements .....	41
Professional Business Core (See above) .....	41
Requirements for Major in Accounting .....	24
Accounting 321, 322 and 421 (financial) .....	9
Accounting 331 (managerial) .....	3
Accounting 341 (tax) .....	3
Accounting 361 (auditing) .....	3
Accounting 451 (systems) .....	3
Accounting 431 (advanced cost), 441 (advanced tax) or 495 (internship) .....	3
Electives .....	14
Electives (outside of Accounting) .....	5
Electives (outside of Business) .....	6
English 291 .....	3
Total .....	120

## Accounting Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	ACCT 220, 230.....	3	3
UCC Science .....	3	3	ECON 241, 240 .....	3	3
UCC Fine Arts .....	3	-	ACCT/MGMT 208.....	3	-
PSYC 102.....	-	3	CS 212 or IMS 229 .....	-	3
UCC Humanities .....	3	-	UCC Humanities.....	3	-
UCC Human Health.....	-	2	MGMT 202 .....	-	3
MATH 139, 140 .....	3	4	SPCM 101 .....	3	-
			UCC Integrative Studies .....	-	3
<i>Total</i> .....	15	15	<i>Total</i> .....	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ACCT 321, 322.....	3	3	ACCT 361 or 451 .....	3	3
ACCT 331, 341.....	3	3	ACCT 421 .....	3	-
MGMT 304.....	3	-	ACCT 431, 441, or 495 .....	-	3
FIN 330 .....	-	3	MGMT 318, 481 .....	3	3
UCC Integrative Studies .....	3	-	FIN 270 <sup>2</sup> (or FIN 280/380 opt) ....	3	-
MKTG 304.....	-	3	Approved Elective <sup>1</sup> (or Fin		
ENGL 291.....	3	-	380 <sup>2</sup> ).....	-	3
BUS 402 .....	-	1	Approved Elective <sup>1</sup> .....	3	3
Approved Elective <sup>1</sup> .....	-	2			
<i>Total</i> .....	15	15	<i>Total</i> .....	15	15

<sup>1</sup>120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.

<sup>2</sup>The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.

## Minor

A minor in Accounting consists of a minimum of 15 semester hours, including Accounting 220, 230 and nine credit hours in Accounting at the 300 level or above. All prerequisites for these classes must also be satisfied. At least nine of the fifteen semester hours must be taken at Southern Illinois University at Carbondale. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

## Accounting Faculty

**Barbeau, Debra J.**, Lecturer, M.Acc., Southern Illinois University, 1985.

**Basi, Bartholomew A.**, Professor, *Emeritus*, C.P.A., J.D., D.B.A., Indiana University, 1971.

**Burger, Clifford R.**, Professor, *Emeritus*, C.P.A., M.S., Indiana State University, 1947.

**Dwyer, Peggy D.**, Associate Professor, Ph.D., University of Missouri, 1988.

**Gribbin, Donald W.**, Associate Professor, C.P.A., Ph.D., Oklahoma State University, 1989.

**Hahn, Randall**, Associate Professor, C.P.A., D.B.A., University of Kentucky, 1984.

**Karnes, Allan**, Associate Professor, *Director*, C.P.A., M.A., J.D., Southern Illinois University, 1986.

**King, James B., II**, Associate Professor, C.P.A., Ph.D., Indiana University, 1987.

**Lumbattis, Cathy**, Lecturer, C.P.A., M.B.A., Southern Illinois University at Edwardsville, 1975.

**Masoner, Michael**, Associate Professor, C.P.A., Ph.D., University of Minnesota, 1975.

**Rivers, Richard A.**, Associate Professor, C.P.A., D.B.A., Kent State University, 1976.

**Schmidlein, Edward J., Jr.**, Professor, *Emeritus*, C.P.A., Ph.D., New York University, 1953.

**Sobery, Julie S.**, Associate Professor, C.P.A., Ph.D., St. Louis University, 1982.

**Swick, Ralph D.**, Professor, *Emeritus*, C.P.A., D.B.A., Indiana University, 1954.

**Tucker, Marvin W.**, Professor, *Emeritus*, Ph.D., University of Alabama, 1966.

**Wacker, Raymond F.**, Associate Professor, C.P.A., Ph.D., University of Houston, 1989.

**Welker, Robert B.**, Professor, Ph.D., Arizona State University, 1976.

**Wright, Roland M.**, Professor, *Emeritus*, C.P.A., Ph.D., University of Iowa, 1962.

**Wu, Frederick H.**, Professor, *Emeritus*, Ph.D., Texas Tech University, 1975.

Business and Administration (Major, Minor)

The Bachelor of Science degree program with a major in business and administration is a college-wide degree which is intended for those students with personal and professional goals which cannot be met by one of the existing majors; i.e., accounting, business economics, finance, management, or marketing, available in the college and in addition have an interest in subject areas offered in other schools and colleges of the University. The program requires students to combine interests - business with an outside field - into a unique program. For example, a student with international business interest can combine business and administration with foreign languages; a student interested in going into the restaurant business can combine course work in food and nutrition with business and administration. The outside field, or secondary concentration, must be consistent with a specific career objective or personal development plan and at least 20 semester hours must be structured to achieve this objective. Individual programs are subject to the approval of the dean of the College of Business and Administration.

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements .....	41
Professional Business Core (See above) .....	41
Requirements for Major in Business and Administration .....	20-23
Secondary concentration approved by the dean	
Business Prefix Electives .....	12
Approved Electives .....	3-6
To include one international business course	
Total .....	120

Business and Administration Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102 .....	3	3	ACCT 220, 230.....	3	3
UCC Science.....	3	3	ECON 241, 240 .....	3	3
UCC Fine Arts.....	3	-	ACCT/MGMT 208 .....	3	-
PSYC 102.....	-	3	CS 212 or IMS 229 .....	-	3
UCC Humanities .....	3	-	UCC Humanities.....	3	-
UCC Human Health.....	-	2	MGMT 202.....	-	3
MATH 139 .....	3	-	SPCM 101 .....	3	-
MATH 140 .....	-	4	UCC Integrative Studies .....	-	3
Total .....	15	15	Total .....	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
MGMT 304, 318.....	3	3	FIN 270 <sup>2</sup> .....	3	-
FIN 330.....	3	-	MGMT 481 .....	-	3
Secondary Concentration <sup>3</sup> .....	3	6	Secondary Concentration <sup>3</sup> .....	6	6
MKTG 304.....	3	-	Business-Prefix .....	6	-
Business Prefix .....	-	3	Business-Prefix (Intl Bus) .....	-	3
UCC Integrative Studies .....	3	-	Approved Elective .....	-	3
BUS 402 .....	-	1			
Approved Elective <sup>1</sup> .....	-	2			
Total .....	15	15	Total .....	15	15

<sup>1</sup>120 Semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.  
<sup>2</sup>The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.  
<sup>3</sup>Major option, Major specialization or Secondary concentration.

Minor

A minor in Business and Administration consists of a minimum of 15 semester hours, including Accounting 220, 230, Finance 330, Management 304 and Marketing 304. All prerequisites for these classes must also be satisfied. At least nine of the fifteen semester hours must be taken at Southern Illinois University at Carbondale. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

Business Economics (Major)

The business economics major offered through the College of Business and Administration emphasizes the application of economic concepts and the use of critical analysis to the solution of economic and managerial problems.

This undergraduate program is an excellent general preparation for future managerial and staff assignments in a variety of business and public organizations. The program also prepares students for graduate study in economics as well as for the Master of Business Administration (MBA) degree.

Those students who desire professional careers as business and managerial economists are advised to plan to complete one to four years of postgraduate study.

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements .....	41
Professional Business Core (See above) .....	41
Requirements for Major in Business Economics .....	21
Economics 340, 341 .....	6
Finance 361 and 462 or 463 .....	6
Three courses from the following list, two of which must be in economics: .....	9
Economics 310, 329, 330, 436, 443, 465	
Accounting 331, 341, 471	
Finance 331, 464	
Management 345, 352, 361	
Marketing 390, 435	
Approved Electives .....	17
To include one international business course.	
Total .....	120

Business Economics Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	ACCT 220, 230.....	3	3
UCC Science .....	3	3	ECON 241, 240 .....	3	3
UCC Fine Arts.....	3	-	ACCT/MGMT 208.....	3	-
PSYC 102.....	-	3	CS 212 or IMS 229 .....	-	3
UCC Humanities .....	3	-	UCC Humanities.....	3	-
UCC Human Health.....	-	2	MGMT 202 .....	-	3
MATH 139, 140 .....	3	4	SPCM 101 .....	3	-
			UCC Integrative Studies .....	-	3
Total .....	15	15	Total .....	15	15

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
MGMT 304, 318.....	3	3	Fin 270 <sup>2</sup> .....	3	-
ECON 340, 341.....	3	3	MGMT 481.....	-	3
FIN 330, 361.....	3	3	ECON <sup>3</sup> .....	3	3
MKTG 304.....	3	-	FIN 462 or 463.....	-	3
Approved Elective <sup>1</sup> .....	-	5	Major Option <sup>3</sup> .....	3	-
UCC Integrative Studies <sup>1</sup> .....	3	-	Approved Elective <sup>1</sup> .....	6	3
BUS 402.....	-	1	International Business <sup>1</sup> .....	-	3
Total.....	15	15	Total.....	15	15

<sup>1</sup>120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.  
<sup>2</sup>The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.  
<sup>3</sup>Major option, Major specialization or Secondary concentration.

Finance (Department, Major, Courses)

The financial implications of decisions in both business and government are daily becoming more complex. Within the firm, financial considerations permeate the concentrations of research, engineering, production, and marketing. Within governmental activities, sophisticated financial techniques are becoming increasingly important. The financial executive thus takes a key role in the successful management of both business and governmental operations.

The finance curriculum offers two areas of specialization to meet the varied interests of students: (1) financial management and (2) financial institutions. The financial management program provides the background for a career in the financial operations of business firms and public institutions. The financial institutions specialization is designed for those interested in the operations of financial intermediaries and financial markets. Certain courses may require the purchase of additional materials.

Finance majors must maintain a cumulative 2.00 grade point average in Finance prefix (FIN) courses taken at SIUC in addition to meeting all of the College of Business and Administration's retention and graduation requirements. Finance majors who fail for two consecutive semesters to maintain the 2.00 cumulative grade point average in Finance prefix courses will be required to drop Finance as their major.

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements .....	41
Professional Business Core (See above) .....	41
Requirements for Major in Finance .....	21
Finance 331, 341, 361 .....	9
Specialization (choose one) .....	12
Financial Institutions	
Finance 449; Select three: 320, 432, 433, 462	
or	
Finance 320; Finance 432 or 433; Select two: 321, 322, 323, 480	
Financial Management	
Finance 380 or upper division accounting course	
Select three: 432, 433, 462, 464, 469	
Approved Electives .....	17
To include one international business course.	
Total .....	120

**Finance Suggested Curricular Guide**

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102.....	3	3	3	ACCT 220, 230.....	3	3	3
UCC Science .....	3	3	3	ECON 241, 240 .....	3	3	3
UCC Fine Arts .....	3	-	-	ACCT/MGMT 208.....	3	-	-
PSYC 102.....	-	3	3	CS 212 or IMS 229 .....	-	3	3
UCC Humanities .....	3	-	-	UCC Humanities.....	3	-	-
UCC Human Health.....	-	2	3	MGMT 202 .....	-	3	3
MATH 139, 140 .....	3	4	4	SPCM 101 .....	3	-	-
				UCC Integrative Studies .....	-	3	3
<i>Total</i> .....	15	15	15	<i>Total</i> .....	15	15	15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
MGMT 304, 318.....	3	3	3	FIN 270 <sup>2</sup> .....	3	-	-
FIN 330, 331 .....	3	3	3	MGMT 481 .....	-	3	3
FIN 341, 361 .....	-	6	6	FIN <sup>3</sup> .....	6	6	6
MKTG 304.....	3	-	-	Approved Elective <sup>1</sup> .....	6	3	3
UCC Integrative Studies .....	3	-	-	International Business .....	-	3	3
Approved Elective <sup>1</sup> .....	3	2	2				
BUS 402 .....	-	1	1				
<i>Total</i> .....	15	15	15	<i>Total</i> .....	15	15	15

<sup>1</sup> 120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.

<sup>2</sup> The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.

<sup>3</sup> Major option, major specialization or secondary concentration.

**Minor**

A minor in Finance consists of a minimum of 12 semester hours, including Finance 330, 331, 341 and 361. All prerequisites for these classes must also be satisfied. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

**Finance Faculty**

**Cornett, Marcia M.**, Professor and Associate Dean, Ph.D., Indiana University, 1983.

**Davids, Lewis E.**, Professor, *Emeritus*, Ph.D., New York University, 1949.

**Davidson, Wallace N., III**, Professor, Ph.D., Ohio State University, 1982.

**Elsaid, Hussein H.**, Professor and Chair, Ph.D., University of Illinois, 1968.

**Mathur, Iqbal**, Professor, Ph.D., University of Cincinnati, 1974.

**Musumeci, James**, Assistant Professor, Ph.D., University of Texas at Austin, 1987.

**Schwarz, Thomas V.**, Associate Professor, D.B.A., Florida State University, 1984.

**Szakmary, Andrew C.**, Associate Professor, Ph.D., University of New Orleans, 1989.

**Tyler, R. Stanley**, Associate Professor, *Emeritus*, J.D., University of Illinois, 1952.

**Vaughn, Donald E.**, Professor, *Emeritus*, Ph.D., University of Texas, 1961.

**Waters, Gola E.**, Professor, J.D., University of Iowa, 1957, Ph.D., Southern Illinois University, 1970.

**Management** (Department, Major, Courses)

The Department of Management prepares students for careers in both profit and non-profit organizations in such fields as business and industry, government, education, and health. The curriculum places emphasis on the development of knowledge and skills necessary for effective problem solving and decision making to achieve the goals of the organization and manage resources effectively.

The curriculum prepares students through a variety of disciplines and offers valuable knowledge, tools, and techniques that provide a broad exposure to the key function of management. The courses, designed to impact technical, technological, and human resources management skills, prepare students to manage modern organizations successfully. A choice of four specializations within the management

major is available to students. They are management, entrepreneurship, management information systems and operations management.

*Management.* Administrators make and implement decisions through and with people working together toward the achievement of common societal, organizational, and personal goals. Understanding the organizational and environmental factors that influence individuals and groups, particularly in work settings, is critical to the success of managers and other employees. By carefully selecting courses, students can satisfy the general requirements of a management major, and orient their programs of study toward career tracks in general management, production-operations, management information systems, or personnel management. In each case, opportunities exist to pursue interests in administrative applications to a wider variety of organizational settings including government, health, and education, as well as small and large business.

*Entrepreneurship.* Entrepreneurship is the acceptance of risk in the management and direction of a venture. This specialization explores the special problems associated with the operation of an independent and often small business venture. Students may select courses relating to the special problems and techniques appropriate to the task of venture management in preparation for ownership and management roles in their own or a family business venture. By careful selection of courses from different areas of management, students can select the appropriate courses that will prepare them for their future positions in manufacturing, service, or retailing organizations. Research and consulting positions are also alternatives available to students with this specialization as well as the direction of new ventures for larger organizations.

*Management Information Systems.* With the onset of the information age, post-industrial organizations are increasingly rethinking their underlying organizational processes. Understanding how to manage information by effectively applying modern day information technology is recognized as one of the key antecedents to organizational effectiveness. There is a tremendous demand for individuals who can bridge the gap between the technological capabilities of modern day information technology and their application to a business context. By carefully selecting courses, students can prepare themselves for future positions related to management of information and information technology in service and manufacturing industries and the for-profit and not-for-profit sector. Students have the opportunity to seek employment opportunities with the rapidly growing consulting industry in the field as well.

*Operations Management.* In today's global competitive environment, organizations must efficiently manage the operations that produce goods and services so that customers are provided with products of high quality at a competitive price. As a result, companies look for individuals who can combine management skills with technological capabilities. This specialization is designed to prepare students for the CPIM certification examinations of the American Production and Inventory Control Society. At the same time, students will be well-prepared in modern operations techniques such as Total Quality Management, Business Process Reengineering, Just-in-Time and Manufacturing Resource Planning. Electives allow further study in computer-aided manufacturing and information technology.

Students majoring in other areas such as accounting, finance, or marketing can obtain a double major in management which will facilitate upward mobility in their careers.

**Bachelor of Science Degree, College of Business and Administration**

<i>University Core Curriculum Requirements</i> .....	41
<i>Professional Business Core (See above)</i> .....	41
<i>Requirements for Major in Management</i> .....	21
Specializations (Choose one)	
<i>Management.</i>	
Required: Management 341, 345, 352, 361, 431	
Elective: Select two from Management 385, 453, 456, 474, 483, 485.	
<i>Entrepreneurship.</i>	
Required: Management 350, 471, Finance 350, Marketing 350	
Electives: Select three from 341, 345, 361, 420, 421, 485, or an approved sequence such as insurance or real estate.	
<i>Management Information Systems.</i>	
Required: Management 341, 345, 352, 420, 421, 456	
Electives: Also select one of the following electives: Management 385, 453, 483, 485	
<i>Operations Management.</i>	
Required: Management 341, 345, 352, 483, Industrial Technology 475	
Electives: Select two from Management 420, 421, 456, Industrial Technology 445	
<i>Approved Electives</i> .....	17
To include one international business course.	
<i>Total</i> .....	120

**Management Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	ACCT 220, 230.....	3	3
UCC Science .....	3	3	ECON 241, 240 .....	3	3
UCC Fine Arts .....	3	-	ACCT/MGMT 208.....	3	-
PSYC 102.....	-	3	CS 212 or IMS 229 .....	-	3
UCC Humanities .....	3	-	UCC Humanities.....	3	-
UCC Human Health.....	-	2	MGMT 202 .....	-	3
MATH 139, 140 .....	3	4	SPCM 101 .....	3	-
			UCC Integrative Studies .....	-	3
<i>Total</i> .....	15	15	<i>Total</i> .....	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
MGMT 304, 318.....	3	3	FIN 270 <sup>2</sup> .....	3	-
Specialization <sup>3</sup> .....	-	9	MGMT 481 .....	-	3
FIN 330 .....	3	-	Specialization <sup>3</sup> .....	6	6
MKTG 304.....	3	-	Approved Elective <sup>1</sup> .....	6	3
UCC Integrative Studies .....	3	-	International Business .....	-	3
Approved Elective <sup>1</sup> .....	3	2			
BUS 402 .....	-	1			
<i>Total</i> .....	15	15	<i>Total</i> .....	15	15

<sup>1</sup>120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.

<sup>2</sup>The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.

<sup>3</sup>Major option, Major specialization or Secondary concentration.

**Minor**

A minor in Management consists of a minimum of 15 semester hours, including Management 304, 318, 345 and six credit hours in Management at the 300 level or above. All prerequisites for these classes must also be satisfied. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

Management Faculty

- Bateman, David N.**, Professor, Ph.D., Southern Illinois University, 1970.

**Bedwell, R. Ralph**, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1969.

**Bhattacharyya, Siddhartha**, Assistant Professor, Ph.D., University of Florida, 1993.

**Larson, Lars L.**, Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1971.

**Melcher, Arlyn J.**, Professor and *Chair*, Ph.D., University of Chicago, 1964.

**McKinley, William**, Associate Professor, Ph.D., Columbia University, 1983.

**Nelson, Reed E.**, Associate Professor, Ph.D., Cornell University, 1983.

**Ponce De Leon, Jesus**, Assistant Professor, Ph.D., Indiana University, 1989.

**Rai, Arun**, Associate Professor, Ph.D., Kent State University, 1991.

**Ramaprasad, Arkalqud**, Professor, Ph.D., University of Pittsburgh, 1980.
- Sekaran, Uma**, Professor, *Emerita*, Ph.D., University of California at Los Angeles, 1977.

**Stubbart, Charles I.**, Associate Professor, Ph.D., University of Pittsburgh, 1983.

**Tadisina, Suresh**, Associate Professor, Ph.D., University of Cincinnati, 1987.

**Troutt, Marvin**, Professor, Ph.D., University of Illinois at Chicago Circle, 1975.

**Vicars, William M.**, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1969.

**Westberg, William C.**, Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1948.

**White, Gregory P.**, Associate Professor, Ph.D., University of Cincinnati, 1976.

**Wilson, Harold K.**, Associate Professor, *Emeritus*, D.B.A., University of Colorado, 1972.

Marketing (Department, Major, Courses)

Marketing involves a system of interrelated activities used to develop, price, promote and distribute goods and services to customers, creating exchanges that satisfy individual and organizational goals. It is the marketing function that links the production of goods and services with their use. Effective marketing is essential to organizations in their efforts to achieve a competitive advantage that can be sustained. Without this, growth and survival of the organization are threatened.

The bachelor's degree program in marketing encompasses all of the key marketing functions. Graduates are fully equipped to take advantage of challenging and dynamic career opportunities in large and small businesses, in government, and in non-profit organizations. Careers in the field of marketing cut across many industries and involve a variety of organizations. Some of the career options open to the marketing major include industrial selling and sales management, retailing, advertising, marketing research, distribution, international marketing and marketing management.

A C or better grade is required for all marketing majors in all marketing courses taken to satisfy major requirements.

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements .....	41
Professional Business Core (See above) .....	41
Requirements for Major in Marketing .....	24
Marketing 305, 329, 363, 390, 493 .....	15
Marketing Electives .....	9
Approved Electives .....	14
Must include one international business course.	
Total .....	120

## Marketing Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	ACCT 220, 230.....	3	3
UCC Science.....	3	3	ECON 241, 240.....	3	3
UCC Fine Arts.....	3	-	ACCT/MGMT 208.....	3	-
PSYC 102.....	-	3	CS 212 or IMS 229.....	-	3
UCC Humanities.....	3	-	UCC Humanities.....	3	-
UCC Human Health.....	-	2	MGMT 202.....	-	3
MATH 139, 140.....	3	4	SPCM 101.....	3	-
<i>Total</i> .....	15	15	UCC Integrative Studies.....	-	3
			<i>Total</i> .....	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
MGMT 304, 318.....	3	3	MKTG <sup>3</sup> .....	6	3
MKTG 304, 305.....	3	3	MGMT 481.....	-	3
FIN 330, 270.....	3	3	MKTG 329.....	3	-
MKTG 390.....	-	3	MKTG 493.....	-	3
UCC Integrative Studies.....	3	-	MKTG 363.....	3	-
Approved Elective.....	3	2	International Business.....	-	3
BUS 402.....	-	1	Approved Elective <sup>1</sup> .....	3	3
<i>Total</i> .....	15	15	<i>Total</i> .....	15	15

<sup>1</sup>120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.

<sup>2</sup>The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.

<sup>3</sup>Major option, Major specialization or Secondary concentration.

## Minor

A minor in Marketing consists of a minimum of 15 semester hours, including marketing 304, 305, 363 and six credit hours in Marketing at the 300 level or above. All pre-requisites for these classes must also be satisfied. Marketing 493, 495 and 499 may not be taken as part of the minor in Marketing. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

## Marketing Faculty

**Adams, Kendall A.**, Professor, *Emeritus*, Ph.D., Michigan State University, 1962.

**Andersen, R. Clifton**, Professor, D.B.A., Indiana University, 1960.

**Anderson, Carol H.**, Associate Professor, *Emerita*, Ph.D., Texas A & M University, 1981.

**Balasubramanian, Siva**, Associate Professor, Ph.D., State University of New York at Buffalo, 1986.

**Bruner, Gordon C., II**, Associate Professor, Ph.D., University of North Texas, 1983.

**Dommermuth, William P.**, Professor, *Emeritus*, Ph.D., Northwestern University, 1964.

**Fraedrich, John P.**, Associate Professor, Ph.D., Texas A & M University, 1988.

**Grant, John A.**, Assistant Professor, Ph.D., Arizona State University, 1993.

**Hindersman, Charles H.**, Professor, *Emeritus*, D.B.A., Indiana University, 1959.

**King, Maryon F.**, Assistant Professor, Ph.D., Indiana University, 1989.

**Lambert, Zarrel V.**, Professor and *Chair*, Ph.D., Pennsylvania State University, 1966.

**Mathur, Lynette L.**, Assistant Professor, Ph.D., Ohio State University, 1990.

**Moore, James Ray**, Assistant Professor, *Emeritus*, Ph.D., University of Illinois, 1972.

**Perry, Donald L.**, Associate Professor, Ph.D., University of Illinois, 1966.

**Summey, John H.**, Associate Professor, Ph.D., Arizona State University, 1974.

# College of Education

Nancy L. Quisenberry, *Interim Dean*

Departments: Curriculum and Instruction; Educational Administration and Higher Education; Educational Psychology and Special Education; Health Education and Recreation; Physical Education; Rehabilitation; Workforce Education and Development

The College of Education offers the following programs<sup>1</sup> leading to the Bachelor of Science degree:

Art	Mathematics
Biological Sciences	Music
Clothing and Textiles	Physical Education
Communication Disorders and Sciences	Political Science
Early Childhood	Recreation
Elementary Education	Secondary Education <sup>2</sup>
English	Social Studies
French	Spanish
German	Special Education
Health Education	Workforce Education and Development
History	Zoology

<sup>1</sup>In addition to programs offered almost entirely within the College of Education, certain programs are offered in cooperation with the College of Liberal Arts (e.g., English, art, music), or with the College of Agriculture and the College of Science (e.g., biological sciences, chemistry).  
<sup>2</sup>This is not an academic major. Persons planning to teach in secondary schools should refer to Curriculum and Instruction program for a listing of academic majors and minors.

The College of Education is a multipurpose college preparing students as human service professionals as well as for the teaching profession. These programs include preparation in Apparel Design, Clothing Retailing, Child and Family Services, Athletic Training, Exercise Science and Physical Fitness, Recreation, Community Health, and Education, Training and Development.

Preparation of teachers at all levels and in all areas of instruction in the public schools from preschool education through high school is the special function of the College of Education. In its graduate offerings the efforts of the College of Education include professional work for prospective college teachers and administrators and several specializations in elementary and secondary school administration and supervision.

For most undergraduate students preparing to teach in high schools, the subject-matter courses will be taken in the other colleges and schools of the University, and the professional preparation for teaching, including student teaching, will be taken in the College of Education. Graduates of the College of Education receive the Bachelor of Science degree.

Students who wish to become principals or supervisors in the public schools take graduate work in the Department of Educational Administration and Higher Education. The department's major emphasis is on the graduate work, but it also participates in providing background for elementary and high school teachers. Likewise, students wishing to pursue a career in teaching or administration in colleges and universities take graduate work in the department. The department does not offer an undergraduate major in higher education, but it provides courses for undergraduate credit providing a broad background in higher education for elementary and high school teachers.

The College of Education, housed in the Wham Education Building, is the oldest unit of the University, which was originally chartered as Southern Illinois Normal University.

### Teacher Education Program

Southern Illinois University at Carbondale is fully accredited by the National Council for Accreditation of Teacher Education (NCATE) and by the State Teacher Certification Board, Springfield. The teacher education program is an all-university function administered by the dean of the College of Education. An advisory committee composed of faculty, area teachers, and administrators serves in a recommending capacity to the dean.

Teacher education programs, approved by the State Teacher Certification Board, are offered in elementary education, early childhood education, special education, secondary education majors and minors, and in majors which lead to the special certificate to teach K-12. The special education major offers specializations in education of the behaviorally disordered, of the mentally retarded, and of the learning disabled.

Only those students who complete an approved teacher education program are recommended for certification and may receive a teaching certificate through the entitlement process. Further information and procedures for receiving the certificate are explained below under Certification.

#### ADMISSION POLICY

The College of Education admission policy shall be the same as that of the University. All qualified new students are admitted to the College of Education with a specific departmental major classification or as an undecided student. Students applying to the University for the Elementary Education program are first placed in Pre-Elementary Education. The same policy applies for reentering students and for students enrolled in Teacher Education Program majors in other colleges in the University.

#### RETENTION POLICY FOR TEACHER EDUCATION PROGRAM

This retention policy became effective August 15, 1993, and applies to all students enrolled at Southern Illinois University at Carbondale after August 15, 1993.

A total of 320 students will be admitted each year to the Teacher Education Program. One hundred and sixty students will be admitted on October 1 for enrollment in the teacher education sequence beginning the spring semester. One hundred and sixty students will be admitted on March 1 for enrollment in the teacher education sequence beginning fall semester.

Advancement to the teacher education certification program may occur when the student has completed a minimum of 30 semester hours. Pre-Elementary Education majors must meet conditions for admissions to the teacher education program as well as admission to the Elementary Education major. A student is eligible to make formal application for admission to the program when the following criteria have been met:

1. A minimum of 30 semester hours of completed work;
2. An overall grade point average of at least 2.50 (4.0 scale);
3. Completion of English 101 and 102 with a grade of C or better;
4. Three letters of recommendation from college or university faculty;
5. An ACT score of 18.

Applications must be submitted in person and must be accompanied by verification that all prerequisites have been met. Students are responsible for submitting test scores to the College of Education Student Services at the time of application. Applications received through the mail will not be considered. Application forms, as

well as information about the teacher education program, are available from the College of Education Student Services in Wham Education Building, room 135. Students are encouraged to investigate the feasibility of applying for a particular teaching field early in their undergraduate careers by contacting their adviser or the department in which they wish to specialize. Transfer students are encouraged to contact the College of Education Student Services at least one semester prior to enrolling at Southern Illinois University at Carbondale.

If a student's application is approved after being reviewed by the chief academic adviser in the College of Education, the student is issued a membership card which entitles the student to begin work in the basic professional education courses which are prerequisite to the professional semester of student teaching. Provisions for enrollment in Education 310:

1. Students who have not enrolled in and taken Education 310 within one year of being admitted to the Teacher Education Program will be dropped from the program. They must reapply to enroll in Teacher Education Sequence courses.
2. Students who wish to change majors after being admitted to the Teacher Education Program and prior to taking Education 310, must reapply in the new major and be admitted in the new major as of the date the major change was noted. Students who change their major after enrolling in Education 310 may have to take additional hours of Education 312 to meet the 100 clock hours in their major field.
3. Students may not enroll in Education 310 more than two times. After two failures, students must demonstrate through external experiences with children/youth of the age they plan to teach that they have the potential for a third placement. This will require at least one semester of external experience and written documentation from the head of the agency as well as from the person with whom they have had direct experience from the agency in which the experience was obtained.

At the end of the first semester of membership, the department offering the student's major is requested to submit a recommendation as to whether or not the student should be retained in the program. Criteria for this recommendation are available from the department or the student's adviser. Failure to obtain approval prohibits the student from continuing with the professional education courses and could lead to suspension from the program. In order to remain in the program and complete the requirements for graduation and teacher certification, the student must attain a 2.50 grade point average in the major and receive departmental approval. Both of these requirements must be met before final clearance can be given for a student teaching assignment.

Students who withdraw from student teaching for whatever reason will be told specifically what criteria they must meet to enroll in student teaching a second time. Students who cannot finish a second student teaching assignment will not be readmitted to student teaching.

Students who are not able to meet the criteria of the teacher education program or their major department will be counseled about alternative programs.

*Collegiate Warning and Dismissal in Teacher Education Program.* Students who do not achieve an accumulative 2.25 grade point average in their major in any semester are subject to collegiate warning. Students who are on collegiate warning and do not earn a 2.25 grade point average in courses required by their major in a subsequent semester will be placed in a status of collegiate dismissal. Students registered in other colleges who are in the Teacher Education Program who do not meet this requirement will be dismissed from the Teacher Education Program. A student who has been placed on collegiate dismissal may seek transfer to another program if the student has an overall grade point average at Southern Illinois University at Carbondale of 2.00 and is in good academic standing. Students who are placed on collegiate

dismissal and have less than an overall 2.00 for work completed at the University but have not been suspended from the University will be placed in Undergraduate Academic Services.

DEGREE REQUIREMENTS

In addition to the University Core Curriculum and major requirements, each degree candidate in a teacher education program must complete the course requirements listed below:

- 1. Two semester hours in health or physical education by taking Health Education 101 or Physical Education 101.
- 2. A total of 9 hours in American history, government (Political Science 114, History 110 recommended) and an approved non-western or third world culture course.
- 3. All University Core Curriculum courses required by the Illinois State Board of Education. Specific courses are listed for each major in the Undergraduate Catalog.
- 4. Psychology 102 as a prerequisite for Education 314 in the professional education sequence.
- 5. English 101 and 102, and one additional English Literature course with a grade of C or better. The two composition courses are a prerequisite to admission to the Teacher Education Program.
- 6. Speech Communication 101 is required for state certification.
- 7. The professional education sequence listed below. Each of the courses which are part of the program prior to the professional semester must be completed with a grade of C or better as a prerequisite to admission to the professional semester. Students must receive a grade of C or better in Education 401 to receive the institutional recommendation for certification.

<i>Professional Education Sequence</i> .....	28
Decision Component	
Education 308 .....	3
Education 310 .....	2
Basic Professional Block <sup>1</sup>	
Education 311 .....	2
Education 314 .....	2
Education 315 .....	3
Education 316 .....	2
Education 317 .....	2
Professional Semester	
Education 401 .....	12

8. Illinois State Teacher Certification Board general education course distributions in: science, mathematics, social science, humanities, health, and physical education. At least one three semester hour course must be taken in non-western or third world cultures in either the humanities or social sciences. Students having questions concerning whether their program meets certification board requirements should discuss their concerns with their academic advisers.

<sup>1</sup>Includes Education 312 and 400 for Special Education majors.

Certification

A student who is nearing completion of the teacher education program (usually during the last semester) can obtain the forms to make application for entitlement to certification for the State of Illinois from the College of Education Student Services, Wham Education Building, Room 135. Upon completion of the application forms by

the student, the certification staff will process the forms. When the student's program, including graduation clearance, is completed, the office will mail the completed forms to the student's permanent address for use in applying for certification through the student's future educational service region superintendent.

Applicants for certification must register and pass the Illinois Certification Test for Basic Skills and Illinois Certification Area prior to being granted a certificate. Students are advised to take the Basic Skills Test in their junior year. The Illinois Certification Area Test should be taken prior to graduation.

The State of Illinois issues through the entitlement process the Standard Elementary Certificate, Standard High School Certificate, Standard Special Certificate, or Early Childhood-Preschool Certificate to students who graduate from an approved teacher education program at the University.

*Early Childhood Certificate.* Students planning to teach at the preschool-primary level in public schools or other settings in Illinois register in the College of Education. The early childhood preschool primary program is specifically designed to prepare future teachers of pre-kindergarten, kindergarten, and primary age children. For further information concerning the program, see the section of the catalog titled curriculum and instruction.

*Standard Elementary Certificate.* Students planning to teach on the elementary level in the public schools of Illinois register in the College of Education. Requirements for entitlement to the State of Illinois standard elementary certificate may be met through the completion of the elementary education program. For further information concerning these programs, see the sections of this catalog titled curriculum and instruction and professional education experiences.

*Standard High School Certificate.* Requirements for entitlement to the State of Illinois standard high school certificate and for entitlement to the standard special certificate may be met as explained in the section of this catalog titled curriculum and instruction. A listing of majors, minors, and other programs approved for certification entitlement purposes at Southern Illinois University at Carbondale is presented there. It is possible for a student to be registered in one of the colleges or schools other than the College of Education and to meet the state requirements for the standard high school certificate or the standard special certificate by using as electives certain prescribed professional education requirements in the College of Education.

*Standard Special Certificate.* Teaching all grades, kindergarten through grade 12, requires the standard special certificate. As noted above, requirements for entitlement to the standard special certificate may be met in the manner outlined in the section of this catalog titled curriculum and instruction in Chapter 4. Teaching fields for which the standard special certificate is issued include physical education, special education, music, art, and communication disorders and sciences.

## Art Education

(SEE ART AND DESIGN IN COLLEGE OF LIBERAL ARTS)

## Aquatics (Minor)

(SEE PHYSICAL EDUCATION)

## Athletic Training (Minor)

(SEE PHYSICAL EDUCATION)

**Biological Sciences**

(SEE BIOLOGICAL SCIENCES IN THE COLLEGE OF SCIENCE)

**Clothing and Textiles**

(SEE WORKFORCE EDUCATION AND DEVELOPMENT)

**Coaching** (Minor)

(SEE PHYSICAL EDUCATION)

**Communication Disorders and Sciences** (Major, Courses)

The major in Communication Disorders and Sciences is part of the Rehabilitation Institute.

The program in Communication Disorders and Sciences has as its objective the training of qualified personnel to aid people who are speech, language, or hearing impaired. The undergraduate curriculum is broad in scope and gives the student the necessary preprofessional background for the clinical-research program offered at the master's level. Both state and national certification require the master's degree. Students who complete the graduate program at the master's level and have certification are qualified for positions in public or private clinics, schools, hospitals, or rehabilitation agencies. In addition, the broad scope of the program provides a solid foundation for many graduate professional programs in rehabilitation, such as rehabilitation counseling, behavioral analysis and therapy, and rehabilitation administration.

Communication Disorders and Sciences is dedicated to preparing students for leadership roles in the profession. Students are expected to develop programs that will enhance their individual strengths in light of their professional goals. The undergraduate program permits students to develop significant concentration areas outside of the department while laying the foundation for graduate education.

Proficiency in communication skills must be demonstrated prior to enrollment in clinical coursework. The undergraduate program is designed to provide the student with sufficient information and experience to determine the advisability of pursuing a graduate degree in Communication Disorders and Sciences. Those students choosing not to continue in the profession will find themselves well prepared to enter the job market with a broadly based education or to pursue graduate work in allied rehabilitation professions.

All students are encouraged to plan programs of study to meet the academic and practicum requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association, the Standard Special Certificate in Speech and Language Impaired of the State of Illinois or both. Programmatic planning at the bachelor's level will facilitate completion of certification requirements of American Speech-Language-Hearing Association and State of Illinois in conjunction with the master's degree program.

**Bachelor of Science Degree, College of Education**

COMMUNICATION DISORDERS AND SCIENCES – PREPROFESSIONAL PROGRAM

*University Core Curriculum Requirements* ..... 41

To include: ENGL 101, 102; SPCM 101; MATH 110 or 113; PHYS 101, GEOL 110 or CHEM 106; PLB 115, 117, or ZOOL 115; AD 310i, ENGL 308i<sup>1</sup>, FL 310i, 313i<sup>1</sup> HIST 304i<sup>1</sup>, or PHIL 308i<sup>1</sup>; HIST 110; AD 101, HIST 201, MUS 103

or THEA 101; FL 101, HIST 101a,<sup>1</sup> b, PHIL 103a,b; ENGL 121 or 204; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215; HED 101 or PE 101.

<i>Major Requirements</i> .....	43
Psychology 102, 211, 301 .....	10
Sociology 108 .....	3
Communication Disorders and Sciences 300, 301, 302, 303, 314, 410, 419, 420, 492, 493 .....	30
<i>Electives by Advisement</i> .....	36
<i>Total</i> .....	120

<sup>1</sup>One course required to meet non-western civilization/third world culture requirement.

Students pursuing an Illinois Type-10 Teaching Certificate must include the following:

Mathematics and Science coursework to total 12 semester hours (including one laboratory course).

Humanities and Fine Arts coursework to total 15 semester hours.

A minimum of 3 semester hours in English literature.

And the following courses: Education 308, 310, 311, 314a, 315, History 110 and Political Science 114

A student in the College of Education who plans to be a public school speech and language clinician in Illinois, thereby needing to meet the requirements for the Standard Special Certificate - Certificate in Speech and Language Impaired, should follow the program of course requirements listed above. To meet the University Core Curriculum Requirements for certification, the following UCC courses listed above must be taken. In addition, the requirements for the Teacher Education Program must be completed as part of the electives by advisement. Recommendation for admission to the Teacher Education Program for the speech-language impaired requires a minimum grade point average of 2.75 on a 4.0 scale. The student teaching requirement may not be undertaken at the undergraduate level. Students interested in the Teacher Education Program should contact the academic adviser for Communication Disorders and Sciences in the College of Education for appropriate University Core Curriculum and Teacher Education coursework. See also Teacher Education Program above.

### Rehabilitation Institute Faculty

**Allen, Harry A.**, Professor, Ed.D., University of Arkansas, 1971.

**Anderson, John O.**, Professor, *Emeritus*, Ph.D., Ohio State University, 1950.

**Austin, Gary**, Professor, *Director*, Ph.D., Northwestern University, 1973.

**Beck, Richard**, Associate Professor, Ph.D., University of Wisconsin-Madison, 1987.

**Bender, Eleanor**, Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1962.

**Benshoff, John J.**, Associate Professor, Ph.D., University of Northern Colorado, 1988.

**Blache, Stephen E.**, Professor, Ph.D., The Ohio University, 1970.

**Bordieri, James E.**, Professor, Ph.D., Illinois Institute of Technology, 1980.

**Brackett, I. P.**, Professor, *Emeritus*, Ph.D., Northwestern University, 1947.

**Brutten, Gene J.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1957.

**Bryson, Seymour L.**, Professor, Ph.D., Southern Illinois University, 1972.

**Crimando, William**, Professor, Ph.D., Michigan State University, 1980.

**Cuvo, Anthony J.**, Professor, Ph.D., University of Connecticut, 1973.

**Davis, Paula K.**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1989.

**Dickey, Thomas W.**, Assistant Professor, *Emeritus*, M.A., Southern Illinois University, 1964.

**Falvo, Donna R.**, Professor, Ph.D., Southern Illinois University, 1978.

**Gardner, Margaret S.**, Associate Professor, *Emerita*, Ph.D., Northwestern University, 1960.

**Greene, Brandon F.**, Professor, Ph.D., Florida State University, 1979.

**Grenfell, John E.**, Professor, *Emeritus*, Ed.D., Oregon State University, 1966.

**Hafer, Marilyn**, Associate Professor, *Emerita*, Ph.D., Texas Tech University, 1971.

**Hoshiko, Michael S.**, Professor, *Emeritus*, Ph.D., Purdue University, 1957.

**Janikowski, Timothy**, Associate Professor, Ph.D., University of Wisconsin-Madison, 1988.

**Lee, Robert E.**, Associate Professor *Emeritus*, Ph.D., University of Minnesota, 1964.

**Lehr, Robert**, Professor, *Emeritus*, Ph.D., Baylor University, 1971.

**Poppen, Roger L.**, Professor, Ph.D., Stanford University, 1968.

**Renzaglia, Guy A.**, Professor, *Emeritus*, Ph.D., University of Minnesota, 1952.

**Riggat, Theodore F.**, Professor, Ed.D., University of Northern Colorado, 1977.

**Rubin, Harris B.**, Professor, Ph.D., University of Chicago, 1965.

**Rubin, Stanford E.**, Professor, Ed.D., University of Illinois, 1968.

**Ruder, Kenneth F.**, Professor, Ph.D., University of Florida, 1969.

**Schultz, Martin C.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1955.

**Schumacher, Brockman**, Professor, *Emeritus*, Ph.D., Washington University, 1969.

**Simpson, Kenneth O.**, Assistant Professor, Ph.D., University of Nebraska-Lincoln, 1995.

**Smith, Linda McCabe**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1994.

**Taylor, Darrell**, Assistant Professor, Ph.D., University of South Florida, 1992.

**Vieceli, Louis**, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1959.

**Wright, W. Russell**, Associate Professor, Ph.D., Southern Illinois University, 1974.

## Curriculum and Instruction (Department, Majors, Minor [Child and Family Services], Courses)

The Department of Curriculum and Instruction offers three majors in its undergraduate program: early childhood with specializations in preschool/primary and child and family services; elementary education; and social studies. A minor in child and family services is also available, as well as courses for those students pursuing the standard high school certification program. The department offers programs to prepare students to qualify for the following Illinois teaching certificates: Early Childhood Certificate (for teaching ages 0-8); standard Elementary Certificate (for teaching in grades K-9); or Standard High School Certificate (for teaching in grades 6-12). Students may enter the department (1) directly from within the College of Education, (2) from the Pre-major program, (3) from other academic units, or (4) from other institutions of higher education.

### Early Childhood Major

This program encompasses the professional training needed to assume a variety of roles such as infant development specialists; early childhood teachers and administrators; teacher and parent educators; family service workers; and teachers of young children in elementary schools.

#### EARLY CHILDHOOD MAJOR – PRESCHOOL/PRIMARY SPECIALIZATION

Students interested in teaching children 0-8 years of age in private or state-approved settings may elect to participate in the early childhood major leading to early childhood certification. Specifically designed to prepare future teachers of children up to the age of 8, this program will lead to the State of Illinois Early Childhood Certificate.

There are sequential steps for advancement in the early childhood major with the preschool/primary specialization program. Such advancement is based not only on continued satisfactory academic performance, but also on acceptable professional behaviors which the faculty deem essential for competent and effective educators of young children and families.

1. Completion of Curriculum and Instruction 245 and two other courses in the major with a grade of C or better, an overall grade point average of 2.25, and a favorable vote of the early childhood faculty.

- 2. Complete requirements for admission to the Teacher Education Program.
- 3. To be eligible for student teaching, a student must have attained a minimum grade point average of 2.50 in the major, successfully completed Curriculum and Instruction 227, 237, 245, 313, 317, 318, 319, 325, 327, 337, 404, 405, 413, 419, Education 312, Special Education 400; have made preliminary application for student teaching; and be approved by the coordinator of the early childhood major based on performance in the above courses. Applications for student teaching must be submitted within the first two weeks of the semester during which the student is enrolled in Curriculum and Instruction 318.

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101, 102; SPCM 101; MATH 314; AD 101; HED 101; ENGL 121 or 204; HIST 110; CHEM 106, GEOL 110, or PHYS 101; PLB 117, ZOOL 115 or BIOL 115; PLB 301i, PLB 303i, or ZOOL 312i; POLS 114; PSYC 102; ANTH 202; HIST 202, 210 or SOC 215.	
<i>Preschool/Primary Specialization Requirements</i> .....	58
Curriculum and Instruction 237, 245, 313, 317, 318, 319, 325, 405, 413, 418, 419, 427 .....	40
Concentration Requirements: Curriculum and Instruction 227, 337, 404, 327, Psychology 301 and choice of Anthropology 300d, Psychology 303 or Sociology 321 .....	18
<i>Additional Requirements</i> .....	35
Education 312, 401 .....	14
Special Education 400, 412 .....	3
Additional hours for state teacher certification .....	12
Mathematics 114; Humanities elective; Foreign Languages and Literatures 313i, History 304i or History 101a <sup>1</sup>	
<i>Total</i> .....	134

<sup>1</sup>Required to meet non-western civilization/third world culture requirement.

Further enrichment in special education, infant development, administration of programs and family studies can be selected by contacting the adviser for a list of recommended courses.

EARLY CHILDHOOD MAJOR – CHILD AND FAMILY SERVICES SPECIALIZATION

This program in child and family services offers preparation leading to positions as administrators and/or teachers in non-public school child care programs, including day care centers, nursery schools, family day care homes, and college child care facilities; administrators or workers in residential living facilities for exceptional children; child care and family life specialists with social and public health agencies; home economics extension specialists in child care; specialists in family life and parenting education; and infant care specialists.

To be eligible for field experience, a student must have successfully completed Curriculum and Instruction 227, 237, 245, 317, 318, 327, 404, 419 and have consent of the field experience instructor. Likewise, a minimum of nine semester hour of course work must be taken from one of the recommended elective areas prior to enrollment in the field experience.

<i>University Core Curriculum Requirements</i> .....	41
Foundations: English 101, 102; Speech Communication 101; Mathematics 110 and 113 or Mathematics 114 and 314	
Disciplinary Studies: Choice of Art and Design 101, Music 103 or Theater 101; Physical Education 101 or Health Education 101; humanities; Chemistry	

106, Geology 110 or Physics 101; Plant Biology 117, Zoology 115 or Plant Biology 115; Sociology 108; Psychology 102	
Integrative Studies: choice of Plant Biology 301i, Plant Biology 303i or Zoology 312i; choice of multicultural course	
<i>Child and Family Specialization Requirements</i> .....	48
Curriculum and Instruction 227, 237, 245, 317, 318, 327, 395, 402, 404, 405, 417, 419, 495 .....	42
Psychology 303 .....	3
Special Education 400 .....	3
<i>Electives</i> .....	31
<i>Recommended for Preschool Directors and Teachers:</i> Curriculum and Instruction 325, 390h, 453, 498h; Accounting 210; Art 348; Health Education 402; Management 350; Physical Education 202, 309; Social Work 375, 383, 391.	
<i>Recommended for Child/Family Care Specialists in Social Services:</i> Curriculum and Instruction 390h, 498h; Health Education 440, 444; Psychology 305; Rehabilitation 405; Sociology 426; Social Work 375, 383, 391.	
<i>Recommended for Residential Life Directors and Supervisors:</i> Plant Biology 115; Finance 490; Health Education 334, 402; Management 350; Marketing 350; Psychology 451; Recreation 300; Special Education 401, 402, 403; Social Work 375, 383.	
<i>Recommended for Infant Care Specialists:</i> Plant Biology 115; Finance 490; Health Education 334, 402; Physical Education 309; Psychology 305; Social Work 375, 383, 391.	
<i>Total</i> .....	120

Elementary Education Major

A Bachelor of Science degree with a major in elementary education entitles the student to apply for the State of Illinois Standard Elementary Certificate, which will allow the holder to teach in kindergarten through grade nine.

*Admission.* All students who plan to major in Elementary Education will first be admitted as Pre-Elementary Education students provided they meet the University's admission policy and have potential to meet Teacher Education Program requirements as stated in the College of Education section, above. Beginning freshmen will be granted pre-elementary education major status. Freshmen are advised by a College of Education academic adviser for the purpose of completing the courses required to become elementary education majors.

Transfer students must meet University admission requirements to be granted pre-elementary education major status for the purpose of advisement toward the elementary education major.

Students who are currently enrolled or previously attended SIUC in a major other than elementary education may request admission to the elementary education program as pre-elementary education majors for the purpose of advisement.

Transfer and reentering students who have earned more than 45 hours of transfer credit and have a grade point average of 2.2 to 2.5 will have their applications reviewed by the department to determine if they are admissible to the pre-elementary education major classification.

To be considered an elementary education major, students must have completed 45 semester hours with an overall grade point average of 2.5 (4.0 scale) and have obtained a satisfactory score on a pre-professional test of basic skills. In addition, students must have successfully completed the following University Core Curriculum

Requirement courses: (a) Two of the following: Political Science 114, Psychology 102, History 110 and (b) English 101, 102 and Speech Communication 101 or equivalent.

*Retention.* There are sequential steps for advancement in the elementary education major. Such advancement is based not only on continued satisfactory academic performance, but also on acceptable professional behaviors which the faculty deem essential for competent and effective educators.

1. Initial retention in the elementary education major requires completion of two Curriculum and Instruction courses with a grade of C or better, attainment of an overall grade point average (gpa) of 2.5, and the favorable vote of the elementary education faculty. (Note: An overall minimum gpa of 2.5 is required to register for the following major courses: Curriculum and Instruction 312, 315, 423, 424, 426, and 435.)

2. Completion of the requirements for admission to the Teacher Education Program.

3. To be eligible for the professional semester the student must have attained a minimum 2.5 gpa in the major; completed Curriculum and Instruction 312, 315, and at least two of the following with a grade of C or better: Curriculum and Instruction 423, 424, 426, 427 or 435; have made preliminary application for the professional semester; and be approved by the department based on performance in all major courses.

Completion of the major requires: completion of Curriculum and Instruction 312, 315, 423, 424, 426, 427, and 435 with a grade of C or better, a minimum gpa of 2.5 in the major, and an overall gpa of 2.5. Eighteen hours of electives to be selected from one of the disciplines in the following areas: mathematics and science, humanities, or social studies. Nine of the eighteen hours must be at the 300/400 level.

ELEMENTARY EDUCATION MAJOR

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101, 102; SPCM 101; MATH 314; AD 101; HED 101; ENGL 121 or 204; HIST 110; CHEM 106, GEOL 110 or PHYS 101; PLB 117, ZOOL 115, or PLB 115; PLB 301i, PLB 303i or ZOOL 312i; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215.	
<i>Elementary Education Major Requirements</i> .....	40
Curriculum and Instruction 312, 315, 423, 424, 426, 427, 435 .....	22
Concentration .....	18
To be selected from one of the following areas: Mathematics and Science, Humanities or Social Studies.	
<i>Professional Education Requirements</i> .....	28
See Teacher Education Program, above.	
<i>Additional State Certification Requirements</i> .....	12
To include Mathematics 114; Music 101 or 103; Physical Education 101; Foreign Languages and Literatures 313i, History 304i or History 101a <sup>1</sup>	
<i>Electives</i> .....	7
<i>Total</i> .....	128

<sup>1</sup>Required to meet non-western civilization/third world culture requirements.

Majors To Prepare For Secondary School Teaching

Students who elect to pursue a Bachelor of Science degree in the College of Education, for purposes of preparing to teach in junior or senior high schools, should select academic majors and minors from the areas included in the listing below. Included in the column headed Major are those areas for which Southern Illinois Uni-

versity at Carbondale has approval from the State of Illinois Office of Education and from the State Teacher Certification Board.

TEACHING AREA	MAJOR	MINOR <sup>1</sup>
Agriculture, General <sup>2</sup>	X	
Art	X	
Biological Sciences	X	X
Black American Studies		X
Economics		X
English	X	X
Foreign Languages <sup>4</sup>	X	X
Health Education	X	
History	X	X
Mathematics	X	X
Microbiology		X
Music	X	X
Philosophy		X
Physical Education	X	X
Physiology		X
Political Science	X	X
Psychology		X
Social Studies	X	
Sociology		X
Theater		X
Workforce Education and Development	X	X
Business Education Specialization		
Home Economics Education Specialization		
Zoology <sup>3</sup>	X	X

<sup>1</sup>All minors used for certification purposes must meet the minimum number of hours specified in State Board Document I.

<sup>2</sup>Requirements for the major in general agriculture may be found in the catalog section titled Agricultural Education and Mechanization.

<sup>3</sup>A student with a major in zoology should have a minor in plant biology in order to meet certification standards for teaching biology at the high school level.

<sup>4</sup>Majors and minors are offered in the specific languages. The student should consult the academic adviser for information concerning the majors and minors available.

Each student who wishes to apply for the Standard High School Certificate through the certification entitlement process at Southern Illinois University at Carbondale must fulfill the following requirements of the University's Teacher Education Program:

1. The individual must have completed a baccalaureate program at Southern Illinois University at Carbondale.
2. The individual must have completed one of the approved majors above.
3. The individual must have fulfilled requirements for certification related to the state and federal constitutions and an American government or American history course by either (a) taking Political Science 114 and History 110; (b) taking a course in American history and political science other than those listed in (a) above, and passing the constitution test administered by Southern Illinois University at Carbondale; (c) presenting written notification from another institution that a course in American history and political science has been passed and that the Illinois and United States Constitutions tests have been passed.
4. The individual must have fulfilled certification requirements in health which can be satisfied by taking Health Education 101.
5. The individual must have completed the sequence of professional education courses with a grade of C or better. See Teacher Education Program.

6. The individual must have completed a special methods course in the major.
7. The individual must have fulfilled State Teacher Certification Board University Core Curriculum requirement distributions in the required areas: communication skills, science and mathematics, social sciences, humanities, health and physical development.

Students who wish to prepare to teach in middle school or junior high schools should inform their advisers of this interest early so they can include in their programs those courses which will prepare them for teaching in that area and meet Illinois State Board of Education Document 1 requirements. The student’s electives should be planned to include course work in a subject matter area of major interest.

Social Studies Major

This program is designed to meet the needs of students who wish to teach social studies in the middle/junior high school or the senior high school. The graduate of this program will be qualified to teach social studies, history, political science, geography, sociology, and economics, based on requirements of the Illinois State Teacher Certification Board.

The complex nature of our competitive, pluralistic society mandates social studies curricula which prepare future citizens to comprehend and adjust to a changing social environment. The goal of the social studies program is to prepare prospective social studies teachers for the role of leadership in guiding middle school, junior, and senior high school students to live as effective citizens in a democratic society.

Content and professional course work provide the foundation used in the social studies methods course, where teaching methods and strategies are explored and experienced. A series of clinical experiences provide the social studies major an opportunity to use the knowledge and skills acquired in the program. A cooperative teaching and university supervisor will assist the student to blend knowledge and skills with adolescent behavior and curriculum needs.

University Core Curriculum Requirements .....	41
To include ENGL 101, 102; SPCM 101; MATH 110, 113 or approved substitute; AD 101, ENGL 203; MUS 103, HIST 201 or THEA 101; HED 101; ENGL 121 or 204; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215.	
Requirements for Major in Social Studies .....	(9) + 49 <sup>1</sup>
History 300 and 301; US History elective .....	(3) + 6
History 205a, 205b, world history, plus 3 hours at the 300-400 level .....	9
Economics 240, 241, economics elective .....	9
Political Science 114, 213, political science elective .....	(3) + 6
Geography 300, and two geography electives .....	9
Anthropology 104, Psychology 102, and Sociology 301 .....	(3) + 7
Curriculum and Instruction 469 .....	3
Professional Education Requirements (See Teacher Education) .....	28
Electives .....	<u>2</u>
Total .....	120

<sup>1</sup>Although the hours shown in parenthesis are required for the major, they will also count toward the 41 hours required in University Core Curriculum.

Child and Family Services (Minor)

The minor in child and family services is designed to provide students with basic knowledge in early childhood or family studies. The selection of coursework is flexible so that courses can be adapted to the special interests of students with diverse backgrounds and goals. Students are expected to honor all prerequisites in their selection of courses. A minimum of 16 hours of coursework is required as follows:

Curriculum and Instruction 227, 237 .....	6
Electives to be chosen from the following: .....	10
Early Childhood Emphasis: Curriculum and Instruction 245, 337, 390h, 404, 498h	
Family Studies Emphasis: Curriculum and Instruction 327, 390q, 414, 498q	

### Curriculum and Instruction Faculty

**Aikman, Arthur L.**, Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1965.

**Alston, Melvin O.**, Professor, *Emeritus*, Ed.D., Columbia University, 1945.

**Appleby, Bruce C.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1967.

**Barrette, Pierre**, Associate Professor, Ed.D., University of Massachusetts, 1971.

**Bauner, Ruth E.**, Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1978.

**Becker, Jerry P.**, Professor, Ph.D., Stanford University, 1967.

**Bedient, Douglas**, Professor, Ph.D., Southern Illinois University at Carbondale, 1971.

**Boykin, Arsene O.**, Associate Professor, *Emeritus*, Ed.D., University of Illinois, 1964.

**Bradfield, Joyce M.**, Instructor, *Emerita*, M.A., George Peabody College for Teachers, 1946.

**Bradfield, Luther E.**, Professor, *Emeritus*, Ed.D., Indiana University, 1953.

**Brown, Bill**, Instructor, *Emeritus*, M.Ed., University of Missouri, 1946.

**Buser, Margaret**, Assistant Professor, *Emerita*, M.S.Ed., Indiana University, 1966.

**Butts, Gordon K.**, Professor, *Emeritus*, Ed.D., Indiana University, 1956.

**Campbell, James A.**, Associate Professor, Ph.D., Ohio State University, 1978.

**Casey, John P.**, Professor, *Emeritus*, Ed.D., Indiana University, 1963.

**Copenhaver, Ron W.**, Associate Professor, Ed.D., Indiana University, 1978.

**Coscarelli, William**, Professor, Ph.D., Indiana University, 1977.

**Cox, Dorothy**, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1976.

**Dale, Doris C.**, Professor, *Emerita*, D.L.S., Columbia University, 1968.

**DeWeese, Jewel V.**, Instructor, *Emerita*, M.S.Ed., Southern Illinois University at Carbondale, 1971.

**DeWerff, Marla**, Lecturer, M.S., Southern Illinois University at Carbondale, 1993.

**Dixon, Billy G.**, Associate Professor and Chair, Ph.D., Southern Illinois University at Carbondale, 1967.

**Eddleman, E. Jacqueline**, Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1970.

**Edwards, Troy W.**, Professor, *Emeritus*, Ed.D., Indiana University, 1954.

**Eichholz, Barbara**, Lecturer, Ph.D., Southern Illinois University at Carbondale, 1986.

**Erickson, Lawrence**, Professor, Ph.D., University of Wisconsin, 1972.

**Gilbert, Sharon**, Associate Professor, Ph.D., Ohio State University, 1988.

**Gordon, Kimberly**, Assistant Professor, Ph.D., Stanford University, 1993.

**Grace, Barbara E.**, Lecturer, M.S., Southern Illinois University at Carbondale, 1985.

**Gulley, S. Beverly**, Professor, Ph.D., Southern Illinois University at Carbondale, 1974.

**Harrington, Mary-Margaret**, Assistant Professor, Ed.D., George Peabody College of Vanderbilt University, 1995.

**Hill, Margaret K.**, Professor, *Emerita*, Ed.D., Boston University, 1948.

**Hungerford, Harold R.**, Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1970.

**Jackson, James**, Associate Professor, Ph.D., University of Wisconsin, 1976.

**Jackson, Michael**, Associate Professor, Ed.D., University of Florida, 1971.

**Jones, Dan R.**, Associate Professor, Ed.D., Indiana University, 1978.

**Jones, Jennie Y.**, Assistant Professor, *Emerita*, A.M., University of Illinois, 1949.

**Karmos, Ann**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1975.

**Killian, Joyce E.**, Professor, Ph.D., Pennsylvania State University, 1980.

**Lamb, Morris L.**, Associate Professor, *Emeritus*, Ed.D., University of Oklahoma, 1970.

**Leming, James**, Professor, Ph.D., University of Wisconsin, 1973.

**Lindberg, Dormalee H.**, Professor, Ed.D., University of Missouri, 1969.

**Lumpe, Andrew**, Assistant Professor, Ph.D., Kansas State University, 1992.

**Malone, Willis E.**, Professor, *Emeritus*, Ph.D., Ohio State University, 1950.

**Matthias, Margaret, Professor, Emerita**, Ph.D., Southern Illinois University at Carbondale, 1972.

**McIntyre, D. John**, Professor, Ed.D., Syracuse University, 1977.

**Meyer, Edra T.**, Instructor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1956.

**Moberly, Deborah**, Lecturer, M.S., Southern Illinois University at Carbondale, 1984.

**Moore, Eryn E.**, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1976.

**Nelson, JoAnn**, Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1980.

**Norris, William**, Associate Professor, *Emeritus*, Ed.D., Indiana University, 1973.

**Pearlman, Susan F.**, Associate Professor, Ph.D., University of Missouri, 1987.

**Post, Donna M.**, Associate Professor, Ph.D., Pennsylvania State University, 1990.

**Pultorak, Edward, Jr.**, Associate Professor, Ph.D., Indiana State University, 1988.

**Quisenberry, James D.**, Associate Professor, *Emeritus*, Ph.D., Indiana University, 1972.

**Quisenberry, Nancy L.**, Professor, Ed.D., Indiana University, 1971.

**Randolph, Victor**, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1942.

**Seiferth, Berniece B.**, Professor, *Emerita*, Ed.D., University of Missouri, 1955.

**Shelton, Vivian H.**, Assistant Professor, *Emerita*, M.S.Ed., Southern Illinois University at Carbondale, 1965.

**Shepherd, Terry R.**, Associate Professor, Ph.D., University of Illinois, 1971.

**Shrock, Sharon A.**, Associate Professor, Ph.D., Indiana University, 1979.

**Sloan, Fred A.**, Professor, *Emeritus*, Ed.D., George Peabody College of Vanderbilt University, 1959.

**Smith, Lynn C.**, Associate Professor, Ph.D., University of Georgia, 1984.

**Solliday, Michael**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1975.

**Spigle, Irving S.**, Associate Professor, *Emeritus*, Ed.D., Indiana University, 1955.

**Starbuck, Sara**, Lecturer, M.S., Southern Illinois University at Carbondale, 1985.

**Volk, Gertrude L.**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1983.

**Waggoner, Jan**, Associate Professor, Ed.D., Memphis State University, 1990.

**Wendt, Paul R.**, Professor, *Emeritus*, Ph.D., University of Minnesota, 1948.

**Wise, Kevin C.**, Associate Professor, Ed.D., University of Georgia, 1983.

**Wood, Ruth B.**, Instructor, *Emerita*, M.S., University of Illinois, 1948.

## Elementary Education

(SEE CURRICULUM AND INSTRUCTION)

## English

(SEE ENGLISH IN THE COLLEGE OF LIBERAL ARTS)

## Foreign Languages

(SEE FRENCH, GERMAN AND SPANISH LANGUAGES IN THE COLLEGE OF LIBERAL ARTS)

## Health Education (Major, Courses)

Health Education offers two specializations within the health education major and two programs of minimal professional preparation. The two specializations are:

1. Community Health Education. For those planning to conduct health education and health promotion activities in non-classroom settings.

2. School Health Education. For those planning to teach health education in the secondary schools.

The two minimal professional preparations are:

1. School Health Education. For those planning to teach or supervise health education in the secondary schools.

2. Driver Education. For those planning to teach driver education in Illinois secondary schools.

These specializations, in general, constitute minimal preparation for the positions listed. Consequently, all candidates are strongly urged to complete additional work in the field.

A 2.25 grade point average is required for admission into the undergraduate health education program.

Psychomotor and verbal skills are required for students enrolled in Health Education 334 and 434. If questions arise concerning a student's ability in these areas, an assessment will be made prior to the end of the first week of the semester to determine whether the student possesses the necessary skills to remain in the course. The final decision will be made by the first aid coordinator in the Department of Health Education and Recreation.

A student in the community health education specialization must have a 2.5 grade point average in the major before clearance to do an internship. A student in the school health education specialization must have a 2.5 grade point average in the major before clearance to do student teaching.

Health Education 101, Foundations of Human Health, is required for all undergraduate health education majors. In addition, Allied Health Careers Specialties 141, or its equivalent, is a prerequisite to admission to the undergraduate program.

A C or better grade is required for all major courses in the undergraduate health education program.

**Bachelor of Science Degree, College of Education**

**HEALTH EDUCATION MAJOR – COMMUNITY HEALTH EDUCATION SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
Health Education 101 must be included in University Core Curriculum.	
<i>Requirements for Major in Health Education</i> .....	39
Health Education 301, 305, 311, 312, 326, 330, 355, 401, 405, 407, 490, 491	
<i>Recommended Health Education Electives</i> .....	15
<i>Electives</i> .....	<u>25</u>
<i>Total</i> .....	120

**HEALTH EDUCATION MAJOR – SCHOOL HEALTH EDUCATION SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101 and 102; SPCM 101; MATH 110 or 113; CHEM 106, GEOL 110 or PHYS 101; PLB 115 or ZOOL 115, HIST 101a <sup>1</sup> ; ENGL 121 or 204; One of AD 101, ENGL 203, HIST 201, MUS 103 or THEA 101; POLS 114; PSYC 102; HED 101; One of AD 310i, ENGL 308i, FL 310i, FL 313I or HIST 304i; One of ANTH 202, SOC 215, HIST 202 or HIST 210.	
<i>Requirements for Major in Health Education</i> .....	39
Health Education 301, 305, 312, 326, 355, 405, 407, 491 and 9 hours of electives from: 313, 330, 334 or 401	
Additional Courses to Meet Certification Requirements: Allied Health Careers Specialties 141, History 110 .....	6
<i>Professional Education Requirements</i> .....	28
(See Teacher Education Program.)	
<i>Electives</i> .....	<u>12</u>
<i>Total</i> .....	120

<sup>1</sup>Required to meet non-western civilization/third world culture requirement.

The two minimal professional preparation requirements for Illinois teachers are:

School Health Education: Health Education 301, 305, 355, 405 or 410, 407, 491 and at least two courses from the following: 312, 313s, 330, 401, 488.

Driver Education: Health Education 302s, 313s, 442s, 443s, plus three hours of electives from the following: 334, 445, 470s, 480s.

**Health Education and Recreation Faculty**

<b>Aaron, James E.</b> , Professor, <i>Emeritus</i> , Ed.D., New York University, 1960.	<b>Abernathy, William</b> , Assistant Professor, <i>Emeritus</i> , M.S.Ed., Southern Illinois University, 1963.
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- Blasini-Caceres, Lydia**, Assistant Professor, Ph.D., Pennsylvania State University, 1993.
- Boydston, Donald N.**, Professor, *Emeritus*, Ed.D., Columbia University, 1949.
- Bridges, A. Frank.**, Professor, *Emeritus*, D.H.S., Indiana University, 1952.
- Drolet, Judy C.**, Professor, Ph.D., University of Oregon, 1982.
- Glover, James**, Associate Professor, Ph.D., University of Maryland, 1980.
- Glover, Regina**, Associate Professor and Chair, Ph.D., University of Maryland, 1983.
- Grissom, Deward K.**, Professor, *Emeritus*, Ed.D., Columbia University, 1952.
- Hailey, Robert**, Assistant Professor, M.Ed., University of Missouri, Columbia, 1959.
- Kittleson, Mark J.**, Professor, Ph.D., University of Akron, 1986.
- Lacey, Ella P.**, Associate Professor, *Emerita*, Ph.D., Southern Illinois University, 1979.
- LeFevre, John R.**, Professor, *Emeritus*, Ed.D., Teachers Colleges, Columbia University, 1950.
- Malkin, Marjorie J.**, Associate Professor, Ed.D., University of Georgia, 1986.
- McEwen, Douglas**, Professor, Ph.D., Michigan State University, 1973.
- O'Brien, William**, Professor, *Emeritus*, D.Rec., Indiana University, 1967.
- O'Dell, Irma**, Assistant Professor, Ph.D., University of New Mexico, 1992.
- Ogletree, Roberta J.**, Associate Professor, H.S.D., Indiana University, 1991.
- Phillips, Frances K.**, Associate Professor, *Emerita*, M.A., Columbia University, 1940.
- Richardson, Charles E.**, Professor, *Emeritus*, Ed.D., University of California, Los Angeles, 1959.
- Ritzel, Dale O.**, Professor, Ph.D., Southern Illinois University, 1970.
- Russell, Robert D.**, Professor, Ed.D., Stanford University, 1954.
- Sarvela, Paul**, Professor, Ph.D., University of Michigan, 1984.
- Sliepcevich, Elena M.**, Professor, *Emerita*, D.P.E., Springfield College, 1955.
- Teaff, Joseph**, Professor, Ed.D., Columbia University, 1973.
- Vaughn, Andrew T.**, Professor, *Emeritus*, D.Ed., Columbia University, 1958.
- Vitello, Elaine**, Professor, Ph.D., Southern Illinois University, 1977.
- Vogel, Herbert**, Assistant Professor, M.S., Indiana University, 1954.
- Welshimer, Kathleen J.**, Associate Professor, Ph.D., University of North Carolina, 1990.
- Zunich, Eileen M.**, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.

## History

(SEE HISTORY IN THE COLLEGE OF LIBERAL ARTS)

## Mathematics

(SEE MATHEMATICS IN THE COLLEGE OF SCIENCE)

## Music

(SEE MUSIC IN THE COLLEGE OF LIBERAL ARTS)

## Physical Education (Department, Major, Courses)

The Department of Physical Education offers programs which qualify graduates for positions as teachers in elementary and secondary schools or for alternative careers in private, industrial, and public settings. Whatever the student's career aims may be, the programs provide a full range of intriguing and challenging professional opportunities in diversified curricula. The student can choose a discipline best suited to individual interests, talents, temperament, and future plans. While studying new concepts, the student will observe the work of outstanding teachers, athletic coaches, and clinicians. Whichever direction is selected, the student will study and practice in modern facilities, with the latest equipment and will learn the most recent techniques.

*Teacher Education Specialization.* The teacher education specialization consists of courses which are designed to meet the requirements of the Illinois State Department of Education and are, in most cases, transferable to meet requirements of other states.

The laboratory and classroom experiences consist of basic and applied sciences, methods of teaching, and acquisition of physical skills which include a variety of team and individual sports, exercise, and dance.

Students selecting the Teacher Education Specialization may also elect additional courses to become certified by the Illinois Athletic Coaching Certification Board (IACCB) or complete a minor in either aquatics or athletic training. These additions to the preparation for teaching will enhance a graduate's employment opportunities.

*Athletic Training Specialization.* The athletic training specialization is designed to train students to provide exemplary first-aid care for student-athletes, and administer rehabilitation, therapeutic treatment, and preventive conditioning programs under the supervision of a physician. This program prepares graduates for careers as athletic trainers in public schools, colleges, and private and industrial settings.

*Exercise Science and Physical Fitness.* This program is designed for students who wish to direct physical fitness programs in private, industrial and public settings. Preparation in this program enables the graduate to assess components of adult fitness, design individual exercise programs for the development and maintenance of physical fitness, and manage a physical fitness program. Graduates will have the foundation for continued study at the graduate level.

### **Bachelor of Science Degree, College of Education**

#### **PHYSICAL EDUCATION MAJOR – TEACHER EDUCATION SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
To include: ENGL 101, 102, and 121 or 204; SPCM 101; MATH 110 or 113; FL 101, HIST 101a <sup>1</sup> , HIST 101b, PHIL 103a or PHIL 103b; HIST 110; AD 101, ENGL 203, HIST 201, MUS 103 or THEA 101; POLS 114; ZOOL 115; CHEM 106, GEOL 110 or PHYS 101; ANTH 202, HIST 202, 210 or SOC 215; AD 310i, ENGL 308i, FL 310i or FL 313i; HED 101.	
<i>Requirements for Major in Physical Education</i> .....	42
Physical Education 100, 113, 114, 116a,b, 117, 118a,b, 120, 121, 122, 301, 305, 314, 317, 318, 319, 321, 322, 323, 324, 345, 370, Physiology 220.	
<i>Professional Education Requirements</i> .....	28
See Teacher Education Program.	
<i>Additional courses required for Teacher Certification</i> .....	6
Psychology 102, Physiology 201	
<i>Electives</i> .....	7
<i>Total</i> .....	124

#### **PHYSICAL EDUCATION MAJOR – ATHLETIC TRAINING SPECIALIZATION**

Students majoring in physical education with a specialization in athletic training must maintain the following standards to remain in the program:

1. A minimum grade point average of 2.25 at the University.
2. A minimum grade point average of 2.5 for all required course work in the athletic training specialization;
3. Obtain a grade of B or better in Physical Education 225;
4. Obtain a grade of C or better in Physiology 301;
5. Complete 1200 hours of clinical experience;
6. Be proficient in basic skills according to class level.

The prospective student should make an early application to this program because enrollment is limited due to the size of the faculty.

University Core Curriculum Requirements ..... 41  
To include Physics 101; Zoology 118; Health Education 101; Psychology 102;  
Speech Communication 101  
Requirements for Major in Physical Education ..... 81  
Core Requirements ..... 19  
Physical Education 115, 303, 304, 326, 320; Physiology 201, 220  
Additional Physical Education Requirements ..... 26  
Physical Education 225, 226, 305, 317, 325, 327, 328a,b, 341, 355d,  
370, 381, 382, 407 or 426.  
Additional Requirements ..... 36  
Physical Therapist Assistant 203, 208, Allied Health Careers Spe-  
cialties 105; Health Education 334, 407, 434; Psychology 302, 303,  
323; Physiology 208, 301; Chemistry 106; Food Nutrition 101  
Electives ..... 3  
Total ..... 125

PHYSICAL EDUCATION MAJOR – EXERCISE SCIENCE AND PHYSICAL FITNESS SPECIALIZATION

University Core Curriculum Requirements ..... 41  
To include Psychology 102 and Zoology 118 as a substitute.  
Requirements for Major in Physical Education ..... 68  
Core Requirements ..... (2) + 16  
Physical Education 115, 303, 304, 320, 324; Physiology 201, 220  
Additional Physical Education Requirements ..... 16  
Physical Education 113, 355f, 380, 381, 382, 408, 420  
Additional Requirements ..... (6) + 36  
Accounting 210; Management 170, 202, 301 or 304, 350 or 385; Biol-  
ogy 306 or 308 or 309; Chemistry 140a,b; Computer Science 202  
or 212 or Information Management Systems 229; Food and Nu-  
trition 215, 320; Physiology 208; Educational Psychology 402;  
Zoology 118.  
Electives ..... 11  
Total ..... 120

Students wishing to gain experience in physical education and areas related to physical education may pursue work in aquatics, coaching and athletic training.

Minor in Physical Education

A student with a minor in physical education in secondary education must complete the following courses:

Required Activity Courses ..... 11  
Physical Education 113, 114, 116a,b, 117, 118a,b, 120 ..... 10  
Required Methods Course ..... 1  
Physical Education 322 ..... 1  
Required Theory Courses ..... 17  
Physical Education 301, 305, 317, 319, 321, 324, 370 ..... 14  
Physiology 220 ..... 3  
Total ..... 29

**Minor in Aquatics**

A student must have advanced swimming skill, a current American Red Cross Life-guarding certificate and a current adult CPR certification to enter the program. If not, the student must obtain them by coursework or workshops.

Required Courses: .....	10
Physical Education 307 or 311, 310, 312, 355a, 418	
Electives: .....	6
Three courses from Physical Education 307 or 311; 308a, b, c, d, or e; 330c; 494a, b (First Aid Instructor and CPR Instructor certification <sup>1</sup> .)	
Total .....	16

<sup>1</sup>Current First Aid and CPR certification completed independent of coursework is acceptable. Certification may be satisfied through the coursework indicated.

**Minor in Athletic Training**

The prospective student should make an early application for admission to this program because enrollment is limited due to the size of the faculty.

Students in physical education with a minor in athletic training must complete the following requirements for retention in the minor: (1) 2.25 SIUC grade point average; (2) 2.5 grade point average in required courses; (3) B in Physiology 220; (4) B in Physical Education 225; (5) complete 800 hours of clinical experience supervised by a certified trainer at the University; and (6) must be proficient in the basic athletic training skill according to class level.

Requirements for the minor are listed below.

University Core Curriculum Requirements .....	10
Psychology 102; Health Education 101; Food and Nutrition 101; Speech Communication 101	
Physical Education Requirements .....	34
Physical Education 115, 225, 226, 303, 304, 305, 317, 320, 325, 326, 327, 328a,b, 341, 355d, 370, 407 or 426	
Other Requirements .....	20
Psychology 303, Health Education 334 and 434, Physical Therapist Assistant 208, Physiology 201, 208, 220	
Total .....	64

**Minor in Coaching**

Requirements for the minor are listed below:

Required courses .....	13-14
Physical Education 114 or 115, 317, 324, 329, 345, 355C.	
The Department of Physical Education recommends the additional courses:	
Physical Education 319 or 320, 303 and 304 or 321, 330 (appropriate sport).	

**Physical Education Faculty**

**Ackerman, Kenneth**, Assistant Professor, M.A., Michigan State University, 1959.  
**Becque, M. Daniel**, Associate Professor, Ph.D., University of Michigan, 1988.  
**Blackman, Claudia J.**, Assistant Professor, M.S.Ed., Southern Illinois University, 1968.  
**Blinde, Elaine M.**, Associate Professor, Ph.D., University of Illinois, 1987.  
**Brechtelsbauer, Kay M.**, Assistant Professor, Ph.D., Southern Illinois University, 1980.

**Carroll, Peter**, Assistant Professor, Ph.D., Pennsylvania State University, 1970.  
**Dirks, W. Edward**, Instructor, M.S., Southern Illinois University, 1964; Certificate, Physical Therapy, Ohio State University, 1965.  
**Good, Larry**, Associate Professor, Ph.D., Temple University, 1968.  
**Hartzog, Lewis**, Instructor, Emeritus, M.E., Colorado State University, 1954.

**Illner, Julee Ann**, Assistant Professor, M.S.Ed., Southern Illinois University, 1968.

**Knowlton, Ronald**, Professor and *Chair*, Ph.D., University of Illinois, 1961.

**Long, Linn**, Assistant Professor, M.S., University of Colorado, 1967.

**McCallister, Sarah G.**, Assistant Professor, Ed.D., University of Arkansas, 1989.

**Okita, Ted**, Professor, *Emeritus*, M.A., Northwestern University, 1964.

**Perkins, Sally A.**, Instructor, M.S., Indiana University, 1976.

**Potter, Marjorie Bond**, Professor, *Emerita*, Ph.D., University of Southern California, 1958.

**Shea, Edward**, Professor, *Emeritus*, Ph.D., New York University, 1955.

**Stotlar, John**, Associate Professor, *Emeritus*, D.P.Ed., Indiana University, 1954.

**Thorpe, Jo Anne Lee**, Professor, *Emerita*, Ph.D., Texas Woman's University, 1964.

**Veltri, Frank R.**, Instructor, M.A., Mankato State, 1984.

**West, Charlotte**, Professor, Ph.D., University of Wisconsin, 1969.

**Wilson, Donna**, Associate Professor, M.F.A., University of Oklahoma, 1975.

**Zimmerman, Helen**, Professor, *Emerita*, Ph.D., University of Wisconsin, 1951.

## Professional Education Experiences

### Student Teaching

Student teaching constitutes a total professional commitment on the part of the student and is a full semester of experience in the field carrying 12 hours of credit. Special permission must be obtained from the director of Professional Education Experiences before any additional course work can be taken with student teaching.

The student teacher must follow the same daily schedule as the cooperating teacher with whom the student is placed. This means that the student teacher remains in the school for the entire day, as well as participating in whatever extracurricular activities might be the responsibility of the cooperating teacher.

Students majoring in elementary education will be assigned to work with a cooperating teacher in one of the elementary grades, one through six, in an affiliated school. Students majoring in early childhood will be assigned to work with a cooperating teacher in a preschool/kindergarten and/or primary grade, one through three, in an affiliated school.

The student who majors in a secondary school subject field which has an approved program in the teacher education program will be assigned to work with a cooperating teacher in a secondary school, grades seven through twelve, whose teaching assignment is consistent with the student's teaching major.

Special education majors will be assigned to work with a cooperating teacher in the appropriate special area: mental retardation, behavioral disorders, or learning disabilities. Special education majors will be assigned at both the elementary and secondary levels in order to meet certification requirements. Similar grade level assignments will be made for art, music, and physical education majors. Students majoring in communication disorders and sciences will be assigned to a cooperating teacher who is a speech clinician in an affiliated school.

Students wishing to enroll in the professional semester during the fall or spring semester of the academic year must file an application with the College of Education Student Services, Wham Building, Room 135, at least one semester in advance of the semester during which they wish an assignment. Student teaching credit during the summer session is restricted to those individuals who hold a provisional teaching certificate or who are enrolled in the Early Childhood-Preschool/Primary Specialization. Participation in this program also is dependent upon the availability of suitable placements in the summer school programs of participating public schools.

Applications for both regular academic year and special summer participation are available in the College of Education Student Services, Wham Building, room 135.

The student must register for the professional semester following normal registration procedures. Registration will include the following course: Education 401,

12 hours. Students will register for the section of this course designated for their majors. Registration during the summer session is by restricted class card for Education 402, 5-8 hours.

#### PLACEMENT OF STUDENT TEACHERS

Student teaching under the supervision of Southern Illinois University at Carbondale faculty is conducted in professional education centers with affiliated schools located in southern Illinois as well as specific locations in Belleville and suburban Chicago. A current listing of specific schools to which student teachers may be assigned is available in the College of Education Student Services.

In so far as numerical limits will permit, students will be assigned to the location of their choice. However, if the limits have been met, students are advised that they may be assigned to any of the centers which can suitably accommodate them.

Students are advised to make no binding housing commitments during the professional semester until they have received verification of their student teaching assignments. Such housing commitments will not be considered when students are assigned.

#### PROFESSIONAL SEMESTER (STUDENT TEACHING) PREREQUISITES

1. Students must have achieved formal acceptance into the teacher education program and must present their records of acceptance when applying for the professional semester.

2. The student is responsible for having all transcripts of credit earned at colleges or universities other than Southern Illinois University at Carbondale on file with the coordinator in the College of Education Student Services. These must be on file by the tenth day of the semester for which the student is applying.

3. Prior to the professional semester, the student must have completed a minimum of 20 semester hours in the subject area to be taught. The course work involved must meet the approval of the department chair of that major department. (Course work and performance required may be obtained from the department concerned.) An up-to-date list of approved majors in the teacher education program may be found in the booklet, *The Teacher Education Program*, or requested from the College of Education Student Services.

4. The student must have completed a minimum of 100 clock hours of pre-student teaching field experiences.

5. The student must have completed 75 semester hours of credit with a minimum cumulative average of 2.5 in the major before beginning work in student teaching.

6. Each of those courses which are a part of the professional education sequence prior to the professional semester must have been completed with a grade of C or better. (See Teacher Education Program.)

7. The student must have completed the special methods class required for the major prior to the professional semester.

8. Every student teacher must have a health clearance from the University Student Health Program. The health clearance consists of a tuberculin test. If it is not convenient to come to the health service in Carbondale, students may have a tuberculin test by their own medical doctors. A record of the health clearance must be on file in the College of Education Student Services by the tenth day of the semester immediately preceding the student's professional semester.

9. The student must have established at least one semester of residence at Southern Illinois University at Carbondale earning a minimum of 12 semester hours of credit, prior to any professional semester assignment.

## Field Experiences Other Than the Professional Semester

Other field experiences for students in the teacher education program are provided in Education 310 and Education 316. Applications for these courses are available in the College of Education Student Services.

## Student Services Faculty

**Aud, Susan**, Lecturer, Ph.D., Southern Illinois University 1994.

**Buser, Margaret**, Assistant Professor, *Emerita*, M.S.Ed., Indiana University, 1966.

**Cox, Jackie**, Lecturer, M.S., Southern Illinois University, 1992.

**Gilley, George**, Lecturer, Ph.D., The Ohio State University, 1978.

**Jin, Lijun**, Lecturer, Ph.D., Indiana University of Pennsylvania, 1996.

**Messersmith, Gary**, Lecturer, M.S., Southern Illinois University, 1973.

**McIntyre, D. John**, Professor, *Director*, Ed.D., Syracuse University, 1977.

**Moore, Eryn E.**, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1976.

**Napier, Arvin**, Lecturer, M.S., University of Missouri, 1967.

**Norris, William R.**, Associate Professor, *Emeritus*, Ed.D., Indiana University, 1973.

**Turner, Doris Sewell**, Lecturer, *Emerita*, M.S. Ed., Southern Illinois University, 1949.

**Wetzel, Ann**, Lecturer, M.S., Eastern Illinois University, 1984.

**Werner, Isabel**, Lecturer, Ph.D., Southern Illinois University, 1993.

**Williams, Sarah L.**, Lecturer, M.S., Southern Illinois University at Edwardsville, 1972.

## Recreation (Major, Courses)

The Recreation major prepares the student for positions in the management of leisure services. The curriculum, built on a broad core, offers professional courses within the department and draws from many related majors for competencies and skills in the preparation of professionals for the recreation field. The curriculum emphasizes the practical as well as the theoretical aspects of recreation by offering supervised field experience and internships in various recreational settings throughout Illinois and the nation.

Students admitted to recreation must meet the College of Education requirements and follow their procedures for acceptance. Incoming freshmen must rank in the top one-half of their high school graduating class and have a standard composite ACT score of 19 or higher. Transfer students seeking admission from another institution or from another program at SIUC must have a 2.25 grade point average or above. Transfer students with less than 26 semester hours must have a 2.25 grade point average or above as well as the rank and test score requirements of an entering freshman. In order to be admitted to practicum courses, students must have a grade point average of 2.25 and the consent of the instructor. Students who do not meet the College of Education requirements must be screened and approved by the department undergraduate faculty.

Students majoring in recreation are required to complete 41 hours of University Core Curriculum courses, 35 hours of professional core courses and 44 hours of professional courses in at least one area of specialization. Electives for their chosen area of specialization must have adviser approval. A total of 79 hours beyond the University Core Curriculum is required. A grade of C or better is required in all Recreation prefix required courses.

Recreation offers courses leading to specializations in therapeutic recreation and program services. A careful selection of recommended electives can be used to build competencies in recreation administration, outdoor recreation and commercial recreation.

Students majoring in recreation should meet early in their college careers with a faculty member in the department to identify their area of interest and recommended electives. Within the field of recreation, certifications may be required for employment in different interest areas and the faculty member will discuss these with interested students. All students are encouraged to obtain the American Red Cross First

Aid Certificate. Students focusing on a therapeutic orientation should attempt to acquire either academic or practical experience related to physiological, psychological and sociological functioning and the concomitant effect of disability. As soon as possible, recreation majors will decide on one of the two specializations and elect courses for their area of specialization.

### Bachelor of Science Degree, College of Education

<i>University Core Curriculum Requirements</i> .....	41
<i>Requirements for Major in Recreation</i> .....	79
English 290 .....	3
Recreation 300, 301, 302, 303, 305, 367, 380-4, 490-12 .....	32
One of the specializations listed below .....	44
<i>Total</i> .....	120

#### PROGRAM SERVICES SPECIALIZATION

Recreation 365, 375, 425, 445, 465 .....	15
Accounting 210 or 220 .....	3
Workforce Education and Development 306 or Curriculum and Instruction 483a .....	3
Six hours selected from Psychology 301, 303, 304, 305, 307, 320, 323, 333 .....	6
Electives (May be subject to certification requirements.) .....	17
<i>Total</i> .....	44

#### THERAPEUTIC RECREATION SPECIALIZATION

Recreation 304, 460, 461, 462 .....	12
Six hours selected from Recreation 440a, 440b, 440c, 440d, 440e .....	6
Psychology 305 and 431 .....	6
Allied Health Careers Specialties 141 .....	4
Health Education 311 .....	3
Electives (in accordance with certification requirements) .....	13
<i>Total</i> .....	44

### Health Education and Recreation Faculty

Aaron, James E., Professor, *Emeritus*, Ed.D., New York University, 1960.

Abernathy, William, Assistant Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1963.

Blasini-Caceres, Lydia, Assistant Professor, Ph.D., Pennsylvania State University, 1993.

Boydston, Donald N., Professor, *Emeritus*, Ed.D., Columbia University, 1949.

Bridges, A. Frank., Professor, *Emeritus*, D.H.S., Indiana University, 1952.

Drolet, Judy C., Professor, Ph.D., University of Oregon, 1982.

Glover, James, Associate Professor, Ph.D., University of Maryland, 1980.

Glover, Regina, Associate Professor and Chair, Ph.D., University of Maryland, 1983.

Grissom, Deward K., Professor, *Emeritus*, Ed.D., Columbia University, 1952.

Hailey, Robert, Assistant Professor, M.Ed., University of Missouri, Columbia, 1959.

Kittleston, Mark J., Professor, Ph.D., University of Akron, 1986.

Lacey, Ella P., Associate Professor, *Emerita*, Ph.D., Southern Illinois University, 1979.

LeFevre, John R., Professor, *Emeritus*, Ed.D., Teachers Colleges, Columbia University, 1950.

Malkin, Marjorie J., Associate Professor, Ed.D., University of Georgia, 1986.

McEwen, Douglas, Professor, Ph.D., Michigan State University, 1973.

O'Brien, William, Professor, *Emeritus*, D.Rec., Indiana University, 1967.

O'Dell, Irma, Assistant Professor, Ph.D., University of New Mexico, 1992.

Ogletree, Roberta J., Associate Professor, H.S.D., Indiana University, 1991.

Phillips, Frances K., Associate Professor, *Emerita*, M.A., Columbia University, 1940.

Richardson, Charles E., Professor, *Emeritus*, Ed.D., University of California, Los Angeles, 1959.

Ritzel, Dale O., Professor, Ph.D., Southern Illinois University, 1970.

Russell, Robert D., Professor, Ed.D., Stanford University, 1954.

**Sarvela, Paul**, Professor, Ph.D., University of Michigan, 1984.

**Sliepcevich, Elena M.**, Professor, *Emerita*, D.P.E., Springfield College, 1955.

**Teaff, Joseph**, Professor, Ed.D., Columbia University, 1973.

**Vaughn, Andrew T.**, Professor, *Emeritus*, D.Ed., Columbia University, 1958.

**Vitello, Elaine**, Professor, Ph.D., Southern Illinois University, 1977.

**Vogel, Herbert**, Assistant Professor, M.S., Indiana University, 1954.

**Welshimer, Kathleen J.**, Associate Professor, Ph.D., University of North Carolina, 1990.

**Zunich, Eileen M.**, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.

## Social Studies

(SEE CURRICULUM AND INSTRUCTION)

## Special Education (Major, Courses)

A Bachelor of Science degree with major in Special Education entitles the student to apply for the State of Illinois Standard Special Certificate. Students seeking the Standard Special Certificate complete coursework leading to approval in one or more of the three disability areas; learning disabilities, behavior disorders and mental retardation. Students who wish to obtain joint certification in Special Education and Elementary Education must complete a 149 hour program. All programs are fully approved by the Illinois State Teacher Certification Board.

**Admission.** All students who plan to major in Special Education will first be admitted as Pre-Special Education students provided they meet the University's admission policy and have potential to meet Teacher Education Program requirements as stated in the College of Education section. Beginning freshman will be granted Pre-Special Education status. Freshman are advised by a College of Education adviser for the purpose of completing the courses required to become Special Education majors.

Transfer students must meet University admission requirements to be granted Pre-special Education major status for the purpose of advisement toward the Special Education major.

Students who are currently enrolled or previously attended SIUC in a major other than Special Education may request admission to the Special Education program as Pre-Special Education majors for the purpose of advisement.

Transfer and reentering students who have earned more than 30 hours of transfer credit and have a grade point average of 2.2 to 2.5 will have their applications reviewed by the department to determine if they are admissible to the Pre-Special Education major classification.

To be considered a Special Education major, students must meet the following requirements:

1. Meet the criteria for admission into the College of Education Teacher Education Program.

2. Completion of a minimum of 30 semester hours in University Core Curriculum courses with an overall grade point average of 2.5 (4.0 scale). In addition, students must successfully complete the following University Core Curriculum courses: (a) Geography 103 (b) Psychology 102; (c) Political Science 114 or Economics 113; and (d) English 101 and 102, Speech Communication 101.

3. Submit documentation that the applicant has had at least 100 hours of direct contact and experience with individuals with disabilities. Satisfactory documentation of the experience will include a letter on company, agency or organization letterhead stating the number of hours of direct contact the applicant has been engaged with persons with disabilities. The letter should state the name, address and phone number of an individual who can verify the experience of the applicant.

4. An ACT score of 18 or above.
5. Three letters of recommendation from college, university faculty or other individuals familiar with their performance as a student.

*Retention Criteria.* There are specific and sequential criteria for a student to be retained as a special education major. Retention as a special education major is based not only on continued satisfactory academic performance, but also on acceptable professional behaviors which the faculty deem essential for competent and effective educators. The retention criteria include:

1. Retention in the Special Education program requires completion of the courses required of their specialization area(s) with a grade of C or better. Courses requiring a C or better include: Special Education 312, 315, 401, 402, 404, 406, 411, 417, 418, 419, 421, 423, 425, 430, 431. Other retention criteria include: (a) attainment of an overall grade point average of 2.5, and (b) a favorable endorsement of the special education faculty.
2. To be eligible for the professional semester the student must have attained a minimum 2.75 gpa in the major with an minimum overall gpa of 2.5.

### **Bachelor of Science Degree, College of Education**

SPECIAL EDUCATION MAJOR – STANDARD SPECIAL CERTIFICATE WITH APPROVAL IN BEHAVIORAL DISORDERS, OR MENTAL RETARDATION, OR LEARNING DISABILITIES<sup>1</sup>

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101, 102; SPCM 101; MATH 314; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; One of FL 101, HIST 101a, 101b, PHIL 103a or PHIL 103b; HIST 110; MUS 103; ENGL 121 or 204; FL 313i or HIST 304i; POLS 114; ANTH 202, HIST 202, 210 or SOC 215; HED 101 or PE 101.	
<i>Additional Requirements for Certification</i> .....	19
To include Mathematics 114; Plant Biology 301i, 303i, Zoology 312i or one course from science courses listed above; Psychology 102; Psychology 301; Educational Psychology 412 or Psychology 431; Art and Design 348, Curriculum and Instruction 325 or Physical Education 202.	
<i>Requirements for Major in Special Education</i> .....	56-59
Professional Education Requirements .....	31
See Teacher Education Program. (Education 312-3 hours) <sup>1</sup>	
Special Education Requirements .....	25-28
Special Education 312, 315, 400, 411, 423, 425 .....	19
Certification Area .....	9-12
(1) Behavioral Disorders: 401, 417, 430	
(2) Mentally Retarded:	
Educable Mentally Retarded: 402, 406, 418, 430	
Trainable-Severely/Profoundly Handicapped: 402, 406, 421, 431	
(3) Learning Disabilities: 404, 419, 430	
<i>Electives</i> .....	1-4
Psychology 305, 307 (both required in behavioral disorders), Curriculum and Instruction 407	
<i>Total</i> .....	120

<sup>1</sup>To be certified in two areas of special education, a student must take problem and characteristics courses in both areas, methods courses in both areas and eight hours of student teaching in both areas.

SPECIAL EDUCATION MAJOR – JOINT CERTIFICATION IN SPECIAL EDUCATION AND  
ELEMENTARY EDUCATION SPECIALIZATION

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101, 102; SPCM 101; MATH 314; AD 101; HED 101; ENGL 121 or 204; HIST 110; CHEM 106, GEOL 110 or PHYS 101; PLB 117 or BIOL 115; PLB 301i, PLB 303i, or ZOOL 312i; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215.	
<i>Additional Requirements for Certification</i> .....	33
Mathematics 114; Music 101 or 103; Physical Education 101; Foreign Languages and Literatures 313i, History 304i or History 101a .....	12
Art and Design 348, Curriculum and Instruction 328 or Physical Education 202 .....	3
Concentration in Psychology to include; Psychology 301, 305, 307, 431 .	18
<i>Requirements for Major in Special Education</i> .....	72-75
Professional Education Requirements <sup>1</sup> .....	34
See Teacher Education Program. (Education 312/400-6 hours)	
Special Education Requirements .....	19-22
Special Education 312, 315, 400, 411, 423, 425 .....	19
Certification Area .....	9-12
(1) Behavioral Disorders: 401, 417, 430	
(2) Mentally Retarded:	
Educable Mentally Retarded: 402, 406, 418, 430	
Trainable-Severely/Profoundly Handicapped: 402, 406, 421, 431	
(3) Learning Disabilities: 404, 419, 430	
Elementary Education Requirements .....	16
Curriculum and Instruction 423, 424, 426, 427, 435	
<b>Total</b> .....	<b>146-149</b>

<sup>1</sup>Includes eight hours of student teaching for special education and eight hours of student teaching for elementary education.**Educational Psychology and Special Education Faculty**

**Baeza, Jesus, Jr.**, Assistant Professor, Ph.D., University of Iowa, 1989.

**Bardo, Harold R.**, Associate Professor, Ph.D., Southern Illinois University, 1972.

**Bates, Paul**, Professor, Ph.D., University of Wisconsin, 1978.

**Beggs, Donald L.**, Professor, Ph.D., University of Iowa, 1966.

**Bradley, Richard W.**, Professor, Ph.D., University of Wisconsin, 1968.

**Brown, Beverly**, Associate Professor, Ph.D., University of Iowa, 1974.

**Casey, John P.**, Professor, *Emeritus*, Ed.D., Indiana University, 1963.

**Cody, John J.**, Professor, Ph.D., University of Wisconsin, 1961.

**Cordoni, Barbara**, Professor, Ed.D., Duke University, 1976.

**Crowner, James**, Professor, *Emeritus*, Ph.D., Michigan State University, 1960.

**Daniels, M. Harry**, Professor, Ph.D., University of Iowa, 1978.

**Deichmann, John W.**, Associate Professor, Ph.D., St. Louis University, 1969.

**DeWeese, Harold L.**, Professor, *Emeritus*, Ed.D., University of Illinois, 1959.

**Dillon-Sumner, Ronna**, Professor, Ph.D., University of California at Riverside, 1978.

**Elmore, Patricia B.**, Professor, Ph.D., Southern Illinois University, 1970.

**Ewing, Norma J.**, Associate Professor, Ph.D., Southern Illinois University, 1974.

**Foley, Regina**, Associate Professor, Ed.D., Northern Illinois University, 1989.

**Hisama, Toshiaki**, Associate Professor, *Emeritus*, Ph.D., University of Oregon, 1971.

**Juul, Kristen D.**, Professor, *Emeritus*, Ed.D., Wayne State University, 1953.

**Karmos, Joseph**, Visiting Professor, Ph.D., Southern Illinois University, 1974.

**Kelly, Francis J.**, Professor, Ph.D., University of Texas, 1963.

**Leitner, Dennis**, Associate Professor, Ph.D., University of Maryland, 1975.

**Lewis, Ernest**, Professor, Ph.D., Southern Illinois University, 1971.

**Miller, Sidney R.**, Professor, Ph.D., Pennsylvania State University, 1974.

**Morgan, Howard**, Professor, *Emeritus*, Ed.D., Wayne State University, 1962.

**Mouw, John T.**, Professor, *Emeritus*, Ed.D., University of South Dakota, 1968.

**Mundschenk, Nancy**, Assistant Professor, Ph.D., University of Iowa, 1992.

**Pohlmann, John T.**, Professor and *Chair*, Ph.D., Southern Illinois University, 1972.

**Prichard, Karen K.**, Associate Professor, Ph.D., Kent State University, 1981.

**Snowman, Jack**, Professor, Ph.D., Indiana University, 1975.

**Teska, James**, Associate Professor, Ph.D., University of Illinois, 1969.

**White, Gordon**, Assistant Professor, Ph.D., University of Iowa, 1969.

**White, Lyle J.**, Associate Professor, Ph.D., University of Iowa, 1988.

**Woehlke, Paula L.**, Professor, Ph.D., Arizona State University, 1973.

**Yates, J. W.**, Professor, *Emeritus*, Ed.D., University of Missouri, Columbia, 1951.

Speech Pathology and Audiology

(SEE COMMUNICATION DISORDERS AND SCIENCES.)

Workforce Education and Development (Department, Majors [Workforce Education and Development, Clothing and Textiles], Minors, Courses)

The Department of Workforce Education and Development offers two majors: Workforce Education and Development and Clothing and Textiles. Graduates with a degree in Workforce Education and Development are prepared for positions in public vocational/technical education programs and private sector training and development departments. Graduates with a degree in Clothing and Textiles assume technical, supervisory and managerial roles in the fashion industry. A grade of C or better is required in all WED prefix courses. Students who qualify in either of the two majors may elect to apply for Capstone. Criteria for acceptance into the Capstone Option appear in Chapter 3.

WORKFORCE EDUCATION AND DEVELOPMENT

Students majoring in workforce education and development are prepared as instructors and instructional support personnel in education, business, industry, labor, and government training organizations. Students may develop competencies in one of five specializations: business education; home economics education; education, training and development; administrative services training; and vocational teacher development.

Bachelor of Science Degree, College of Education

<i>University Core Curriculum Requirements</i> .....	41
<i>Requirements for Major in Workforce Education and Development</i> .....	80-94
Core Requirements .....	9
Nine hours of upper division course work: 466, 462, 463. Students must demonstrate competence in computer information processing and problem solving.	
Specialization Requirements (see below) .....	71-85
Total .....	121-135

BUSINESS EDUCATION SPECIALIZATION

Accounting 210 or 220 .....	3
Management 170 or 304 .....	3
Office Systems and Specialties 111 .....	3
Workforce Education and Development 258 and/or 395, 302, 310, 415G .....	7

Courses in selected certification areas: accounting, business computer programming/systems, basic business, information processing or marketing .....	21-35
A grade of C or better is required in all business and education courses.	
Certification Requirements .....	(41) + 34
Professional Education Sequence (See above).....	28
University Core Curriculum Requirements for Teacher Certification .....	(41) <sup>1</sup>
ENGL 101 and 102; SPCM 101; MATH 110 or 113; CHEM 106, GEOL 110 or PHYS 101; PLB 115 or 117; AD 101, ENGL 203, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; FL 101, HIST 101a or b or PHIL 103a or 103b; HIST 110; POLS 114; ANTH 202 or SOC 215; AD 310i, FL 310i or ENGL 308i; HED 101 or PE 101	
Additional courses required for Teacher Certification .....	6
Psychology 102 and 3 hours of science electives	
<b>Total</b> .....	<b>71-85</b>
EDUCATION TRAINING AND DEVELOPMENT SPECIALIZATION	
Workforce Education and Development 258 and/or 395, 259 or prescribed courses to complete technical speciality, 460, 468, 469, 474, 495 or 496 .....	68
Educational Psychology 307 or other approved elective .....	3
<b>Total</b> .....	<b>71</b>
HOME ECONOMICS SPECIALIZATION	
Workforce Education and Development 320, 321 or 322, 431 .....	7
Related home economics core and restricted electives .....	45
Certification or Career Electives .....	19-31
Certification Requirements .....	(41) + 31
University Core Curriculum Requirements for Teacher Certification: .....	(41) <sup>1</sup>
ENGL 101 and 102; SPCM 101; MATH 110 or 113; CHEM 106, GEOL 110 or PHYS 101; PLB 115 or 117; AD 101, ENGL 203, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; FL 101, HIST 101a or PHIL 103a; HIST 110; POLS 114; ANTH 202 or SOC 215; AD 310i, FL 310i or ENGL 308i; HED 101 or PE 101	
Professional Education Requirements .....	28
Additional course required for Teacher Certification: Psychology 102 .....	3
or	
Career electives for educational services/extension .....	19
<b>Total</b> .....	<b>71-83</b>
ADMINISTRATIVE SERVICES TRAINING SPECIALIZATION	
Accounting 210 or 220 .....	3
Management 170 or 304 .....	3
Finance 280 .....	3
Office Systems and Specialities 113, 233, 341, 414, 415 .....	15
Information Management Systems 102, 111, 212 .....	9
Workforce Education and Development 302, 417, 418, 496, 412 or Office Systems and Specialities 412 .....	15
Electives .....	23

Total .....	71
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VOCATIONAL TEACHER DEVELOPMENT SPECIALIZATION (NON-ENTITLEMENT) <sup>2</sup>

Workforce Education and Development 258, 259, or prescribed courses to complete technical speciality, 460, 466, 468, 474, 495 .....	71
Total .....	71

<sup>1</sup>The hours in parenthesis are already counted in the University Core Curriculum requirements above.  
<sup>2</sup>For secondary health occupations, industrial and other vocational teachers with provisional or temporary provisional certificates. Completion does not constitute entitlement to regular secondary school certification.

Minor

A minor in Workforce Education and Development consists of 20 hours. Minors are planned by the student and adviser within each of the five specializations.

CLOTHING AND TEXTILES

Students majoring in clothing and textiles prepare for positions in industrial or commercial businesses in various apparel design or allied design occupations and/or positions in retail companies as buyers, managers, or visual merchandisers. Design and retailing courses available to students include topical areas such as fashion merchandising, buying, textiles, fashion design, pattern making, and apparel production.

Bachelor of Science Degree, College of Education

University Core Curriculum Requirements .....	41
Psychology 102, Economics 113 .....	6
Requirements for Major in Clothing and Textiles .....	79
Core requirements .....	25
Twenty-five hours of upper division work approved by the Department of Workforce Education and Development in the following areas: careers in fashions (334), survey of clothing (336), clothing for consumers (337), apparel accessories (343), textiles (345a,b), visual merchandising (346), fashion motivation (347), and textile product testing (445).	
Specialization requirements (see below) .....	54
Total .....	120

APPAREL DESIGN SPECIALIZATION

Workforce Education and Development 338a, 338b, 340, 342, 344, 348, 439 or 449, 440, 444, 446, 448 .....	33
Art and Design 100a, 110, 206 .....	9
Professional electives .....	12
Total .....	54

RETAILING SPECIALIZATION

Workforce Education and Development 306, 339, 341b, 341a or c, 349, 350, 442 .....	17
Art and Design 100a .....	3
Accounting 210 or 220 .....	3
Management 301 or 304 or Psychology 320 or 323 .....	3
Marketing 304, 363, 401 plus 3 additional hours in Marketing .....	12
Professional electives .....	16
Total .....	54

Minor

A minor in clothing and textiles is intended to provide background that will assist students in pursuing their career goals or other interests. A minor in clothing and textiles must have approval of the program coordinator. At least 16 hours of clothing and textiles courses are required as follows:

345a .....	2-4
336 and 337 or 347 .....	6
Other clothing and textile courses .....	7

Workforce Education and Development Faculty

Allen, Lorie, Assistant Instructor, M.S., Southern Illinois University, 1986.

Anderson-Yates, Marcia, Professor, Ph.D., Southern Illinois University, 1975.

Aydt, Roger, Visiting Assistant Professor, Ph.D., Southern Illinois University, 1987.

Bailey, Larry J., Professor, Ed.D., University of Illinois, 1968.

Baker, Clara Mae, Associate Professor, Ph.D., Ohio State University, 1989.

Beebe, Thomas, Visiting Assistant Professor, Ph.D., Southern Illinois University, 1982.

Bortz, Richard F., Professor, Ph.D., University of Minnesota, 1967.

Bourne, Shirley A., Visiting Assistant Professor, Ph.D., Southern Illinois University, 1983.

Bubnas, Phyllis, Assistant Professor, M.S., Southern Illinois University, 1960.

Builda, Theodore, Associate Professor, Ph.D., Cornell University, 1968.

Carter, Rose Mary, Assistant Professor, Ph.D., Purdue University, 1970.

Coleman, Dorothy Z., Visiting Assistant Professor, Ed.D., University of Georgia, 1985.

Cunningham, William J., Visiting Assistant Professor, Ed.D., University of Tennessee, 1976.

Diggle, Patricia, Lecture, M.S., Southern Illinois University, 1994.

Dirksen, Dennis, Visiting Assistant Professor, Ed.D., Utah State University, 1969.

Duree, James F., Visiting Assistant Professor, Ed.D., University of Missouri, 1979.

Gooch, Bill G., Professor, Ed.D., University of Tennessee, 1973.

Hagler, Barbara, Lecturer, Ph.D., Arizona State University, 1991.

Hall, M. Eugene, Visiting Assistant Professor, Ph.D., Ohio State University, 1982.

Hall, Shirley, Visiting Assistant Professor, Ed.D., Virginia Polytechnic Institute and State University, 1989.

Harbert, Donald L., Visiting Associate Professor, Ed.D., University of Florida, 1968.

Huck, John F., Associate Professor, Ed.D., University of Illinois, 1973.

Hunter, Wallace D., Visiting Assistant Professor, Ph.D., The Florida State University, 1974.

Kidd, Laura K., Assistant Professor, Ph.D., Iowa State University, 1994.

King, Jacquelyn, Lecturer, Ph.D., Southern Illinois University, 1986.

King, Janice E., Lecturer, M.S., Southern Illinois University, 1978.

Klessinger, Sidney, Visiting Instructor, B.S., Southern Illinois University, 1981.

Legacy, James, Professor, Ph.D., Cornell University, 1976.

Phillips, Dianna G., Visiting Assistant Professor, Ph.D., State University of New York at Buffalo, 1995.

Phipps, Jeffrey R., Visiting Assistant Professor, Ed.D., U.S. International University, 1983.

Plessman, Connie K., Visiting Assistant Professor, Ph.D., University of Nebraska, 1985.

Reneau, Fred, Professor, Ed.D., Virginia Polytechnic Institute and State University, 1979.

Rodgers, William L., Visiting Instructor, M.S., Southern Illinois University, 1982.

Shaw, Mari, Visiting Assistant Professor, Ph.D., University of Minnesota, 1984.

Shields, Bill J., Assistant Professor, M.S.Ed., Southern Illinois University, 1963.

Silliman, Roger, Visiting Assistant Professor, Ph.D., University of Southern California, 1981.

Sloan, Donald L., Visiting Assistant Professor, Ph.D., University of Illinois at Urbana-Champaign, 1994.

Stadt, Ronald W., Professor, Ed.D., University of Illinois, 1962.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967.

Sullivan, James A., Professor, Ed.D., West Virginia University, 1967.

Threw, Janice, Lecturer, M.S.Ed., Southern Illinois University, 1990.

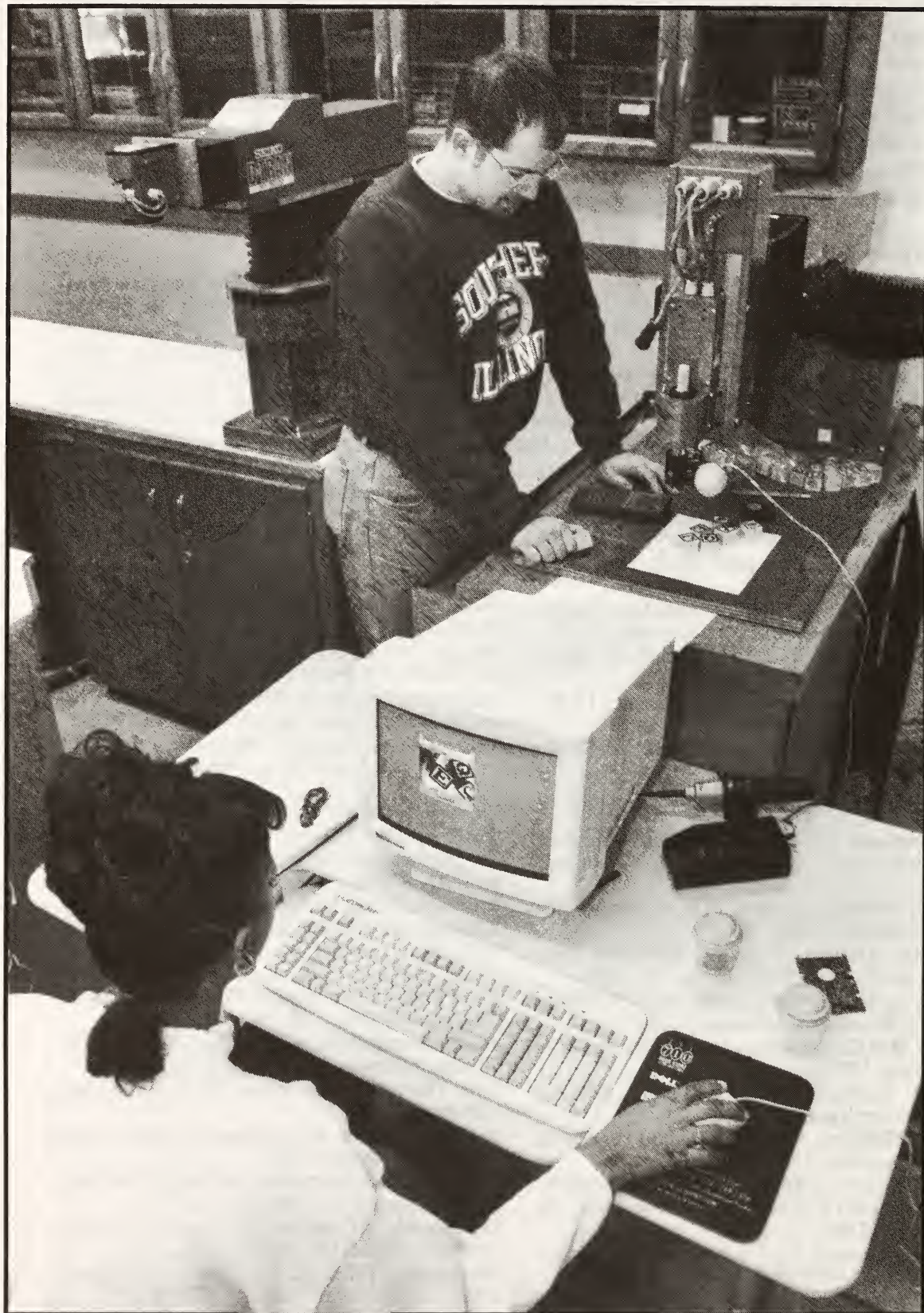
Trueblood, Michelle L., Lecturer, M.S., Southern Illinois University, 1992.

Washburn, John S., Professor and Chair, Ed.D., University of Illinois, 1977.

Workman, Jane, Professor, Ph.D., Purdue University, 1982.

Zoology

(SEE ZOOLOGY IN THE COLLEGE OF SCIENCE)



# College of Engineering

Juh W. Chen, *Dean*

Departments: Civil Engineering; Electrical Engineering; Mechanical Engineering and Energy Processes; Mining Engineering; Technology

The College of Engineering offers the following majors leading to the Bachelor of Science degree:

Civil Engineering	Industrial Technology
Electrical Engineering	Manufacturing Technology Speciali- zation
Computer Engineering Specialization	Mining Technology Specialization (Admission to the mining tech- nology program is temporarily closed.)
Engineering Technology	Mechanical Engineering
Electrical Engineering Technology Specialization	Mining Engineering
Mechanical Engineering Technology Specialization	

Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the benefit of people.

All of the engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The engineering technology program with specializations in electrical and mechanical engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The industrial technology program is accredited by the National Association of Industrial Technology.

Specific requirements are listed for the various majors below. Six academic programs: civil engineering, electrical engineering, mechanical engineering, mining engineering, engineering technology and industrial technology serve students who have different career goals.

*Civil Engineering.* The civil engineering program leading to the Bachelor of Science degree is designed to provide the student with the broad educational background essential to modern civil engineering practice. Technical electives in the senior year permit greater breadth and additional depth in such areas as structural and geotechnical engineering, hydraulic engineering, environmental engineering and computational mechanics and surveying.

*Electrical Engineering.* The Department of Electrical Engineering offers courses in the major areas of electrical and computer engineering. Students who choose the electrical engineering major prepare themselves for professional and technical employment or graduate studies leading to advanced degrees. Employment opportunities exist within a wide range of organizations, such as governmental laboratories; consumer goods manufacturers; and telecommunications, electrical power, computer, and microelectronic companies. flexibility in this major allows students to choose among courses in applications and theory of circuits, systems, communications, digital systems, controls, electronics, instrumentation, electromagnetics, and power systems.

*Mechanical Engineering.* Mechanical engineering is one of the most broadly based of the traditional engineering disciplines. Mechanical engineers design and develop a wide variety of systems for conversion, transmission, and utilization of energy; for material processing and handling and packaging; for transportation; for environmental control; and for many other purposes for the benefit of humanity. Therefore the curriculum contains a broad foundation in mathematics and the basic and engineering sciences, followed by more concentrated study in energy and machine systems. Mechanical engineers may be found in a variety of assignments including planning and design, research and development, supervision of installation and operation of complex systems, and management.

*Mining Engineering.* Mining engineers engage in planning, design, development, and management of surface and underground mining operations for exploitation of the earth's mineral deposits. The mining engineering program prepares graduates to meet the challenges of the mining industry. Coursework in the program includes such areas as surface and underground mining systems, mine ventilation, ground control and rock mechanics, mineral coal processing, material handling systems, mineral economics, mine health and safety engineering, operations research, and computer-aided mine design. Facilities include modern, well equipped rock mechanics, mine ventilation and mineral processing laboratories.

After completing the program, the graduate may work in an engineering or management position for mining industries, equipment manufacturing concerns, research organizations, or government agencies. The coursework also provides strong preparation for further study at the graduate level.

*Engineering Technology.* Engineering technology is that part of the technological field in which engineering knowledge and scientific methods are combined with hands-on technical skills to support engineering activities. It lies in the occupational spectrum between that of the technician and the engineer with specific responsibilities depending upon the nature of the training and requirements of the job but lying more closely to engineering. Graduates are prepared to deal with technical and production problems, and to apply their knowledge to such activities as development, design, construction, maintenance and operational problems.

*Industrial Technology.* Industrial technology is a management-oriented technical profession that is built upon a sound knowledge and understanding of materials, processes, technical management, and human relations; and a proficiency level in the physical sciences, mathematics, and technical skills to permit the graduate to capably resolve technical-managerial and production problems. Graduates of this program are prepared for positions in processes, safety, quality control, supervision, robotics, methods analysis, and computer-aided manufacturing.

### Readmission to the College

The readmission policy for the College of Engineering is the same as the University policy for a first suspension: students placed on academic suspension may seek reinstatement after a minimum of two semesters' interruption but must furnish tangible evidence that additional education can be successfully undertaken. Students placed on academic suspension a second or subsequent time may reapply after an interval of no less than two calendar years. For more information on procedures and requirements for readmission, students are advised to consult the Engineering advisement office.

## Course Sequence

It is important that required courses in the program be taken in the proper sequence. Sequence guidelines are available from the college advisement office and the departmental offices. Courses on the 300-and 400-levels are reserved for juniors and seniors.

## Transfer Students

Students enrolled in community colleges who plan to transfer to Southern Illinois University at Carbondale should take courses that provide backgrounds in mathematics, physical sciences, social sciences, and humanities. Introductory foreign language courses are not acceptable. Students may transfer at any time, but there are advantages in having completed a baccalaureate-oriented associate-degree program. Community college students can complete specific Southern Illinois University at Carbondale course requirements which include 6 hours of English composition and speech, 8 hours of university physics, 7 hours of chemistry, 11 to 17 hours of mathematics (including calculus and differential equations), 5 hours of statics and dynamics, and 13 to 15 hours of social sciences and humanities. All students including transfer students holding the associate degree in a baccalaureate-oriented program must have 16 hours of social sciences and humanities including a junior-level course taken at a senior institution. This junior-level course must provide a sequence in social science or humanities discipline. Calculus and engineering mechanics are prerequisites for most junior-level engineering courses.

All transfer credit from an accredited institution whose work is acceptable at the University, both two-year and four-year, will be used in fulfillment of program requirements. Equivalencies for courses will be determined by the departmental chair, advisement office, or office of the dean, College of Engineering.

Students who are attending a public Illinois community college and contemplating application to the College of Engineering should obtain program information which has been prepared for their particular community college.

Qualified candidates for the Capstone Option are accepted with majors in industrial technology. The Capstone Option is described in Chapter 3.

## Location

Administrative offices of the college are located in the Engineering Building near Lake-on-the-Campus.

## Civil Engineering (Department, Major, Courses)

The Department of Civil Engineering offers a program leading to a Bachelor of Science degree in civil engineering.

The civil engineering curriculum is designed to give the student a foundation in the basic principles used in the practice of civil engineering and how these principles are applied both in theory and design. Civil engineering is often called a people-serving profession. This program prepares the student to work in a wide range of civil engineering career options.

### CIVIL ENGINEERING MAJOR

Civil Engineering is broad in scope, and it encompasses a number of technical disciplines. A civil engineer may deal with research, planning, analysis, design, construction, operation and maintenance of buildings; bridges; dams; harbors; water and power facilities; water works; sewage, nuclear and toxic waste disposal facilities; transportation systems such as highways, railways, waterways, airports and pipe-

lines. The Civil Engineering program leading to the Bachelor of Science degree at SIUC is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, the recognized agency for accrediting engineering curricula in the United States. The program is designed to provide the students with the broad educational background essential to modern Civil Engineering practice with training in specialized areas of computational mechanics, environmental engineering, geotechnical engineering, hydraulic engineering, structural engineering and surveying engineering.

### Bachelor of Science Degree, College of Engineering

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
Foundation Skills .....	12
English 101, 102 .....	6
Mathematics (substitute Mathematics in major) .....	3 <sup>1</sup>
Speech Communication 101 .....	3
Disciplinary Studies .....	23
Fine Arts .....	3
Human Health .....	2
Humanities .....	6 <sup>2,3</sup>
Science (substitute Physics and Chemistry in major) .....	6 <sup>1</sup>
Social Science .....	6 <sup>2,3</sup>
Integrative Studies .....	6
Multicultural .....	3
Interdisciplinary .....	3
<i>Requirements for Major in Civil Engineering</i> .....	(9) + 86
Mathematics and Basic Sciences .....	(9) + 23
Mathematical Analysis .....	(3) + 14
Mathematics 150, 250, 251 and 305 .....	(3) + 11 <sup>2</sup>
Engineering 351 .....	3
Basic Sciences .....	(6) + 9
Physics 205a,b; 255a,b .....	(3) + 5 <sup>2</sup>
Chemistry 200, 201, 210 .....	(3) + 4 <sup>2</sup>
Engineering Core Courses .....	20
Engineering 102, 222a, 260a,b, 300, 311, 313, 361 .....	
Civil Engineering Core Courses .....	30
Civil Engineering 101, 310, 320, 330, 340, 442, 444, 474, 495a,b and any one of the following: 410, 411, 415, 419 .....	
Approved Technical Electives .....	13 <sup>4</sup>
<i>Total</i> .....	127

<sup>1</sup>Courses required for the major will apply toward nine hours of University Core Curriculum, making a total of 41 in that area.

<sup>2</sup>Engineering requirements for University Core Curriculum are more restrictive than those of the University as a whole.

<sup>3</sup>Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities. See departmental adviser for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in the humanities or social sciences which includes a junior level course or (b) meet the University Core Curriculum requirements for engineering students.

<sup>4</sup>The cumulative engineering design content in each student's program must be at least 18 semester hours. The number of hours of design content in each Civil Engineering course are determined by the Department of Civil Engineering and is identified in the *Civil Engineering Undergraduate Handbook*.

Civil Engineering Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Core Human Health.....		2	-	Core Humanities.....		-	3
Core Humanities.....		3	-	SPCM 101.....		-	3
ENGL 101,102.....		3	3	MATH 251, 305.....		3	3
MATH 150, 250.....		4	4	CHEM 210.....		3	-
CHEM 200, 201.....		-	4	PHYS 205b, 255b.....		4	-
PHYS 205a,255a.....		-	4	ENGR 222a.....		2	-
ENGR 102.....		2	-	ENGR 260b.....		3	-
ENGR 260a.....		-	2	ENGR 311.....		-	3
CE 101.....		2	-	CE 310.....		-	3
Total.....		16	17	Total.....		15	15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
Core Social Science.....		3	3	Core Fine Arts.....		-	3
ENGR 313.....		3	-	Core Integrative Studies.....		3	3
ENGR 351.....		3	-	Tech Electives.....		6	7
ENGR 361.....		2	-	CE 442.....		3	-
CE 320, 330.....		3	3	CE 495a.....		1	-
CE 340.....		3	-	CE 495b.....		-	3
CE 410, 411, 415 or 419.....		-	3	ENGR 300.....		3	-
CE 444.....		-	3				
CE 474.....		-	3				
Total.....		17	15	Total.....		16	16

Civil Engineering Transfer Students Suggested Curricular Guide<sup>1</sup>

THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
ENGR 311, 313.....		6	-	ENGR 300.....		3	-
ENGR 351.....		3	-	CE 444.....		3	-
ENGR 361.....		2	-	Tech Electives.....		4	9
CE 101.....		2	-	CE 442.....		3	-
CE 310, 320.....		3	3	CE 495a.....		1	-
CE 330.....		-	3	CE 495b.....		-	3
CE 340.....		-	3				
CE 410, 411, 415 or 419.....		-	3				
CE 474.....		-	3				
Total.....		16	15	Total.....		14	12

<sup>1</sup>This assumes that the transfer student satisfied the university core curriculum requirements and has had all of the Mathematics, Chemistry and Physics required for the Civil Engineering curriculum. Furthermore, this assumes that the transfer student has had the equivalent of Engineering 102, 222, 260a and 260b. Community College transfer students should make special note of the requirement that a minimum of 60 semester hours must be completed at a senior institution. This would require an additional 3 semester hour course elective to supplement the 57 hours listed above.

Civil Engineering Faculty

- Bravo, Rolando**, Assistant Professor, Ph.D., University of Houston, 1990.

**Chevalier, Lizette R.**, Assistant Professor, Ph.D., Michigan State University, 1994.

**Cook, Echol E.**, Professor, *Emeritus*, Ph.D., Oklahoma State University, 1970.

**Craddock, James N.**, Associate Professor, Ph.D., University of Illinois at Urbana-Champaign, 1979.

**Davis, Philip K.**, Professor, *Emeritus*, Ph.D., University of Michigan, 1963.

**DeVantier, Bruce A.**, Associate Professor, Ph.D., University of California at Davis, 1983.

**Eichfeld, William F.**, Assistant Professor, M.S., University of Wisconsin at Madison, 1973.

**Evers, James L.**, Associate Professor and *Associate Dean*, Ph.D., University of Alabama, 1969.
- Frank, Roy R., Jr.**, Assistant Professor, M.S., Southern Illinois University at Carbondale, 1983.

**Ghafoori, Nader**, Associate Professor, Ph.D., University of Miami-Coral Gables, 1986.

**Hamed, Jihad, T.**, Assistant Professor, Ph.D., Louisiana State University, 1990.

**Kassimali, Aslam**, Professor, Ph.D., University of Missouri at Columbia, 1976.

**Molls, Thomas R.**, Assistant Professor, Ph.D., Washington State University, 1993.

**Nowacki, C. Raymond**, Associate Professor, *Emeritus*, Ph.D., University of Illinois at Urbana-Champaign, 1965.

**Puri, Vijay K.**, Associate Professor, Ph.D., University of Missouri at Rolla, 1984.

**Ray, Bill T.**, Associate Professor, Ph.D., University of Missouri at Rolla, 1984.

**Rubayi, Najim**, Professor, *Emeritus*, Ph.D., University of Wisconsin, 1966.

**Sami, Sedat**, Professor and *Chair*, Ph.D., University of Iowa, 1966.

**Yen, Shing-Chung**, Professor, Ph.D., Virginia Polytechnic Institute and State University, 1984.

**Zeigler, Timothy W.**, Associate Professor, M.S., University of Illinois at Urbana - Champaign, 1969.

## Electrical Engineering (Department, Major, Courses)

The Department of Electrical Engineering offers courses in the areas of electrical and computer engineering. The Department offers a Bachelor of Science in Electrical Engineering and a Bachelor of Science in Electrical Engineering with specialization in Computer Engineering. Students who choose electrical engineering prepare themselves for professional and technical employment or graduate studies leading to advanced degrees. Employment opportunities exist within a wide range of organizations, such as governmental laboratories; consumer goods manufacturers; and telecommunications, electric power, computer and microelectronic companies. Flexibility in this major allows students to choose among courses in applications and theory of circuits, communications, digital systems, controls, electronics, instrumentation, electromagnetics and power systems. Students may choose the Electrical Engineering degree with a specialization in Computer Engineering.

The program in electrical engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

### Bachelor of Science Degree, College of Engineering

#### ELECTRICAL ENGINEERING MAJOR

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
<i>Requirements for Major in Electrical Engineering</i> .....	(9) + 84
Basic sciences .....	9
Physics 205a, 205b, 255a, 255b .....	(3) + 5
Chemistry 200, 201, 210 .....	(3) + 4
Mathematics .....	14
Mathematics 150, 250, 251, 305 .....	(3) + 11
Approved Mathematics elective .....	3
General Engineering .....	4
Mechanical Engineering 361 and one approved Engineering Science elective.	
Required Electrical Engineering courses .....	41
Electrical Engineering 101, 222, 225, 235, 327, 336, 345, 355, 375, 385, 465, 495 (Capstone design course)	
Approved Electives .....	16
The approved electives must include at least 6 hours of Engineering Design and at least 4 hours of Engineering Science.	
<i>Electives</i> .....	<u>3</u>
<i>Total</i> .....	128

Electrical Engineering Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
MATH 150, 250 .....	4	4	MATH 251, 305 .....	3	3
CHEM 200, 201 .....	4	-	PHYS 205a,b .....	3	3
CHEM 210 .....	-	3	PHYS 255a,b .....	1	1
ENGL 101, 102 .....	3	3	SPCM 101 .....	3	-
EE 222 .....	-	3	EE 225, 235 .....	3	4
Fine Art .....	3	-	Social Science .....	-	3
Social Science .....	-	3	Humanities .....	3	3
EE 101 .....	3	-			
Total .....	17	16	Total .....	16	17
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
EE 336 .....	3	-	MATH Elective .....	3	-
EE 375 .....	-	3	Eng. Science Elective .....	-	3
EE 345 .....	4	-	EE 495a,b .....	1	3
EE 355 .....	-	3	Integrative Studies .....	3	3
EE 327 .....	4	-	EE Elective .....	8	4
EE 465 .....	-	3	Free Elective .....	-	3
EE 385 .....	4	-			
ME 361 .....	-	1			
EE Elective .....	-	4			
Human Health .....	-	2			
Total .....	15	16	Total .....	15	16

ELECTRICAL ENGINEERING MAJOR – COMPUTER ENGINEERING SPECIALIZATION

University Core Curriculum Requirements .....	41 <sup>1</sup>
Requirements for Major in Electrical Engineering with a specialization in Computer Engineering .....	(9) + 84
Basic sciences .....	9
Physics 205a, 205b, 255a, 255b .....	(3) + 5
Chemistry 200, 201, 210 .....	(3) + 4
Mathematics .....	14
Mathematics 150, 250, 251, 305 .....	(3) + 11
Approved Mathematics elective .....	3
General Engineering .....	4
Mechanical Engineering 361 and one approved Engineering Science elective.	
Required Electrical Engineering courses .....	41
Electrical Engineering 101, 222, 225, 235, 327, 336, 345, 355, 375, 385, 465, 495 (Capstone design course)	
Approved Electives .....	19
The approved electives must include at least 6 hours of Engineering Design and at least 4 hours of Engineering Science to be chosen from the following: Electrical Engineering 424, 425, 427, 428, 456, 468 and approved Computer Science electives.	
Total .....	128

<sup>1</sup>Courses in parenthesis required for the major will apply toward 9 hours of University Core Curriculum, making a total of 41.

**Computer Engineering Suggested Curricular Guide**

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
EE 336 .....	3	-	ME 361 .....	1	-
EE 375 .....	-	3	Eng. Science Elective .....	-	3
EE 345 .....	4	-	EE 495a,b .....	1	3
EE 355 .....	-	3	Integrative Studies .....	3	3
EE 327 .....	4	-	Math Elective .....	3	-
EE 465 .....	-	3	Approved EE/CS Elective .....	6	6
EE 385 .....	4	-	Human Health .....	2	-
Approved EE/CS Elect .....	-	3			
EE 427 .....	-	4			
<i>Total</i> .....	15	16	<i>Total</i> .....	16	15

**Electrical Engineering Faculty**

**Botros, Nazeih**, Associate Professor, Ph.D., University of Oklahoma, 1985.

**Brown, David P.**, Professor, Ph.D., Michigan State University, 1961.

**Daneshdoost, Morteza**, Associate Professor, Ph.D., Drexel University, 1984.

**Dhali, Shirshak**, Professor, Ph.D., Texas Tech University, 1984.

**Etienne-Cummings, Ralph R.**, Assistant Professor, Ph.D., University of Pennsylvania, 1994.

**Feiste, Vernold K.**, Associate Professor, Ph.D., University of Missouri at Columbia, 1966.

**Galanos, Glafkos**, Professor and *Chair*, University of Manchester, England, 1970.

**Goben, Charles A.**, Professor, Ph.D., Iowa State University, 1965.

**Gupta, Lalit**, Associate Professor, Ph.D., Southern Methodist University, 1986.

**Harackiewicz, Frances J.**, Associate Professor, University of Massachusetts at Amherst, 1990.

**Hatziaioniu, C.**, Associate Professor, Ph.D., West Virginia University, 1988.

**Hu, C. J.**, Professor, Ph.D., University of Colorado-Boulder, 1966.

**Kagaris, Dimitrios N.**, Assistant Professor, Ph.D., Dartmouth College, 1994.

**Manzoul, Mahmoud**, Associate Professor, Ph.D., West Virginia University, 1985.

**Margon, Irving**, Visiting Assistant Professor, *Emeritus*, M.S., University of Southern California at Los Angeles, 1948.

**Pourboghrat, Farzad**, Associate Professor, Ph.D., University of Iowa, 1984.

**Purcell, Kay**, Visiting Instructor, M.S., Southern Illinois University, 1978.

**Rawlings, Charles A.**, Professor, Ph.D., Southern Illinois University, 1974.

**Sayeh, Mohammad**, Associate Professor, Ph.D., Oklahoma State University, 1985.

**Schoen, Alan**, Professor, Ph.D., University of Illinois, 1958.

**Smith, James G.**, Professor, *Emeritus*, Ph.D., University of Missouri at Rolla, 1967.

**Viswanathan, R.**, Professor, Ph.D., Southern Methodist University, 1983.

**Engineering Technology** (Major, Courses)

Engineering technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the technician and the engineer at the end of the spectrum closest to the engineer.

All curricula in engineering technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. These curricula are the electrical engineering technology and the mechanical engineering technology specializations. For each curriculum, a minimum of 30 hours in engineering technology courses must be taken in residence at Southern Illinois University at Carbondale.

**Bachelor of Science Degree, College of Engineering****ENGINEERING TECHNOLOGY MAJOR – ELECTRICAL ENGINEERING TECHNOLOGY SPECIALIZATION**

The electrical engineering technology specialization is designed to prepare technologists who are capable of technical design and who can contribute to the de-

velopment, production, testing, and installation of electrical and electronic devices, circuits, and systems. In addition, graduates are capable of participation in the planning and installation of power distribution systems and operating and maintaining complex electrical systems. Graduates of the program are employed in communications, power, electronics, sales, manufacturing, and other fields.

University Core Curriculum Requirements .....	41
Foundation Skills .....	12
English 101, 102 .....	6
Mathematics (substitute Mathematics in major) .....	3
Speech Communication 101 .....	3
Disciplinary Studies .....	23
Fine Arts .....	3
Human Health .....	2
Humanities .....	6
Science (substitute Physics in major) .....	6
Social Science .....	6
Integrative Studies .....	6
Multicultural .....	3
Interdisciplinary .....	3
Requirements for Major in Engineering Technology with Electrical Engineering Technology Specialization .....	(6) + 84 <sup>1</sup>
Physics 203a,b, 253a,b; Chemistry 140a .....	(3) + 9
Mathematics 111, 150, 250 .....	(3) + 10
Management 202 .....	3
Engineering 222 .....	2
Engineering Technology 238, 245a, 304a, 304b, 332a, 332b, 403a, 403b, 437a, 437b, 438a, 438b, 439 .....	52
Technical electives .....	8
Total .....	125

<sup>1</sup> Courses in parenthesis will also apply towards 6 hours in the University Core Curriculum, making a total of 41 .

Electrical Engineering Technology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
PLB 115, 117, ZOOL 115 .....	-	3	Select <sup>1</sup> .....	-	6
Select <sup>1</sup> .....	3	5	ENGR 222 .....	-	2
ENGL 101, 102 .....	3	3	ET 238 .....	4	-
CHEM 140 <sup>2</sup> .....	4	-	ET 245a .....	4	-
MATH 111 <sup>2</sup> .....	5	-	SPCM 101 .....	3	-
MATH 150 .....	-	4	MATH 250 .....	-	4
			PHYS 203a,b <sup>2</sup> .....	3	3
			PHYS 253a,b .....	1	1
Total .....	15	15	Total .....	15	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Select <sup>1</sup> .....	6	3	ET 403a,b.....	4	4
MGMT 202.....	-	3	ET 437a,b.....	4	4
ET 304a,b.....	4	4	ET 438a,b.....	4	4
ET 332a,b.....	4	4	ET 439.....	-	4
Technical Electives .....	3	2	Technical Elective .....	3	-
Total .....	17	16	Total .....	15	16

<sup>1</sup> See University Core Curriculum requirement  
<sup>2</sup>Substitutes for University Core Curriculum

ENGINEERING TECHNOLOGY MAJOR – MECHANICAL ENGINEERING TECHNOLOGY  
SPECIALIZATION

The mechanical engineering technology specialization is designed to prepare graduates for a career in power and manufacturing industries; it provides a diverse background in general mechanical technology focusing in such areas as fluid power, computer-aided drawing, thermal science, mechanical design technology and mechanical aspects of manufacturing systems. Graduates are employed by electric utilities, manufacturing firms, architectural/engineering firms, and other industries which deal with mechanical products or equipment.

<i>University Core Curriculum Requirements</i> .....	41
Foundation Skills .....	12
English 101, 102 .....	6
Mathematics (substitute Mathematics in major) .....	3
Speech Communication 101 .....	3
Disciplinary Studies .....	23
Fine Arts .....	3
Human Health .....	2
Humanities .....	6
Science (substitute Physics in major) .....	6
Social Science .....	6
Integrative Studies .....	6
Multicultural .....	3
Interdisciplinary .....	3
<i>Requirements for Major in Engineering Technology with Mechanical Engineering Technology Specialization</i> .....	(6) + 84 <sup>1</sup>
Physics 203a,b, 253a,b; Chemistry 140a .....	(3) + 9
Mathematics 111, 150, 250 .....	(3) + 10
Management 202 .....	3
Engineering 222 .....	2
Engineering Technology 103, 104, 209, 245a, 260a, 260b, 311, 312, 313, 317, 318, 342, 390, 401, 404, 424a, 445, 455 .....	54
Technical electives .....	6
<i>Total</i> .....	125

<sup>1</sup>Courses in parenthesis will also apply toward 6 hours in the University Core Curriculum, making a total of 41 in that area.

**Mechanical Engineering Technology Suggested Curricular Guide**

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
PLB 115 ,117, ZOOL 115 .....	-	3	Select <sup>1</sup> .....	2	3
Select <sup>1</sup> .....	-	3	SPCM 101 .....	3	-
ENGL 101, 102 .....	3	3	ENGR 222 .....	-	2
CHEM 140a <sup>2</sup> .....	4	-	ET 245a .....	-	4
ET 103, 104 .....	3	3	ET 260a,b .....	3	3
MATH 111 <sup>2</sup> .....	5	-	MATH 250 .....	4	-
MATH 150 .....	-	4	PHYS 203a,b <sup>2</sup> .....	3	3
			PHYS 253a,b .....	1	1
<i>Total</i> .....	15	16	<i>Total</i> .....	16	16

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Select <sup>1</sup> .....	9	3	Select <sup>1</sup> .....	3	-
ET 311 .....	-	3	MGMT 202.....	-	3
ET 312 .....	-	3	ET 209 .....	-	3
ET 313 .....	-	3	ET 342 .....	2	-
ET 317 .....	3	-	ET 401 .....	3	-
ET 318 .....	-	3	ET 403 .....	3	-
ET 390 .....	3	-	ET 424a .....	3	-
			ET 445 .....	-	3
			ET 455 .....	-	3
			Technical Electives.....	3	3
Total.....	15	15	Total .....	17	15

<sup>1</sup> See "University Core Curriculum" requirements  
<sup>2</sup> Substitutes for "University Core Curriculum"

Faculty

(SEE TECHNOLOGY)

Industrial Technology (Major, Courses)

The industrial technology major has as its objective the training of qualified personnel who can develop and direct the production and distribution of products and services. There are two specializations: manufacturing technology and mining technology; however, the mining technology specialization is presently inactive.

The major is designed to prepare management-oriented technical professionals in the economic-enterprise system. Industrial technology professionals will be involved with:

- 1. The application of significant knowledge of theories, concepts, and principles found in the humanities and the social and behavioral sciences, including a thorough grounding in communication skills.
- 2. The understanding and ability to apply principles and concepts of mathematical and physical sciences.
- 3. The application of concepts derived from, and current skills developed in, a variety of technical disciplines including, but not limited to, robotics, processes, computer-aided manufacturing, quality control, motion and time study, plant layout, facilities planning, industrial safety, production and inventory control, human relations, and computer-aided drafting.

The industrial technology curriculum is flexible enough to provide the means whereby graduates of two-year occupational programs may obtain a Bachelor of Science degree. A graduate of a two-year industrially-oriented occupational program, such as aviation, construction, drafting, data processing, electronics, machine tool, mechanical, and mining may have an appropriate preparation to pursue a Bachelor of Science degree with a major in industrial technology.

Students with work related experience may receive credit toward the degree via Industrial Technology 258. Additional flexibility in earning credit toward the degree is possible through cooperative work experience provided meaningful employment is available.

A Capstone option may be available in the industrial technology major and is explained in Chapter 4 of this bulletin. Students holding associate degrees of at least 60 semester hours in non-baccalaureate-oriented programs or equivalent certification with a minimum grade point average of 2.25 are qualified. For the industrial technology major, the associate degree or equivalent certification should be in an industry-related field. This option permits qualified students to fulfill their degree requirements by completing 60 semester hours of work approved by the Capstone adviser.

Each individual's program of study may differ according to the previous academic work.

The industrial technology program is accredited by the National Association of Industrial Technology. For each curriculum, a minimum of 30 hours in industrial technology courses must be taken in residence at Southern Illinois University at Carbondale.

### Bachelor of Science Degree, College of Engineering

#### INDUSTRIAL TECHNOLOGY MAJOR – MANUFACTURING TECHNOLOGY SPECIALIZATION

The manufacturing technology specialization is designed to prepare graduates for supervisory and technical management positions in manufacturing. Curriculum requirements are broad based to enable the graduate to obtain employment in manufacturing areas such as quality control, processes, safety, methods analysis, and computer-aided manufacturing/robotics. The Capstone option feature is available for students and is described in Chapter 3 of this bulletin.

<i>University Core Curriculum Requirements</i> .....	41
Foundation Skills .....	12
English 101, 102 .....	6
Mathematics (substitute Mathematics in major) .....	3
Speech Communication 101 .....	3
Disciplinary Studies .....	23
Fine Arts .....	3
Human Health .....	2
Humanities .....	6
Science (substitute Physics in major for 3 hours) .....	6
Social Science .....	6
Integrative Studies .....	6
Multicultural .....	3
Interdisciplinary .....	3
<i>Requirements for Major in Industrial Technology with a Specialization in Manufacturing Technology</i> .....	(6) + 79 <sup>1</sup>
Industrial Technology Core Requirements .....	28-29
Physics 203a,b, 253a,b .....	(3) + 5
Mathematics 111 .....	(3) + 2
Mathematics 140 or Industrial Technology 307 .....	4
Psychology 323 or Industrial Technology 240 .....	3
Computer Science 212 or Industrial Technology 270 .....	3
Industrial Technology 105, 305, 382, 475 .....	12
Specialization in Manufacturing Technology .....	50-51
Industrial Technology 208, 375, 390, 392, 440, 445 .....	18
Technical Electives .....	30-31
Electives .....	2
<i>Total</i> .....	120

#### INDUSTRIAL TECHNOLOGY MAJOR – MINING TECHNOLOGY SPECIALIZATION

The mining technology specialization is presently inactive. It is designed to prepare graduates for supervisory and technical positions in the mining industry. Course requirements are specifically planned to complement the mining technology background of the community college or technical institute associate degree graduate. The Capstone option feature is available for students and is described in Chapter 3 of this bulletin.

University Core Curriculum Requirements .....	41
Foundation Skills .....	12
English 101, 102 .....	6
Mathematics (substitute Mathematics in major) .....	3
Speech Communication 101 .....	3
Disciplinary Studies .....	23
Fine Arts .....	3
Human Health .....	2
Humanities .....	6
Science (substitute Physics in major) .....	6
Social Science .....	6
Integrative Studies .....	6
Multicultural .....	3
Interdisciplinary .....	3
Requirements for Major in Industrial Technology with a Specialization in Mining Technology .....	(6) + 79 <sup>1</sup>
Industrial Technology Core Requirements .....	32
Geology 220 .....	3
Physics 203a,b, 253a,b .....	(3) + 5
Mathematics 111 .....	(3) + 2
Mathematics 140 .....	4
Psychology 323 .....	3
Computer Science 212 .....	3
Industrial Technology 105, 305, 382, 475 .....	12
Specialization in Mining Technology .....	47
Industrial Technology 320, 321, 360, 410, 420, 460 .....	18
Engineering Technology 263 .....	3
Technical Electives .....	26
Total .....	120

<sup>1</sup>Courses in parenthesis that are required in the major will also apply towards 6 hours in the University Core Curriculum, making a total of 41 in that area.

Industrial Technology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
PLB 115, 117, ZOOL 115 .....	-	3	Select <sup>1</sup> .....	6	6
Select <sup>1</sup> .....	5	6	SPCM 101 .....	3	-
ENGL 101, 102 .....	3	3	CS 212 .....	-	3
IT 105 .....	3	-	IT 208 .....	3	-
MATH 111 .....	5	-	IT Elective .....	-	3
MATH 140 .....	-	4	PHYS 203a,b .....	3	3
			PHYS 253a,b .....	1	1
Total .....	16	16	Total .....	16	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
IT 305 .....	-	3	PSYC 323 .....	-	3
IT 375 .....	3	-	Select .....	2	-
IT 382 .....	3	-	IT 440 .....	-	3
IT 390 .....	-	3	IT 445 .....	3	-
IT 392 .....	-	3	IT 475 .....	3	-
Select .....	9	6	Select .....	6	6
Total .....	15	15	Total .....	14	12

<sup>1</sup> See University Core Curriculum requirements  
<sup>2</sup> Substitutes for University Core Curriculum

**Faculty**

(SEE TECHNOLOGY)

**Mechanical Engineering and Energy Processes**

(Department, Major [Mechanical Engineering], Courses)

The Department of Mechanical Engineering and Energy Processes offers the Mechanical Engineering major which is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

**MECHANICAL ENGINEERING**

Mechanical engineering is one of the most broadly based of the traditional engineering disciplines. Mechanical engineers design and develop a wide variety of systems for conversion, transmission, and utilization of energy; for material processing and handling and packaging; for transportation; for environmental control; and for many other purposes for the benefit of humanity. Therefore, the curriculum contains a broad foundation in mathematics and the basic and engineering sciences, followed by more concentrated study in energy and machine systems.

Mechanical engineers may be found in a variety of assignments including planning and design, research and development, supervision of installation and operation of complex systems, and management.

**Bachelor of Science Degree, College of Engineering**

<i>University Core Curriculum Requirements</i> .....	41
Foundations .....	12
English 101, 102, Speech Communication 101 and substitute	
Mathematics	
Disciplinary Studies .....	23
Fine Arts .....	3
Human Health .....	2
Humanities .....	6 <sup>2</sup>
Social Science .....	6 <sup>2</sup>
Science (substitute Physics and Chemistry) .....	6
Integrative Studies .....	6
Multicultural .....	3
Interdisciplinary .....	3 <sup>2</sup>
<i>Requirements for Major in Mechanical Engineering</i> .....	(9) + 85 <sup>1</sup>
Basic Sciences .....	(6) + 9
Chemistry 200, 201, 210	
Physics 205a,b, 255a,b	
Mathematics Analysis .....	17
Mathematics 150, 250, 251, 305 .....	(3) + 11
Engineering 351 .....	3
Mechanical Engineering .....	62
General: Engineering 102, 222, 400, and Mechanical Engineering	
101a,b and 361 .....	8
Engineering Sciences .....	28
Engineering 260a, 300, 311, 312, 313 and 335; Mechanical Engineering 261, 302, 309 and either 301 or 400	
Mechanical Engineering 411, 436, 475, 495a,b .....	12
Engineering Laboratory .....	3
Mechanical Engineering 401, 403 and 437	

Elective Engineering Design Courses .....	11 <sup>3</sup>	
Total .....		126

<sup>1</sup>Courses in parenthesis will also apply toward 9 hours of University Core Curriculum, making a total of 41 in that area.  
<sup>2</sup>See department guidelines for courses that form a required sequence.  
<sup>3</sup>See department guidelines for appropriate electives.

Mechanical Engineering and Energy Processes Faculty

<b>Agrawal, Om</b> , Associate Professor, Ph.D., University of Illinois at Chicago, 1984.	<b>Khonsari, Michael, M.</b> , Professor and <i>Chair</i> , Ph.D., University of Texas at Austin, 1983.
<b>Chen, Juh W.</b> , Professor and <i>Dean</i> , Ph.D., University of Illinois, 1959.	<b>Lalvani, S. B.</b> , Professor, University of Connecticut, 1982.
<b>Chu, Tsuchin</b> , Associate Professor, Ph.D., University of South Carolina, 1982.	<b>Muchmore, Charles B.</b> , Professor, Ph.D., Southern Illinois University, 1970.
<b>Don, Jarlen</b> , Associate Professor, Ph.D., Ohio State University, 1982.	<b>O'Brien, William S.</b> , Associate Professor, Ph.D., West Virginia University, 1972.
<b>Farhang, Kambiz</b> , Associate Professor, Ph.D., Purdue University, 1989.	<b>Orthwein, William</b> , Professor, <i>Emeritus</i> , Ph.D., University of Michigan, 1959.
<b>Helmer, Wayne Allen</b> , Professor, Ph.D., Purdue University, 1974.	<b>Rajan, S.</b> , Professor, Ph.D., University of Illinois, 1970.
<b>Hesketh, Howard B.</b> , Professor, <i>Emeritus</i> , Ph.D., Pennsylvania State University, 1968.	<b>Swisher, James H.</b> , Professor, <i>Emeritus</i> , Ph.D., Carnegie-Mellon University, 1963.
<b>Hippo, Edwin J.</b> , Professor, Ph.D., Pennsylvania State University, 1977.	<b>Tempelmeyer, Kenneth E.</b> , Professor, <i>Emeritus</i> , Ph.D., University of Tennessee, 1969.
<b>Jefferson, Thomas B.</b> , Professor, <i>Emeritus</i> , Ph.D., Purdue University, 1955.	<b>Wittmer, Dale</b> , Professor, Ph.D., University of Illinois, 1980.
<b>Kent, Albert C.</b> , Professor, <i>Emeritus</i> , Ph.D., Kansas State University, 1968.	

Mining Engineering (Department, Major, Courses)

Mining engineers engage in planning, design, development, and management of surface and underground mining operations for exploitation of the earth's mineral deposits. The mining engineering program prepares graduates to meet the challenges of the mining industry with emphasis on coal and aggregate industries. Coursework in the program includes such areas as surface and underground mining systems, mine ventilation, ground control and rock mechanics, mineral and coal processing, material handling systems, mineral economics, mine environment, health and safety engineering, probability and statistics applications, mine equipment maintenance, and computer-aided mine design. Facilities include modern, well-equipped rock mechanics, mine ventilation, mineral processing, materials handling and mine environment laboratories.

After completing the program, the graduate may work in an engineering or management position for mining industries, equipment manufacturing concerns, research organizations, or government agencies. The coursework also provides strong preparation for further study at the graduate level. The mining engineering major is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET).

Bachelor of Science Degree, College of Engineering

University Core Curriculum Requirements .....	41
Foundation Skills .....	12
English 101, 102 .....	6
Mathematics (substitute Mathematics in major) .....	3
Speech Communication 101 .....	3
Disciplinary Studies .....	23
Fine Arts .....	3

Human Health .....	2
Humanities .....	6
Science (substitute Physics and Chemistry) .....	6 <sup>2,3</sup>
Social Science .....	6 <sup>2,3</sup>
Integrative Studies .....	6
Multicultural .....	3
Interdisciplinary .....	3 <sup>2,3</sup>
<i>Requirements for Major in Mining Engineering</i> .....	(9) + 90 <sup>1</sup>
Basic Sciences .....	(6) + 15
Physics 205a,b; 255a,b .....	(3) + 5
Chemistry 200, 201, 210 .....	(3) + 4
Geology 220, 390 .....	6
Mathematics 150, 250, 251, 305, Mining Engineering 417 .....	(3) + 14
Engineering .....	61
General: Engineering 102, 222, 361, .....	6
Engineering Topics .....	55
Engineering Science: 260a,b, 300, 311, 313, Mining Engineering 413 .....	17
Mining Coursework: Civil Engineering 263 or Mining Engineering 320, 400, 410, 415, 420, 421, 425, 431, 440, 445 or 475, 455 .....	34
Capstone Design Mining Engineering 460 .....	4
<b>Total</b> .....	<b>131</b>

<sup>1</sup>Courses required for the major will apply toward 9 hours of University Core Curriculum, making a total of 41 in that area.

<sup>2</sup>Engineering requirements for Core Curriculum Social Science and Core Curriculum Sciences are more restrictive than those of the University as a whole.

<sup>3</sup>Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities terminated by a junior level course. See departmental adviser for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in humanities or social sciences which includes a junior level course or (b) meet the Core Curriculum requirements for engineering students.

<sup>4</sup>Engineering sciences have their roots in mathematics and basic sciences, but carry that knowledge toward creative design. Engineering design is the process of devising a system, component, or process using basic and engineering sciences, mathematics, and creative thinking along with economic, safety, and environmental considerations.

## Mining Engineering Faculty

**Chugh, Yoginder P.**, Professor and *Chair*, Ph.D., Pennsylvania State University, 1971.

**Honaker, Ricky Q.**, Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1992.

**Missavage, Roger**, Instructor, M.S., Southern Illinois University at Carbondale, 1991.

**Paul, Bradley C.**, Associate Professor, Ph.D., University of Utah-Salt Lake, 1989.

**Sevim, Hasan**, Professor, Ph.D., Columbia University, 1984.

**Sinha, Atmesh K.**, Professor, Ph.D., University of Sheffield, 1963.

## Technology (Department)

Two undergraduate degree programs are available in technology. One program leads to the Bachelor of Science degree with a major in engineering technology (see Engineering Technology) with specializations in one of two areas: electrical engineering technology or mechanical engineering technology. The other program leads to the Bachelor of Science degree with a major in industrial technology (see Industrial Technology) with specialization in one of two areas: manufacturing technology or mining technology.

Engineering technology courses contain topics related to the design and development of products. Industrial technology courses contain topics related to the manufacture and distribution of products.

The present technological society has increased the demand for new types of personnel known as technologists. A technologist utilizes established methods to

achieve improvements in existing designs and systems. Technologists should be knowledgeable in the state of the art of a particular technology, capable of utilizing handbooks and other forms of codified information with skill and discrimination, and sufficiently versed in mathematics and science to recognize sound procedures.

The industrial technology program is flexible enough to provide the means whereby a graduate of a two-year occupational program can obtain a bachelor's degree in a minimum length of time. The program also provides credit to individuals for related work experience outside the institution.

The programs are designed to provide the necessary training for entry into employment upon the completion of the baccalaureate degree. Opportunities for advanced study are available in manufacturing systems.

### Technology Faculty

**Abrate, Serge**, Associate Professor, Ph.D., Purdue University, 1983.

**Andrews, Paul E.**, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1980.

**Barbay, Joseph E., Jr.**, Associate Professor, Ph.D., University of Missouri, Columbia, 1971.

**Besterfield, Dale H.**, Professor, *Emeritus*, Ph.D., Southern Illinois University, 1971.

**Butson, Gary J.**, Associate Professor and *Chair*, Ph.D., University of Illinois, 1981.

**Chang, Feng-Chang (Roger)**, Assistant Professor, Ph.D., Ohio State University, 1985.

**Chen, Han Lin**, Associate Professor, *Emeritus*, M.S., Southern Illinois University, 1958.

**Contor, Keith L.**, Associate Professor, *Emeritus*, M.S., State College of Washington at Pullman, 1960.

**Cross, Bud D.**, Visiting Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1965.

**Dunning, E. Leon**, Professor, *Emeritus*, Ph.D., University of Houston, 1967.

**Ferketich, Robert R.**, Associate Professor, Ph.D., Southern Illinois University, 1980.

**Johnson, Marvin E.**, Professor, *Emeritus*, Ed.D., University of Missouri, Columbia, 1959.

**King, Frank H.**, Visiting Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University, 1981.

**Lindsey, Jefferson F., III.**, Professor, D. Engr., Lamar University, 1976.

**Marusarz, Ronald K.**, Assistant Professor, M.S., Southern Illinois University, 1978.

**Meyers, Fred E.**, Associate Professor, *Emeritus*, M.B.A., Capitol University, 1975.

**Orr, James P.**, Associate Professor, Ph.D., Southern Illinois University, 1983.

**Ott, Carlyle G.**, Assistant Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1951.

**Rogers, C. Lee**, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1975.

**Rong, Yiming (Kevin)**, Associate Professor, Ph.D., University of Kentucky, 1989.

**Spoerre, Julie K.**, Assistant Professor, Ph.D., Florida State University, 1995.

**Szary, Marek**, Assistant Professor, Ph.D., Wroclaw (Poland), 1977.

**Velasco, Tomas**, Assistant Professor, Ph.D., University of Arkansas, 1991.

**Weston, Alan J.**, Assistant Professor, Ph.D., Southern Illinois University, 1991.



# College of Liberal Arts

John S. Jackson, *Dean*

Departments: Administration of Justice; Anthropology; Art and Design; Economics; English; Foreign Languages and Literatures; Geography; History; Linguistics; Music; Philosophy; Political Science; Psychology; Sociology; Speech Communication; Theater

The College of Liberal Arts offers the following majors leading to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music and Bachelor of Science degrees. Minors are possible in most of these areas. For exceptions, see below.

Administration of Justice	Foreign Languages and	Geography
African Studies <sup>1</sup>	Literatures	History
Aging Studies <sup>1</sup>	Chinese <sup>1</sup>	Linguistics
Anthropology	Classical	Mathematics
Art	Civilization <sup>1</sup>	Museum Studies <sup>1</sup>
Asian Studies <sup>1</sup>	Classics	Music
Black American Studies <sup>1</sup>	East Asian	Paralegal Studies for
Comparative Literature <sup>1</sup>	Civilizations <sup>1</sup>	Legal Assistants
Design	French	Philosophy
Earth Science <sup>1</sup>	German	Political Science
Economics	Greek <sup>1</sup>	Psychology
English	Japanese <sup>1</sup>	Sociology
Foreign Language and	Latin <sup>1</sup>	Speech Communication
International Trade	Russian	Theater
	Spanish	University Studies

<sup>1</sup>Minor only.

The College of Liberal Arts provides instruction in basic subject matter courses for the University Core Curriculum; majors in twenty-four subject areas; graduate programs for students pursuing master's and Ph.D. degrees; and preprofessional curricula for specialized schools such as law and courses offered through the Division of Continuing Education. The Bachelor of Arts, the Bachelor of Fine Arts, the Bachelor of Music, or the Bachelor of Science degree is granted to students who fulfill requirements for graduation from the College of Liberal Arts. The courses of study outlined by the departments determine the degree awarded. Students in the College of Liberal Arts may also prepare directly for teaching at the secondary level by including in their studies certain professional courses offered by the College of Education.

Through the diversified offerings of the College of Liberal Arts, students develop the ability to seek and weigh evidence and to think critically and independently; they gain a fundamental understanding of the ever changing social, political, and physical environment, and a deeper understanding of people, cultures, art, and literature.

## ACADEMIC REQUIREMENTS

To receive a degree from the College of Liberal Arts students must fulfill the following:

1. University requirements including those relating to University Core Curriculum, residency, total hours completed, and grade point average.
2. College of Liberal Arts academic requirements:

- a. One year of college credit in a single foreign language. Foreign students who have met the Office of Admissions and Records English language proficiency requirement may satisfy this requirement with their native language by providing a secondary school certificate from their native country. (Bachelor of Fine Arts degree students in Art, Bachelor of Music degree students and Bachelor of Arts degree students in the Music Business Specialization do not have to fulfill the foreign language requirement.)
  - b. One English composition course, excluding creative writing, in addition to the Core Curriculum composition requirement. Students who have fulfilled the Writing-Across-the-Curriculum requirement may fulfill this requirement with a second departmental writing-intensive course.
  - c. One approved writing-intensive course designated by the major department as fulfilling the Writing-Across-the-Curriculum requirement.
  - d. One science course with lab in addition to the University Core Curriculum science requirement. Any University Core Curriculum science course or a course with science content from a College of Liberal Arts approved list will satisfy this requirement. (Bachelor of Fine Arts degree students in Art, Bachelor of Music degree students and Bachelor of Arts degree in the Music Business Specialization do not have to fulfill the science requirement.)
3. Completion of an approved major in the College of Liberal Arts.
  4. At least 40 hours of course work at the 300- or 400-level.

Liberal arts major requirements provide for a large number of elective courses, giving students maximum flexibility in planning their overall program of study at the University. To assist students in planning their programs, the college maintains an academic advisement office in Faner Hall 1229, as well as faculty advisers in each department. Students are urged to consult these academic advisers on how they can best use their electives to fulfill their intellectual interests and to prepare for particular career opportunities. A carefully planned minor or second major field can lead to additional career opportunities for the liberal arts major. Students who are planning to attend graduate school or one of the professional schools such as law or medicine should consult with their advisers on how best to plan their undergraduate curriculum.

### University Studies Degree Program

In the University Studies Program students pursue either a Bachelor of Arts or Bachelor of Science degree through an individually designed, broad-based curriculum rather than a traditional specialization. The program accommodates multidisciplinary and non-traditional approaches to education and to related careers.

To determine eligibility for the University Studies Program as well as to explore specific possibilities, students should consult with the College of Liberal Arts Advisement office in Faner 1229 for further information.

### Pre-Law

The College of Liberal Arts has a pre-law advisory committee to help students plan a useful, interesting curriculum to acquire the skills important for the study of law. This committee is made up of faculty members of various University units who hold law degrees or who have particular expertise in fields important to law and pre-law preparation. The committee sponsors a Pre-Law Night each fall, when opportunities are presented for open discussion of undergraduate curriculum and the law school admission process. These discussions are led by students and faculty of the Southern Illinois University at Carbondale School of Law. A mock Law School Admission Test is given twice a year under regular test conditions.

The pre-law student may choose any major course of study. Among courses especially recommended for pre-law students is Political Science 130, Law in American

Society, offered each fall semester. Students who are interested in pre-law may discuss academic programs and plans with pre-law advisers in the Liberal Arts Advisement Office.

## Administration of Justice (Major, Courses)

The Bachelor of Arts degree with a major in administration of justice meets the objectives of students interested in law enforcement, the courts, corrections, juvenile justice, criminal behavior and other aspects of crime and criminal justice.

The curriculum is designed to provide students with a broad view of crime and criminal justice. Building on the fundamental knowledge developed in core courses and a restricted set of electives, students can select from a variety of other courses to gain in-depth, specialized knowledge about their particular areas of interest within the curriculum. Under faculty guidance, students may take supplemental courses -- computer science, accounting, management, and foreign language, for example -- to complement their special interests. This approach provides a sound foundation in administration of justice while allowing the flexibility necessary to accommodate individual interests and needs.

A field internship placement may be an important element in the program and is encouraged for interested students who meet departmental criteria.

The program requires that each administration of justice major complete a minor in some other field of study. This requirement can be satisfied by completing the minor offered by any other four-year program at SIUC.

Transfer into the administration of justice major from another SIUC program or from another institution of higher education must be approved by the director of the administration of justice program and requires a minimum grade point average of 2.25, based on at least 15 semester hours of college-level courses.

### Bachelor of Arts Degree, College of Liberal Arts

#### ADMINISTRATION OF JUSTICE MAJOR

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements</i> (See above) .....	14
<i>Requirements for Major in Administration of Justice</i> .....	33
Core Requirements: 201, 290, 310, 316, 492 .....	15
Administration of Justice Electives: 18 hours, at least 9 of which must be selected from 302, 306, 317, 320, 350, 384, 415, 473, 474; in addition at least 6 of the 18 hours must be selected from 400-level courses. ....	18
<i>Minor</i> .....	18
<i>Electives</i> .....	<u>14</u>
<i>Total</i> .....	120

Completion of Administration of Justice 201 and 290 (or consent of the instructor) is required for taking any 300- or 400-level administration of justice course. In addition, completion of Administration of Justice 316 (or consent of instructor) is required for taking any 400-level administration of justice course. Other prerequisites may be associated with individual courses; refer to the catalog description of the specific course.

No more than three hours of Administration of Justice 395 can be counted toward the major.

At least 15 of the credit hours applied toward completion of the requirements of a B.A. in administration of justice must have been earned in Administration of Justice courses offered at SIUC.

Administration of justice majors are encouraged to take the Core Curriculum course, Administration of Justice 203. However, Administration of Justice 203 can be counted toward the 33 hours in the administration of justice major only if the student fulfills the Core Curriculum Integrative Studies (Multicultural) requirement with some course other than Administration of Justice 203.

A student may substitute Psychology 323 or Social Work 383 for Administration of Justice 301; Political Science 340 for Administration of Justice 302; Psychology 211, Sociology 312, or Political Science 300 for Administration of Justice 316.

### Administration of Justice Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
Select (Sci) <sup>1</sup> .....	3	3	SPCM 101 <sup>1</sup> .....	3	-
Select (Soc Sci) <sup>1</sup> .....	3	3	Select (Fine Arts) <sup>1</sup> .....	-	3
Select (Humanities) <sup>1</sup> .....	3	3	Select (Integrated Stdy) <sup>1</sup> .....	3	3
ENGL 101, 102 .....	3	3	Select (Foreign Languages) .....	4	4
MATH 110, 113 .....	3	-	Select (Human Hlth) <sup>1</sup> .....	2	-
AJ 201 .....	-	3	AJ 290 .....	3	-
			AJ 316 .....	-	3
			AJ 300-Level <sup>2</sup> .....	-	3
<i>Total</i> .....	15	15	<i>Total</i> .....	15	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Science <sup>3</sup> .....	3	-	AJ 492 .....	3	-
AJ 310 .....	3	-	AJ 400 level .....	-	3
AJ 300-400 level .....	3	6	AJ 300-400 levels .....	3	3
English .....	-	3	Minor courses .....	3	3
Minor courses .....	6	6	Electives .....	6	5
<i>Total</i> .....	15	15	<i>Total</i> .....	15	14

<sup>1</sup> See University Core Curriculum

<sup>2</sup> Students may substitute Psychology 323 or Sociology 383 for Administration of Justice 301; Political Science 340 for Administration of Justice 302; Psychology 211, Sociology 312 or Political Science 300 for Administration of Justice 316

<sup>3</sup> CoLA requires one science with lab course beyond University Core Curriculum requirements

### Minor

A minor in administration of justice consists of 18 hours of administration of justice courses, which must include 201 and 290. At least 12 of the 18 hours must consist of administration of justice courses taken at SIUC.

### Administration of Justice Faculty

**Anderson, Dennis B.**, Associate Professor, Ed.D., University of Nebraska, 1970.

**Castellano, Thomas C.**, Associate Professor, Ph.D., State University of New York at Albany, 1986.

**Coughlin, Joseph S.**, Professor, *Emeritus*, M.S.W., University of Wisconsin, 1954.

**Cuadrado, Mary**, Assistant Professor, Ph.D., City University of New York, 1995

**Ferdinand, Theodore N.**, Professor, *Emeritus*, Ph.D., University of Michigan, 1961.

**Garofalo, James**, Professor and *Chair*, Ph.D., State University of New York at Albany, 1978.

**Johnson, Elmer H.**, Distinguished Professor, *Emeritus*, Ph.D., University of Wisconsin, 1950.

**LeBeau, James L.**, Associate Professor, Ph.D., Michigan State University, 1978.

**Lorinskas, Robert A.**, Associate Professor, Ph.D., University of Georgia, 1973.

**Matthews, Charles V.**, Associate Professor, *Emeritus*, M.S., University of Kansas City, 1951.

**McDermott, M. Joan**, Associate Professor, Ph.D., State University of New York at Albany, 1979.

**Moberly, Michael D.**, Assistant Professor, M.P.A., Indiana University, 1981.

**Riedel, Marc P.**, Associate Professor, Ph.D., University of Pennsylvania, 1972.

**Robinson, Cyril D.**, Professor, *Emeritus*, LL.B., Northwestern University, 1952.

**Small, Mark A.**, Associate Professor, J.D., Ph.D., University of Nebraska, 1990.

**Szockyj, Elizabeth**, Assistant Professor, Ph.D., University of California-Irvine, 1992.

## African Studies (Minor)

An African Studies minor is available with the College of Liberal Arts. African studies is an interdisciplinary minor, involving courses in anthropology, Black American studies, geography, history, linguistics, political science, and religious studies. Each of these departments has one or more faculty who specialize in Africa and who are interested in assisting students wanting to study about Africa. The requirements for the African studies minor are listed below.

### Minor

The African studies minor consists of 15 hours with 9 hours in required core courses and 6 hours of electives.

*Required Core Courses:* 9 hours selected from Anthropology 470a, Black American Studies 225, 314a,b, History 387a,b, Political Science 465.

*Electives:* 6 hours selected from any courses not used as part of the core or Geography 365, Linguistics 450-3 (only when African languages are studied), or 2-3 hours of reading courses on Africa sponsored by any of the departments listed above or below.

Related courses which do *not* count toward the minor are: Anthropology 410h, 470f, Black American Studies 311a,b, Economics 322, History 362a,b, or Political Science 452.

## Aging Studies (Minor)

An Aging Studies minor is available in the College of Liberal Arts. The minor is designed for the student with career interests in the field of gerontology and for students who wish to add an understanding of aging to their knowledge. The curriculum provides an interdisciplinary approach to understanding the aging process, basic issues related to aging and the aged, and an opportunity to acquire greater knowledge of gerontological theory and research. A component of the minor is a practicum that will assist the student in developing skills for working with and on behalf of older persons. The minor is structured to complement a major or individual courses in disciplines such as psychology, sociology, social work, recreation, health education, and rehabilitation.

The minor in aging studies consists of a minimum of eighteen semester hours which includes nine hours of core courses consisting of Psychology 304, Sociology 465 and Rehabilitation 447; six hours of approved electives to be selected from Communication Disorders and Sciences 438, Health Education 402, Health Education 440, Recreation 440c, Rehabilitation 405, Rehabilitation 446, Social Work 463 and Social Work 466; and three hours of practicum. The practicum, which may be oriented either toward research or care giving, requires that the student work in an environment that involves direct contact with older people including, but not restricted to, senior centers and nursing homes. Time in the field should be approximately twelve hours per week for a semester. Terms of supervision will be consistent with practices in the student's major area of study if that area of study requires a practicum. Where the student's major area has no practicum program, the aging studies coordinator can assist the student in meeting this requirement.

The student should check with the coordinator of the aging studies minor or their academic adviser as early as possible in order to plan an orderly progression of study.

# Anthropology (Department, Major, Courses)

Anthropology is the study of humans and their cultures in terms of universal features, variability, and development through time. The major subdivisions are socio-cultural anthropology, linguistics, archaeology, and physical anthropology. Anthropology is a special major providing capable students with an intensive program emphasizing early integration into upper division coursework. While oriented toward preparation for graduate work, this major is also appropriate for the outstanding liberal arts student seeking a distinctive program. Students must meet a minimum 2.5 gpa requirement for admission into the Anthropology major. The highly motivated student failing to meet this requirement is encouraged to petition the Undergraduate Studies Committee with a one-page statement justifying their admission. Grades below C in Anthropology courses will not be accepted as fulfilling major requirements.

The student is expected to gain a broad background in all subfields, after which the options of further general study or specialization are available. Students are encouraged to supplement their anthropological studies with work in other social sciences, and where appropriate in biology, earth sciences, humanities, mathematics, or other areas.

Most professional anthropologists find employment as teachers and researchers in colleges and universities. However, a major in anthropology provides the student with a unique liberal arts background bridging the humanities, social, earth, and biological sciences, which leads to many other professional opportunities outside of teaching and research.

An anthropology major is required to take Anthropology 300a, b, c, d, and one each of the 310 and 410 course series. Anthropology seniors are required to participate in the Senior Seminar (Anthropology 480), usually held in the Fall semester. No more than six hours of Anthropology 460 and no more than six hours of 200-level course work may be applied to the major. It should be noted that graduate departments often require foreign language and mathematical background beyond that required by the undergraduate program. Those students not interested in advanced study will be advised on an individual basis reflecting their own particular interests and aspirations.

Students with exceptional scholarly promise may be invited into the departmental honors program, which includes the writing of an honors thesis, usually in the Spring semester of the senior year, under the direction of a departmental faculty member.

## Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements</i> .....	14
<i>Requirements for Major in Anthropology</i> .....	32
Anthropology 300a, 300b, 300c, 300d and 480 required, and an additional nine hours: three of 310 series, three of 410 series, and three more of 400- level course work in anthropology.	
<i>Electives</i> .....	33
<i>Total</i> .....	120

Anthropology Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Select <sup>1</sup> (Sci) .....	3		3	Select <sup>1</sup> (Math) .....	-		3
Select <sup>1</sup> (Soc Sci) .....	3		3	Select <sup>1</sup> (Multicultural) .....	3		-
Select <sup>1</sup> (Hum) .....	3		3	SPCM 101 <sup>1</sup> .....	3		-
ENGL 101, 102 <sup>1</sup> .....	3		3	Select <sup>1</sup> (Interdisciplinary Stdy) ....	-		3
Select <sup>1</sup> (Fine Art) .....	-		3	Foreign Language <sup>2</sup> .....	4		4
Select <sup>1</sup> (Hum Hlth) .....	2		-	ANTH 300a,d <sup>3,4</sup> .....	4		3
				ANTH 300b,c <sup>4</sup> .....	3		3
Total .....	14		15	Total .....	17		16
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
ANTH 310, 410 .....	3		3	ANTH 480 .....	3		-
ANTH 4XX .....	3		-	Anthropology Elective .....	3		3
ANTH 3XX or 4XX .....	-		6	Elective 300 or 400 level .....	9		10
ENGL .....	3		-				
Elective .....	6		6				
Total .....	15		15	Total .....	15		13

<sup>1</sup> See University Core Curriculum  
<sup>2</sup> Two semesters (generally 8 hours) of a foreign language are required for all liberal arts students. Students intending to pursue a graduate education should realize that a foreign language would probably be required for graduate school admission; for these students two years of foreign language is recommended.  
<sup>3</sup> Sociocultural anthropology is central to major requirements and should be taken as soon as possible. Any two of 300a, b and c may be taken the second year. All four must be taken as a requirement for the major.  
<sup>4</sup> Grade below C in anthropology courses will not be accepted as fulfilling major requirements.

Minor

A minor in anthropology consists of at least 15 hours including at least two of the four courses: 300a, 300b, 300c, 300d, and a minimum of three of the remaining nine hours of 310 series or 400-level courses.

A minor in anthropology for students interested in museum studies may be earned by taking a designated series of museum-oriented courses offered by the Departments of Anthropology, Geology, History, Political Science and the School of Art and Design. Required courses for the minor are drawn from the following: Anthropology 450; Art and Design 207, 447; Geology 445; History 497 and/or 498; and Political Science 446.

Anthropology Faculty

**Adams, Jane**, Associate Professor, Ph.D., University of Illinois, 1987.

**Bender, M. Lionel**, Professor, *Emeritus*, Ph.D., University of Texas at Austin, 1968.

**Benefit, Brenda R.**, Associate Professor, Ph.D., New York University, 1987.

**Butler, Brian M.**, Adjunct Associate Professor, Ph.D., Southern Illinois University, 1977.

**Corruccini, Robert S.**, Professor, Ph.D., University of California at Berkeley, 1975.

**Cronk, Christine E.**, Adjunct Assistant Professor, D.Sc., Harvard University, 1980.

**Dark, Philip J. C.**, Professor, *Emeritus*, Ph.D., Yale University, 1954.

**Ford, Susan M.**, Associate Professor, Ph.D., University of Pittsburgh, 1980.

**Gumberman, George J.**, Professor, *Emeritus*, Ph.D., University of Arizona, 1969.

**Handler, Jerome S.**, Professor, *Emeritus*, Ph.D., Brandeis University, 1965.

**Hill, Jonathan**, Professor, Ph.D., Indiana University, 1983.

**Hofling, C. Andrew**, Assistant Professor, Ph.D., Washington University, 1982.

**Kelley, J. Charles**, Professor, *Emeritus*, Ph.D., Harvard University, 1948.

**Maring, Ester G.**, Assistant Professor, *Emerita*, Ph.D., Indiana University, 1969.

**Maring, Joel M.**, Associate Professor, *Emeritus*, Ph.D., Indiana University, 1967.

**McCall, John C.**, Assistant Professor, Ph.D., Indiana University, 1992.

**McCrossin, Monte L.**, Researcher III, Ph.D., University of California at Berkeley, 1994.

**Muller, Jon D.**, Professor, Ph.D., Harvard University, 1967.

**Newsom, Lee A.**, Adjunct Assistant Professor, Ph.D., University of Florida, 1993.

**Rands, Robert L.**, Professor, *Emeritus*, Ph.D., Columbia University, 1952.

**Rice, Don S.**, Professor, Ph.D., Pennsylvania State University, 1952.

**Rice, Prudence M.**, Professor and *Chair*, Ph.D., Pennsylvania State University, 1976.

Riley, Carroll L., Distinguished Professor, Emeritus, Ph.D., University of New Mexico, 1952.

Shimada, Izumi, Associate Professor, Ph.D., University of Arizona, 1976.

Taylor, Walter W., Professor, Emeritus, Ph.D., Harvard University, 1943.

## Art and Design (School, Majors [Art, Design], Courses)

The School of Art and Design offers two majors: art and design; and offers two degrees: the Bachelor of Arts and the Bachelor of Fine Arts. Ten specializations are offered in art: the B.A. degree offers art education, art history and general studio; and the B.F.A. degree offers drawing, painting, printmaking, sculpture, ceramics, metalsmithing and fibers/weaving. Two specializations are offered in design under the B.A. degree: visual communication and product design.

The education of teachers, scholars, artists and designers requires both comprehensive learning in the specialization and broad learning in studies outside the major. In meeting these objectives, the School honors the importance of the University Core Curriculum and emphasizes both theory and practice in its specializations. Studies are sequentially planned to facilitate orderly progression throughout the baccalaureate curriculum.

The specializations in art education and art history are offered within a liberal arts curriculum format. Upon completion of the program, students in art education are prepared and certified to teach in the public schools. In art history, graduates are prepared for advanced study or for careers that require scholarly and liberal arts training. General studio is the most flexible program offered. By means of both requirements and elective options, students may plan interdisciplinary programs in art and design or develop programs leading towards a specific career objective.

The B.F.A. specializations in art and B.A. specializations in design are professional programs. With a B.F.A. degree, students are prepared to practice as studio artists, go on to advanced study or enter careers in their studio specializations. The B.A. in design prepares students with the intellectual, technological and practical knowledge required in the professional world of design. With a specialization in visual communication, students are accustomed to the discipline practiced in the various fields of application for graphic design. With a specialization in product design, students are prepared to practice in the industrial field of contemporary product development.

Prior to entry into a selected specialization, all majors are required to complete foundation studies: beginning coursework in art history, drawing, and two- and three-dimensional design. In addition, for entrance into the art B.F.A. and the design B.A. specializations, students must have successfully completed a portfolio review of work from previous art studies (at SIUC or elsewhere). The review will be conducted no later than upon completion of the foundation studio courses.

Transfer students seeking admission from another program at Southern Illinois University at Carbondale must meet the same requirements as those seeking admission from another institution (See Chapter 2). Evaluation of a studio course for transfer credit from another institution will be made on the basis of a presentation of the work (or professional quality slides of the work) executed in the course to determine whether the course will be considered equivalent to a specific course or accepted as studio elective credit.

Most prerequisite courses must be completed with a grade of C or better before a student may advance into the next course. Students should refer to individual course descriptions for specific information.

ART MAJOR

Bachelor of Fine Arts Degree, College of Liberal Arts

A student majoring in art should select one of the following fields of interest by the end of the sophomore year: drawing, painting, printmaking, sculpture, ceramics, metalsmithing, or fibers/weaving.

ART MAJOR – DRAWING SPECIALIZATION

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Drawing</i> .....	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b, .....	(3) + 15
Major Requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300-9, 301a, 301b, 302a or 302b or 302c, 400a, 400b, 400c .....	48
Art and Design history electives: 300- or 400-level .....	9
Studio art electives .....	22
<i>Total</i> .....	135

ART MAJOR – PAINTING SPECIALIZATION

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Painting</i> .....	(3) + 94
Foundation Requirements: Art and Design 100a, 100b, 100, 120, (207a), 207b, .....	(3) + 15
Major requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300-6, 301a, 301b, 301c, 302a or 302b or 302c, 401a, 401b, 401c .....	48
Art and Design history electives: 300- or 400-level .....	9
Studio art electives .....	22
<i>Total</i> .....	135

ART MAJOR – PRINTMAKING SPECIALIZATION

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Printmaking</i> .....	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b .....	(3) + 15
Major requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300-6, 301a, 302a, 302b, 302c, 402a, 402b, 402c .....	48
Art and Design history electives: 300- or 400-level .....	9
Studio art electives .....	22
<i>Total</i> .....	135

**Drawing, Painting, Printmaking Suggested Curricular Guide**

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
AD 100a,b .....	3		3	AD 20X, 30X <sup>1</sup> .....	3		3
AD 110,120.....	3		3	AD 207a,b.....	3		3
ENGL 101, 102.....	3		3	AD studio.....	3		3
Core Mathematics.....	3		-	Core Health.....	2		-
SPCM 101.....	-		3	Core Science.....	3		3
Core Humanities.....	-		3	Core Social Science .....	3		-
Core Social Science .....	3		-	Core Humanities.....	-		3
				Core Integrative Studies.....	-		3
<i>Total</i> .....	15		15	<i>Total</i> .....	17		18
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
AD 30X <sup>1</sup> .....	3		6	AD 40Xa,b <sup>1</sup> .....	6		6
AD 40Xc <sup>1</sup> .....	-		3	AD Studio .....	8		8
AD Studio .....	9		9	AD Art History Elective .....	3		3
AD Art History Elective.....	3		-				
Core Integrative Studies .....	3		-				
<i>Total</i> .....	18		18	<i>Total</i> .....	17		17

<sup>1</sup> X=0 for drawing; 1 for painting; 2 for printmaking**ART MAJOR—SCULPTURE SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Sculpture</i> .....	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b .....	(3) + 15
Major requirements: Art and Design 200, 201, 203, 204 or 205 or 206, 300-3, 303-9, 403a, 403b, 403c .....	39
Art and Design history electives: 300- or 400-level .....	9
Craft electives .....	6
Studio art electives .....	25
<i>Total</i> .....	135

**Sculpture Suggested Curricular Guide**

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
AD 100a,b .....	6		-	AD 303.....	3		3
AD 110.....	-		3	AD 207a,b.....	3		3
AD 203.....	-		3	AD studio.....	3		3
ENGL 101, 102.....	3		3	Core Health.....	2		-
Core Mathematics.....	3		-	Core Science.....	3		3
SPCM 101.....	-		3	Core Social Science .....	3		-
Core Humanities.....	-		3	Core Humanities.....	-		3
Core Social Science .....	3		-	Core Integrative Studies.....	-		3
<i>Total</i> .....	15		15	<i>Total</i> .....	17		18
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
AD 303, 403a .....	3		6	AD 403b .....	6		6
AD 403c.....	-		3	AD Studio .....	8		8
AD Studio .....	9		9	AD Art History Elective .....	3		3
AD Art History Elective.....	3		-				
Core Integrative Studies .....	3		-				
<i>Total</i> .....	18		18	<i>Total</i> .....	17		17

**ART MAJOR—CERAMICS SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization for Ceramics</i> .....	(3) + 94

Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b .....	(3) + 15
Major requirements: Art and Design 200 or 201 or 202, 203, 204, 6 credits from 205 or 206 or 214, 304a, 304b, 404a, 404b, 404c, 404d-6 ....	39
Art and Design history electives .....	9
Craft or sculpture electives .....	9
Studio art electives .....	22
<b>Total</b> .....	<b>135</b>

ART MAJOR – METALSMITHING SPECIALIZATION

<i>University Core Curriculum Requirements</i> .....	41
Art and Design and 207a should be taken as an approved substitution for the University Core Curriculum fine arts course	
<i>Requirements for Specialization in Metalsmithing</i> .....	(3) + 94
Foundation requirements: Art and Design 100a, 100b 110, 120, (207a), 207b .....	(3) + 15
Major Requirements: Art and Design 203, 205, 6 hours from 204, 206, or 214, 223, 305a, 305b, 405a, 405b, 405c, 405d-6 .....	39
Art and Design history electives: 300- or 400-level .....	9
Craft or sculpture electives .....	9
Studio art electives .....	22
<b>Total</b> .....	<b>135</b>

ART MAJOR – FIBERS/WEAVING SPECIALIZATION

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Fibers/Weaving</i> .....	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b .....	(3) + 15
Major requirements: Art and Design 200, 202, 201 or 203, 204 or 205 or 214, 206, 242, 306a, 306b, 406a, 406b, 406c, 406d-6, Cinema and Photography 225 .....	42
Art and Design history electives: 300- or 400-level .....	9
Craft electives .....	6
Studio art electives .....	19
<b>Total</b> .....	<b>135</b>

**Ceramics, Metalsmithing, Fibers/Weaving Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a,b .....	6	-	AD 120.....	3	-
AD 110 .....	-	3	AD 207a,b.....	3	3
AD 20X.....	-	3	AD 300Xa,b.....	3	3
ENGL 101, 102 .....	3	3	AD Studio .....	-	3
Core Mathematics.....	3	-	Core Health .....	2	-
SPCM 101 .....	-	3	Core Science.....	3	3
Core Humanities.....	-	3	Core Social Science .....	3	-
Core Social Science .....	3	-	Core Humanities.....	-	3
			Core Integrative Studies .....	-	3
<b>Total</b> .....	<b>15</b>	<b>15</b>	<b>Total</b> .....	<b>17</b>	<b>18</b>
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 40Xa,b .....	3	6	AD 40Xd .....	6	-
AD 40Xc .....	-	3	AD Studio .....	8	14
AD Studio .....	9	9	AD Art History Elective.....	3	3
AD Art History Elective .....	3	-			
Core Integrative Studies .....	3	-			
<b>Total</b> .....	<b>18</b>	<b>18</b>	<b>Total</b> .....	<b>17</b>	<b>17</b>

**Bachelor of Arts Degree, College of Liberal Arts**

A student majoring in art with a specialization in art history, art education, or general studio should select the specialization by the end of the sophomore year.

**ART MAJOR—ART HISTORY SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Art History</i> .....	(3) + 79
Foundation requirements: Art and Design 100a, 100b, 110, (207a), 207b .....	(3) + 12
Major requirements: Art and Design 327, 347, 357, 407, 417, 427, 437, 478, 489-6 .....	30
Art History electives: twelve hours from Art and Design 447, 448, 457, 458, 467, 468, 477, 487a,b or 497 .....	12
Foreign Language (French or German recommended) .....	8
Liberal Arts electives .....	17
To be chosen from philosophy, history, anthropology, classical studies, foreign languages, religious studies, or other courses approved by the School of Art and Design	
<b>Total</b> .....	<b>120</b>

**Art History Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a,b or 110.....	3	3	AD 100a,b or 110.....	3	-
ENGL 101, 102.....	3	3	AD 207a,b.....	3	3
Core Mathematics.....	3	-	Foreign Language .....	4	4
SPCM 101.....	-	3	Core Humanities.....	3	-
Core Health .....	2	-	Core Science.....	3	-
Core Humanities.....	3	-	Core Social Science .....	-	3
Core Science.....	-	3	Core Integrative Studies.....	-	6
Core Social Science .....	-	3			
<b>Total</b> .....	<b>14</b>	<b>15</b>	<b>Total</b> .....	<b>16</b>	<b>16</b>
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 327.....	3	-	AD 417.....	3	-
AD 347.....	-	3	AD 427.....	3	-
AD 478.....	3	-	AD 437.....	-	3
Liberal Arts Electives .....	6	6	AD 489b.....	3	3
AD 347.....	-	3	Art History Elective .....	3	6
AD 407.....	-	3	Liberal Arts Elective .....	2	3
Art History Elective.....	3	-			
<b>Total</b> .....	<b>15</b>	<b>15</b>	<b>Total</b> .....	<b>14</b>	<b>15</b>

**ART MAJOR—GENERAL STUDIO SPECIALIZATION**

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in General Studio</i> .....	(3) + 79
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b .....	(3) + 15
Major requirements: Seven courses from Art and Design 200, 201, 202, 203, 204, 205, 206, 213, 214 or 222 .....	21
300-level studio courses in at least three disciplines .....	15
400-level studio courses in two disciplines .....	6
Art and Design history electives .....	6
Liberal Arts electives (300- and 400-level) .....	8

Foreign Language .....	8	_____
Total .....	120	_____

General Studio Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
AD 100 a,b .....	3	3	AD Studio .....	6	6
AD 110, 120 .....	3	3	AD 207a,b.....	3	3
ENGL 101, 102 .....	3	3	Core Health .....	2	-
Core Mathematics.....	3	-	Core Humanities.....	-	3
Core Humanities.....	3	-	Foreign Language .....	4	4
SPCM 101.....	-	3			
Core Science .....	-	3			
Total .....	15	15	Total .....	15	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
AD Studio .....	6	6	AD Studio .....	9	9
AD Art History Elective .....	3	3	Core Integrative Studies .....	3	-
Core Science .....	3	-	Liberal Arts Elective .....	3	5
Core Social Science .....	3	3			
Core Integrative Studies .....	-	3			
Total .....	15	15	Total .....	15	14

Bachelor of Arts Degree, College of Liberal Arts or  
Bachelor of Science Degree, College of Education

ART MAJOR – ART EDUCATION SPECIALIZATION

University Core Curriculum Requirements .....	41
To include SPCM 101; ENGL 101, 102; MATH 110 OR 113; PHYS 101, GEOL 110 or CHEM 106; PLB 115, 117, or ZOOL 115; PLB 301i 303i, or ZOOL 312i; POLS 114; AD 207a; HIST 110; ENGL 121 or 204; AD 227, ANTH 202, ENGL 205, HIST 202, 210, LING 201, PHIL 211 or SOC 215; HED 101 or PE 101.	
Requirements for Specialization in Art Education .....	(3) + 55
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b .....	(3) + 15
Studio requirements: Art and Design 201, 203, 204, 205, 202 or 206 .....	15
Art education requirements: Art and Design 308, 318, 328a, 338a, 328b or 338b .....	10
Art and Design history electives (Art and Design 458 recommended) ...	6
Studio Art and Design electives .....	6
Psychology 102 .....	3
Professional Education Requirements .....	28
See Teacher Education Program, College of Education.	
Total .....	124

Art Education Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
AD 100a,b .....	3	3	AD 200-Level Studio .....	6	6
AD 110, 120 .....	3	3	AD 207a,b.....	3	3
ENGL 101, 102 .....	3	3	HED 101 or PE 101.....	2	-
Core Mathematics.....	3	-	ENGL 121 or 204 .....	-	3
PSYC 102.....	3	-	Core Humanities.....	3	-
SPCM 101.....	-	3	HIST 110.....	-	3
Core Science .....	-	3	Core Science.....	3	-
Total .....	15	15	POLS 114.....	-	3
			Total .....	17	18

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 200-Level Studio .....	3	-	AD Studio Elective.....	3	-
AD Studio Elective .....	-	3	AD 328a.....	2	-
AD 308, 318.....	3	2	Art History Elective .....	3	-
AD 338a,b .....	-	3	EDUC 316.....	2	-
AD 458.....	3	-	EDUC 317.....	2	-
Core Multicultural .....	3	-	EDUC 308.....	3	-
EDUC 311, 310 .....	2	2	EDUC 401.....	-	12
EDUC 314, 315 .....	2	3			
PLB 301i, 303i or ZOOL 312i .....	-	3			
<i>Total</i> .....	16	16	<i>Total</i> .....	15	12

### Minor

A total of 21 hours is required for the minor. The student must complete Art and Design 100a, 100b, 207a and 207b for 12 hours and may then elect studio or art history courses for the remaining nine hours.

### DESIGN MAJOR

#### Bachelor of Arts Degree, College of Liberal Arts

A student majoring in design should select one of the following specializations by the end of the sophomore year.

#### DESIGN MAJOR – PRODUCT DESIGN SPECIALIZATION

<i>University Core Curriculum Requirements</i> .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Product Design</i> .....	(3) + 79
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b .....	(3) + 15
Major requirements: Two courses from Art and Design 203, 204, 205 or 206; 213, 223, 253, 263, 313, 323, 333, 337, 363, 383, 413, 423, 443, 489 .....	48
Art and Design history electives .....	6
Approved electives .....	10
<i>Total</i> .....	120

#### Product Design Suggested Curriculum Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a or b.....	3	3	AD 207a,b.....	3	3
AD 110, 120.....	3	3	AD 213a,b.....	3	-
ENGL 101, 102.....	3	3	AD 223 .....	-	3
Core Mathematics.....	3	-	AD 253 .....	3	-
Core Humanities.....	3	-	AD 263 .....	-	3
SPCM 101 .....	-	3	AD Craft/Sculpture .....	3	-
Core Social Science .....	-	3	Core Health.....	2	-
			Core Science.....	-	3
			Core Social Science .....	3	-
			Core Humanities .....	-	3
<i>Total</i> .....	15	15	<i>Total</i> .....	17	15

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 313 .....	3	-	AD 337.....	3	-
AD 323 .....	3	-	AD 413.....	3	-
AD 333 .....	3	-	AD 423.....	3	-
AD 363 .....	-	3	AD 443.....	-	3
AD 383 .....	-	3	AD 489a.....	-	3
AD Craft/Sculpture .....	3	-	Art History Elective .....	-	3
AD Art History Elective .....	-	3	Core Integrative Studies .....	3	-
Core Science .....	3	-	Elective .....	3	4
Core Integrative Studies .....	-	3			
Elective.....	-	3			
Total.....	15	15	Total.....	15	13

DESIGN MAJOR – VISUAL COMMUNICATION SPECIALIZATION

University Core Curriculum Requirements .....	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
Requirements for Specialization in Visual Communication .....	(3) + 79
Foundation requirements: Art and Design 100a, 100b, 110, 122, (207a), 207b .....	(3) + 15
Major requirements: Art and Design 122, 222, 232, 249, 302a or 302b or 302c, 322, 339, 342, 372, 422, 429, 452, 472, Cinema and Photography 225 .....	42
Art and Design history electives .....	6
Approved electives .....	16
Total .....	120

Visual Communication Suggested Curriculum Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a or b.....	3	3	AD 122.....	3	-
AD 110, 120 .....	3	3	AD 207a,b.....	3	3
ENGL 101, 102 .....	3	3	AD 222, 232.....	3	3
Core Mathematics.....	3	-	AD 249.....	-	3
Core Health .....	2	-	Core Science.....	3	3
SPCM 101.....	-	3	Core Social Science .....	3	-
Core Social Science .....	-	3	Core Humanities.....	-	3
Total.....	14	15	Total .....	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 242 or CP 225.....	3	3	AD 302a, b or c.....	3	-
AD 322 .....	3	-	AD 422.....	3	-
AD 339 .....	3	-	AD 452.....	3	-
AD 372 .....	-	3	AD 429.....	-	3
Art History Elective.....	-	3	AD 472.....	-	3
Core Humanities.....	3	-	Art History Elective .....	3	-
Core Integrative Studies .....	3	3	Elective .....	3	9
Elective.....	-	4			
Total.....	15	16	Total .....	15	15

Art and Design Faculty

**Abrahamson, Roy E.**, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1965.

**Addington, Aldon M.**, Associate Professor, M.F.A., Cranbrook Academy of Art, 1966.

**Archer, Richard E.**, Assistant Professor, M.S., Governors State University, 1979.

**Bernstein, Lawrence A.**, Associate Professor, *Emeritus*, M.F.A., Cranbrook Academy of Art, 1953.

**Boysen, Bill H.**, Professor, M.F.A, University of Wisconsin, 1966.

**Briggs, Larry S.**, Associate Professor, B.F.A., University of Oklahoma, 1956.

**Busch, W. Larry**, Associate Professor, M.S., Southern Illinois University, 1970.

**Chapman, Gretel**, Associate Professor, Ph.D., University of Chicago, 1964.

**Deller, Harris**, Professor, M.F.A., Cranbrook Academy of Art, 1973.

**Feldman, Joel B.**, Professor, M.F.A., Indiana University, 1967.

**Fink, Herbert L.**, Distinguished Professor, *Emeritus*, M.F.A., Yale University, 1958.

**Greenfield, Sylvia R.**, Professor, *Emerita*, M.F.A., University of Colorado, 1967.

**Jackson, Jed**, Associate Professor, M.F.A., Cornell University, 1980.

**Kington, L. Brent**, Professor, *Emeritus*, M.F.A., Cranbrook Academy of Art, 1961.

**Lawson, Elnora**, Instructor, *Emerita*, B.Ed., Southern Illinois University, 1936.

**Lintault, M. Joan**, Professor, M.F.A., Southern Illinois University, 1962.

**Mavigliano, George J.**, Associate Professor, M.A., Northern Illinois University, 1967.

**Mawdsley, Richard**, Professor, M.F.A., University of Kansas, 1969.

**Montieth, Jerry Carlis**, Associate Professor, M.F.A., Cranbrook Academy of Art, 1978.

**Onken, Michael O.**, Associate Professor, M.A., Northern Illinois University, 1966.

**Palmer, Erin**, Assistant Professor, M.F.A., Yale University, 1993.

**Paulson, Robert L.**, Professor and *Director*, M.F.A., University of Wisconsin, 1967.

**Saunders, Ann**, Associate Professor, M.F.A., Syracuse University, 1984.

**Shay, Edward Holden**, Professor, M.F.A., University of Illinois, 1971.

**Sullivan, James E.**, Associate Professor, M.A., University of California at Los Angeles, 1965.

**Sullivan, Milton F.**, Professor, *Emeritus*, M.A., Columbia University, 1951.

**Unger, Götz**, Associate Professor, Master of Design, Royal College of Art, 1978.

**Walsh, Thomas J.**, Professor, M.F.A., University of Michigan, 1962.

**Youngblood, Michael S.**, Associate Professor, *Emeritus*, Ph.D., University of Oregon, 1975.

**Zivkovich, Kay M.**, Assistant Professor, M.F.A., Southern Illinois University at Carbondale, 1973.

## Asian Studies (Minor)

Asian Studies is a minor offered in the College of Liberal Arts. The Asian studies program includes a variety of courses of the languages, civilizations, and contemporary issues of Asia. The program is intended to prepare a student for a number of career options with Asia interests. Through this program, a student may prepare for more advanced work on another campus, may develop a teaching specialty, or may broaden skills and knowledge which would be useful for professional and occupational interests in Asia.

A minor in Asian studies requires a minimum of 20 hours selected from a list of approved courses. Not more than eight hours may be taken in any one department for credit toward the 20 hours.

## Black American Studies (Minor, Courses)

The Black American Studies program is a part of the College of Liberal Arts and follows the academic requirements of the College of Liberal Arts as listed above.

A minor in Black American Studies consists of a minimum of 20 hours which are to be selected from Black American Studies course offerings and organized according to each individual student's field of interest. An official minor is subject to approval by the coordinator of Black American Studies.

### Black American Studies Faculty

**Guthrie, Robert V.**, Professor and *Director*, Ph.D., U.S. International University, 1970.

**Dawson, Nancy J.**, Assistant Professor, D.A., University of Albany, State University of New York, 1995.

## Comparative Literature (Minor)

A comparative literature minor is available within the College of Liberal Arts. The program is directed by the comparative literature adviser in either the Department of English or the Department of Foreign Languages and Literatures. The minor consists of 18 hours of coursework at or above the 300-level in literature other than those in which the student is majoring.

# Design

(SEE ART AND DESIGN)

## Economics (Department, Major, Courses)

The study of economics provides a useful means of analyzing the behavior of consumers, businesses, and government so that the student can better understand many of the problems facing contemporary society. Majoring in economics gives the student an analytical ability and flexibility that is attractive to a wide range of employers in both business and government. Economics is also an excellent major for students who are considering graduate school in law, business, or any of the social sciences.

The economics major in the College of Liberal Arts provides a flexible program with 30 to 37 hours of electives. This flexibility allows the student to follow a program oriented toward a wide range of careers in government and business or to prepare for graduate study in any of several areas.

Economic courses at the 300 level generally require only a limited background in introductory economics, while many economics courses at the 400 level require Economics 340 (440) and 341 (441) as prerequisites. Students considering graduate study in economics should also plan to take Economics 340 and 341 as early in their college careers as possible and should choose several courses at the 400 level to complete their major requirements. A student considering graduate study in economics should plan to take Mathematics 250 and Economics 465.

For transfer students, equivalent economics courses will be accepted from other institutions. However, to complete a major in economics, a student must earn credit in no fewer than five economics courses taken at Southern Illinois University at Carbondale. To complete a minor in economics, a student must earn credit in no fewer than three economics courses taken at Southern Illinois University at Carbondale.

Students are urged to discuss their major programs with the director of undergraduate studies or with any other professor in the Department of Economics; the department also has a director of career information and placement available for consultation.

Courses where a Pass/Fail grade is earned will not be counted as fulfilling the requirements for a major in economics without the written consent of the director of undergraduate studies.

### Bachelor of Arts Degree, College of Liberal Arts

University Core Curriculum Requirements .....	41
College of Liberal Arts Academic Requirements (See above.) .....	14
Requirements for Major in Economics .....	(3) + 34-35
One course from the following: Mathematics 140 or 150. The student will automatically satisfy the University Core Curriculum requirement with either of these courses. Three hours are already included in total hours shown for University Core Curriculum requirements .....	(3) + 1-2
Economics 240, 241, 308, 340, 341, 408 .....	18 <sup>1</sup>
Any five ascending order economics courses except 301 .....	15 <sup>1</sup>
Electives .....	30-37
Total .....	120

<sup>1</sup> Writing Intensive Requirement  
Every economics major, in consultation with an undergraduate economics adviser, must choose an economics course from an approved list and designate that course as a writing intensive course; subject to the approval of the instructor. Once such a course has been determined, the student and the adviser and the instructor will sign an agreement that specifies: student name, student ID, course name, course number, amount, type and frequency of written assignments expected, instructor, semester and year. This agreement must be signed before or during the first week that the designated course meets. Copies of the agreement will be given to the student, the adviser and the instructor.

## Honors Program

Students who are economics majors and working toward a Bachelor of Arts degree in the College of Liberal Arts may choose to enter the Honors Program if they have a minimum cumulative grade point average of 3.0 in all prior courses in economics.

As part of the ten economics courses required for a major, students in the honors program will be required to take 443 and any two other 400-level economics courses, except 408, 440, 441, and 479.

In order to be granted departmental honors, a student must have attained at graduation a minimum cumulative grade point average of 3.0 in economics courses taken.

## Minor

For students majoring in other departments, a minor in economics is useful for employment in business or government and for graduate work in any of the social sciences, law, or business. The minor requires 15 hours of work in economics including Economics 240 and 241, but excluding Economics 301. A minimum grade point average of 2.0 must be achieved in the 15 hours of economics courses counted toward the minor. Students are urged to discuss their minor program with an economics adviser in order to assist students in designing coherent programs to meet their individual needs.

## Economics Faculty

**Chau, Ho Yan**, Assistant Professor, Ph.D., The John Hopkins University, 1995.

**Cribari-Neto, Francisco**, Assistant Professor, Ph.D., University of Illinois, 1994.

**Dibooglu, Selahattin**, Assistant Professor, Ph.D., Iowa State University, 1993.

**Edelman, Milton T.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1951.

**Ellis, Robert J., Jr.**, Associate Professor, *Emeritus*, Ph.D., University of Virginia, 1966.

**Fare, Rolf**, Professor, Docent., University of Lund, 1976.

**Foran, Terry G.**, Associate Professor, Ph.D., Pennsylvania State University, 1971.

**Grabowski, Richard**, Professor, Ph.D., University of Utah, 1977.

**Grosskopf, Shawna**, Professor, Ph.D., Syracuse University, 1977.

**Jensen, Mark**, Assistant Professor, Ph.D., Washington University, 1994.

**Laumas, G. S.**, Professor, Ph.D., Wayne State University, 1966.

**Layer, Robert G.**, Professor, *Emeritus*, Ph.D., Harvard University, 1952.

**Mitchell, Thomas**, Associate Professor, Ph.D., Brown University, 1983.

**Myers, John G.**, Professor, *Emeritus*, Ph.D., Columbia University, 1961.

**Primont, Daniel A.**, Professor and *Chair*, Ph.D., University of California at Santa Barbara, 1970.

**Sharma, Subhash**, Professor, Ph.D., University of Kentucky, 1983.

**Trescott, Paul B.**, Professor, *Emeritus*, Ph.D., Princeton University, 1954.

## English (Department, Major, Courses)

The major in English is 36 semester hours at least half of which must be taken at Southern Illinois University at Carbondale. The English major may choose from four specializations.

Students who wish to declare English as a major should consult the director of undergraduate programs in English early in their college careers. Continuing students who wish to declare an English major should petition the Department of English for admission to the department. Transfer students should bring their transcripts and evaluation of transfer credit. Thereafter, all English majors must have their advance registration forms signed by an adviser in the Department of English. Only English courses that are completed with at least a C will fulfill a major requirement. Deviations from regular programs must have prior written department approval.

Students who wish to construct an inter-departmental major in English and certain related fields may do so in consultation and with the approval of the director of undergraduate programs in English.

All students are strongly urged to supplement their English majors through the study of classical and modern languages, as well as the study of foreign literature in translation. Majors preparing for graduate school should take two years of a foreign language.

Although a minor field is not required, students are urged to consider complementary minor fields such as foreign languages and literatures, history, philosophy, and journalism.

ENGLISH CORE CURRICULUM

All students majoring in English will take the following courses:  
English 301, 302a, 302b, 309a, 309b, and 365, 471 or 472.

**Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts**

Students who wish to become certified teachers of English may pursue their majors as follows:

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101 and 102; SPCM 101; MATH 110 or 113 or approved substitute; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; ENGL 121; HIST 101A <sup>1</sup> ; AD 101, MUS 103, HIST 201 or THEA 101; HIST 110; FL 230 <sup>2</sup> ; POLS 114; PSYC 102; ANTH 202, ENGL 205, HIST 202, 210 or SOC 215; HED 101 or PE 101.	
<i>Requirements for Major in English</i> .....	36
In addition to the core curriculum, teacher training candidates will take the following courses: English 300, 481, 485, a 400-level course in English literature before 1800, a 400-level course in continental literature, and one elective chosen from 300 and 400-level English courses.	
<i>Education Requirements</i> .....	31
Professional Education Requirements .....	28
See Teacher Education Program.	
Additional Course required for Teacher Certification .....	3
Psychology 102	
<i>Electives</i> .....	12
Students in the College of Liberal Arts must complete the college requirements as a part of the 12 hours. (See above.)	
<i>Total</i> .....	120

<sup>1</sup>Required to meet non-western civilization/third world culture requirement.  
<sup>2</sup>Must earn a grade of C or better.

**Bachelor of Arts Degree, College of Liberal Arts**

A student may wish to pursue one of several specializations in the College of Liberal Arts. The degree earned and the requirements for the degree are as follows:

<i>University Core Curriculum Requirements</i> .....	41
<i>Academic College Requirements</i> .....	8
Refer to Chapter Three under College of Liberal Arts	
<i>Requirements for Major in English</i> .....	39
To include Foreign Languages and Literatures 230, with a grade of C or better .....	
<i>Electives</i> .....	32
<i>Total</i> .....	120

## ENGLISH MAJOR – GENERAL/GRADUATE SCHOOL SPECIALIZATION

In addition to the core curriculum, students will take six electives from the 300 and 400-level courses in English, with several courses at the 400-level. At least one of these elective courses must be a course in English literature before 1800, and one a course in continental literature. Students planning to enter graduate school are strongly urged to take two years of a foreign language or the equivalent. Students should consult with their departmental adviser to achieve a suitable range and breadth of course work.

## ENGLISH MAJOR – CREATIVE WRITING SPECIALIZATION

In addition to the core curriculum, students should take two courses selected from English 281, 282, 284; English 381 and 382; English 351 or 352; and English 492.

## ENGLISH MAJOR – PREPROFESSIONAL SPECIALIZATION

In addition to the core curriculum, majors interested in such fields as law and government will take the following courses:

English 290, 300, 301, 391, 445; one elective, which may concentrate on a special interest, and which, with the consent of the departmental adviser, may include a course in another department.

**Minor**

The minor in English is a minimum of 18 semester hours at least half of which must be taken at Southern Illinois University at Carbondale. Only English courses which are completed with at least a C fulfill a minor requirement.

Minors are available with several specializations, and the following are listed as examples only. Students interested in English as a minor are invited to confer with the director of undergraduate programs in English, or an adviser in the Department of English.

## ENGLISH MINOR – TEACHING SPECIALIZATION (18 HOURS)

For students who wish to meet the minimum certification requirements for teaching English in the secondary schools, the following courses are required: English 300; 301; 471, 472 or 365; 485; and two of the following: English 302a, 302b, 309a, 309b or 445.

## ENGLISH MINOR – PREPROFESSIONAL SPECIALIZATION (18 HOURS)

English 300; 290; 301; 391; 445; and 365, 471 or 472.

## ENGLISH MINOR – CREATIVE WRITING SPECIALIZATION (18 HOURS)

Creative writing minors should take at least one course from English 281, 282 or 284; English 381 or 382; English 351 or 352; English 492; and two 300- or 400-level English courses.

## ENGLISH MINOR – WORLD LITERATURE SPECIALIZATION (18 HOURS)

English 209, 301; and four courses from 425, 438, 445, 455, 465. For further information, see catalog section titled Comparative Literature.

**English Faculty**

**Appleby, Bruce C.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1967.

**Bennett, Paula**, Associate Professor, Ph.D., Columbia University, 1970.

**Blakesley, David**, Associate Professor, Ph.D., University of Southern California, 1989.

**Brand, Clinton**, Assistant Professor, Ph.D., Vanderbilt University, 1994.

- Brown, William J.**, Associate Professor, *Emeritus*, Ph.D., Duke University, 1966.
- Brunner, Edward J.**, Professor, Ph.D., University of Iowa, 1974.
- Cogie, Jane**, Assistant Professor, Ph.D., University of Iowa, 1984.
- Collins, K. K.**, Associate Professor, Ph.D., Vanderbilt University, 1976.
- Cruz, Ricardo Cortez**, Assistant Professor, M.S., Illinois State University, 1991.
- Dively, Ronda**, Assistant Professor, D.A., Illinois State University, 1994.
- Dodd, Diana L.**, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1954.
- Donow, Herbert S.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1966.
- Fanning, Charles**, Professor, Ph.D., University of Pennsylvania, 1972.
- Fox, Robert Elliot**, Associate Professor, Ph.D., SUNY at Buffalo, 1976.
- Friend, Jewell A.**, Associate Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.
- Geyh, Paula E.**, Assistant Professor, Ph.D., University of Pennsylvania, 1994.
- Goodin, George V.**, Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1962.
- Griffin, Robert P.**, Associate Professor, *Emeritus*, Ph.D., University of Connecticut, 1965.
- Haruf, Kent A.**, Associate Professor, M.F.A., University of Iowa, 1973.
- Hatton, Thomas J.**, Associate Professor, *Emeritus*, Ph.D., University of Nebraska, 1966.
- Hawes, Clement C.**, Associate Professor, Ph.D., Yale University, 1986.
- Hillegas, Mark**, Professor, *Emeritus*, Ph.D., Columbia University, 1957.
- Hilliard, Lewis J.**, Assistant Professor, *Emeritus*, M.S. in Ed., Southern Illinois University, 1952.
- Howell, John M.**, Professor and *Chair*, Ph.D., Tulane University, 1963.
- Humphries, Michael L.**, Assistant Professor, Ph.D., The Claremont Graduate School, 1990.
- Hurley, Paul J.**, Professor, *Emeritus*, Ph.D., Duke University, 1962.
- Jones, Rodney G.**, Professor, M.F.A., University of North Carolina at Greensboro, 1973.
- Joseph, Allison**, Assistant Professor, M.F.A., Indiana University, 1992.
- Klaver, Elizabeth T.**, Assistant Professor, Ph.D., University of California at Riverside, 1990.
- Knopp, Lisa**, Assistant Professor, Ph.D., University of Nebraska-Lincoln, 1993.
- Kvernes, David M.**, Assistant Professor, *Emeritus*, Ph.D., University of Minnesota, 1967.
- Lamb, Mary E.**, Professor, Ph.D., Columbia University, 1976.
- Lang, Susan M.**, Assistant Professor, Ph.D., Emory University, 1992.
- Lawson, Richard A.**, Professor, *Emeritus*, Ph.D., Tulane University, 1966.
- Light, James F.**, Professor, *Emeritus*, Ph.D., Syracuse University, 1953.
- Little, Judy Ruth**, Professor, Ph.D., University of Nebraska, 1969.
- Lordan, E. Beth**, Associate Professor, M.F.A., Cornell University, 1987.
- Martin, Joan Foley**, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1959.
- McClure, Lisa**, Associate Professor, D.A., University of Michigan, 1988.
- McEathron, Scott**, Assistant Professor, Ph.D., Duke University, 1993.
- McNichols, Edward L.**, Assistant Professor, *Emeritus*, M.A., University of Detroit, 1958.
- Mitchell, Betty Lou**, Associate Professor, M.A., Southern Illinois University, 1951.
- Morey, A. J.**, Professor, Ph.D., University of Southern California, 1979.
- Moss, Sidney P.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1954.
- Nelms, Ralph Gerald**, Associate Professor, Ph.D., Ohio State University, 1990.
- Partlow, Robert B., Jr.**, Professor, *Emeritus*, Ph.D., Harvard University, 1955.
- Perillo, Lucia Maria**, Associate Professor, M.A., Syracuse University, 1986.
- Person, Leland S., Jr.**, Professor, Ph.D., Indiana University, 1977.
- Peterson, Richard F.**, Professor, Ph.D., Kent State University, 1969.
- Piper, Henry Dan**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950.
- Rainbow, R. S.**, Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1950.
- Riedinger, Anita R.**, Associate Professor, Ph.D., New York University, 1985.
- Rudnick, Hans H.**, Professor, Ph.D., University of Freiburg, Germany, 1966.
- Schonhorn, Manuel S.**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1963.
- Simeone, William E.**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950.
- Simon, Mary C.**, Instructor, *Emerita*, A.M., University of Illinois, 1940.
- Stibitz, E. Earle**, Professor, *Emeritus*, Ph.D., University of Michigan, 1951.
- Vieth, David Muench**, Professor, *Emeritus*, Ph.D., Yale University, 1953.
- Webb, Howard W., Jr.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1953.
- Weshinskey, Roy K.**, Assistant Professor, *Emeritus*, M.A., Southern Illinois University, 1950.
- Williams, Tony**, Associate Professor, Ph.D., University of Manchester, 1974.
- Zimra, Clarisse**, Associate Professor, Ph.D., University of Washington, 1974.

Foreign Language and International Trade (Major)

The foreign language and international trade major, leading to the Bachelor of Arts degree in the College of Liberal Arts, combines education in the liberal arts with preparation for careers in the international business community. It is designed to combine skill in a foreign language with a fundamental understanding of international commerce. This is accomplished by a curriculum of studies which has two cores—one in language and one in international trade and related subject matters. This cross-disciplinary program allows for choice of language as well as some options in electives so that different interests may be accommodated and individual goals may be realized.

At or near the end of the program of studies, application and expansion of the knowledge and skills gained by the student through course work is provided by an internship. Prerequisite to the internship: senior standing and satisfactory completion of both oral and written language competency examinations before the internship begins.

No grade lower than C will be accepted for any course required by the major (including Mathematics 139 and Psychology 102) taken at any institution at any time. A minimum grade of B is required in the appropriate SIUC 320b (320 for Russian and Spanish) language skills course. All students entering or reentering (after at least one fall or spring semester not enrolled as a Foreign Language and International Trade major or not enrolled at Southern Illinois University at Carbondale) the foreign language and international trade program begin in the pre-foreign language and international trade classification (PFLT). Admission to the major may be requested only after overall grade point average is at least 2.75. After admission, a minimum overall gpa of 2.75 must be maintained. Students falling below that level will be remanded to PFLT. When the grade point average is back to 2.75, students may request reinstatement to the major.

Bachelor of Arts Degree, College of Liberal Arts

University Core Curriculum Requirements .....	(3) + 38
Including Economics 302i; English 101 and 102; Mathematics 139; Psychology 102, Foreign Language 201a or above substitutes for 3 hours of core humanities.	
College of Liberal Arts Academic Requirements (See above) .....	(11) + 3
Requirements for Major in Foreign Language and International Trade .....	68-76
Courses in a Language (Chinese, French, German, Japanese, Russian or Spanish) .....	29-37
As prescribed by the program director; must include internship (Foreign Languages and Literatures 495).	
Business Related Courses .....	39
Accounting 220, 230 .....	6
Computer Science 212 or Information Management Systems 229 .....	3
Economics 240, 241 .....	6
Finance 330 .....	3
Management 202, 345; and either Management 304 or Political Science 441 .....	9
Management 208 or Accounting 208 or Economics 308 .....	3
Marketing 304; and either 336 or 435 .....	6
Mathematics 140 .....	3
Electives .....	3-11

When choosing electives, the area of specialization should be considered. In the past students have taken electives in Computer Science, East Asian Studies, Economics, Finance, Food and Nutrition, Geography, History, Management, Marketing, Philosophy, Political Science and Sociology.

Total .....

120

Foreign Language International Trade Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
Foreign Language(100-Level) ....	4	4	Foreign Language(200-Level).....	4	4
ENGL 101, 102 .....	3	3	MGMT 208.....	3	-
MATH 139, 140 .....	3	3	ECON 240 .....	-	3
PSYC 102.....	3	-	Humanities .....	3	-
SPCM 101.....	-	3	Science .....	-	3
Human Health .....	2	-	MGMT 202.....	3	-
ECON 241 .....	-	3	CS 212.....	-	3
			ACCT 220, 230.....	3	3
Total.....	15	16	Total.....	16	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Foreign Language .....	3-4	6	Foreign Language .....	3	3
Fine Arts.....	3	-	Foreign Lang or Elect <sup>1</sup> .....	3	2-3
Science.....	3	3	FL 495 <sup>2</sup> .....	-	3
MGMT 345.....	3	-	ECON 302I.....	3	-
MKTG 304.....	-	3	Multicultural Course .....	-	3
FIN 330.....	3	-	MGMT 304.....	3	-
Social Science .....	-	3	MKTG 336.....	3	-
Total.....	15-16	15	Total.....	15	11-12

<sup>1</sup>Elective only if foreign language section does not require this course.  
<sup>2</sup>Although a major part of the paperwork for Foreign Language 495 (Internship) takes place in the last semester of the senior year, students usually go on their internship the summer after the senior year. Oral and written proficiency exams are required prior to the internship.

Foreign Languages and Literatures (Department, Majors, Courses)

Majors and minors are offered in classics (minor: classical civilization), French, German, Russian, and Spanish. Minors are also offered in Chinese, classical civilization, classical Greek, East Asian civilization, Japanese, and Latin. Transfer students planning to major in a foreign language must complete a minimum of 12 semester hours of courses including at least one 300 or 400 level language/grammar course in that language at Southern Illinois University at Carbondale. No courses completed with a grade below C will be counted toward fulfillment of the requirements for a major. For modern foreign languages, both oral and written language competency must be demonstrated in separate examinations at the advanced level. Students should plan to take these exams no later than two semesters prior to graduation so there is time to make up possible deficiencies before graduation. For students preparing to teach in the public schools, the oral and written competency examinations at the intermediate high level must be passed before student teaching is begun. Every foreign language major must have a departmental advance registration form, signed by the appropriate adviser in the department, before proceeding to college advisement and registration. It is strongly recommended that students who are planning to study abroad consult with their departmental adviser before leaving if they expect to transfer credit to SIUC.

*Proficiency Examination Policy.* Unit credit (without grade) on the basis of proficiency may be obtained through the Department in Chinese, French, German, Greek, Japanese, Latin, Russian and Spanish. This may be accomplished either by examination and/or by a validating course.

By Examination: Credit through examination may be given for first and second year basic skills courses only. Credit is given by the semester in Greek and Latin; all others only by the year. CLEP examinations in French, German and Spanish, and non-CLEP examinations in Latin are offered by the Testing Center Office in Woody Hall. Examinations in Chinese, Greek, Japanese and Russian are offered by the respective language sections (Classics, East Asian, Russian) and arrangements for these examinations should be made with the section head of the appropriate language. (See *Proficiency Examinations* under Academic Regulations earlier in this catalog for University guidelines.)

By Validating Course: Only basic language skills courses taken at SIUC, up to and including the first skills course at the three-hundred level, may serve as validating courses. (See department for specific list.) Upon receiving a grade of A or B in a validating course, a student may, upon petitioning, be granted credit for up to two of the immediately preceding basic skills courses.

**Bachelor of Arts Degree, College of Liberal Arts**

(WITHOUT SECONDARY SCHOOL TEACHING CERTIFICATE)

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements</i> (See above.) .....	14
Though not required, a minor of at least 15 hours is recommended. This may be in another foreign language or in any other department within the College of Liberal Arts, but must be approved by the student's departmental adviser; a minor outside the college must be approved by the dean of the college as well.	
See the Spanish description for a major program which combines a Spanish major with a minor in office systems and specialties.	
<i>Requirements for Major in Foreign Language</i> .....	36 <sup>1</sup>
Except for classics, 100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level.	
<i>Electives</i> .....	29
<i>Total</i> .....	120

**Bachelor of Arts Degree, College of Liberal Arts**

(WITH SECONDARY SCHOOL TEACHING CERTIFICATION)

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101, 102; SPCM 101; MATH 110 or 113; PHYS 101, GEOL 110 or CHEM 106; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; HIST 101a <sup>2</sup> ; AD 101, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; AD 227, ANTH 202, ENGL 205, HIST 202, 210, LING 201, PHIL 210, 211 or SOC 215; POLS 114; HIST 110; HED 101 or PE 101.	
<i>College of Liberal Arts Academic Requirements</i> (See above) .....	14
Though not required, a minor of at least 15 hours is recommended. This may be in another foreign language or in any other department within the College of Liberal Arts, but must be approved by the student's departmental adviser; a minor outside the college must be approved by the dean of the college as well.	
<i>Requirements for Major in Foreign Language</i> .....	36 <sup>1</sup>
100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level. Foreign Languages and Literatures 436 will be one of those courses required on the 400-level for majors in French, German, and Spanish.	
<i>Education Requirements</i> .....	31

Professional Education Requirements .....	28
See Teacher Education Program.	
Psychology 102 .....	3
Electives .....	<u>1-2</u>
Total .....	123-124

**Bachelor of Science Degree, College of Education**

For College of Education students majoring in a foreign language, the scheduling of those classes which apply to the major must be done with the appropriate adviser from the Department of Foreign Languages and Literatures.

University Core Curriculum Requirements .....	41
To include SPCM 101; ENGL 101 and 102; MATH 110 or 113; PHYS 101, GEOL 110 or CHEM 106; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; HIST 101a <sup>2</sup> ; AD 101, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; AD 227, ANTH 202, ENGL 205, HIST 202, 210, LING 201, PHIL 210, 211 or SOC 215; POLS 114; HIST 110; HED 101 or PE 101.	
Requirements for Major in Foreign Language .....	36 <sup>1</sup>
100-level courses will not count toward the major and at least 12 hours must be in courses at the 400-level. Foreign Languages and Literatures 436 will be one of those courses required at the 400-level for majors in French, German, and Spanish.	
Education Requirements .....	31
Professional Education Requirements .....	28
See Teacher Education Program.	
Psychology 102 .....	3
Electives .....	<u>12</u>
Total .....	120

<sup>1</sup>See individual language listings for specific requirements.  
<sup>2</sup>Required to meet non-western civilization/third world culture requirement.

*Placement.* The student who has completed only one year of foreign language in high school normally begins with the first semester course. The student who has successfully completed two years of study in high school of any language currently taught in the department may begin with the second year level without having to take the placement proficiency examination. A student majoring in a foreign language who has taken four years of that language in high school is expected to begin with 300-level courses and to take more upper level courses. Those students who have successfully completed three or more years of high school language should consult the departmental adviser for that language.

**International Public Service Specialization**

Foreign Language with a specialization in International Public Service (IPS) is designed for those students whose interests are not focused on language alone, but on its application or use in a career in one of the many forms of international public service in either the governmental or private sectors. The program of study includes all language skill courses normally required for the major in French, German, Russian, or Spanish, an internship or study abroad experience, a core of required courses for the IPS specialization, and appropriate area studies courses in history, political science, anthropology and geography.

**Minor**

A minor in a foreign language consist of a minimum of 18 hours in courses above the first-year level of which 3 hours must be taken in a regularly scheduled 300- or 400-level course at Southern Illinois University at Carbondale. See individual language listings for specific requirements. State certification requirements, in terms of total semester hours of subject matter courses, may be met in part by counting first-year foreign language courses or by doing additional advanced work. No courses completed with a grade below C will be counted toward fulfillment of the requirements for a language minor.

A minor in classical civilization or East Asian civilizations is constituted by 15 hours of courses to be selected in consultation with the appropriate sectional adviser.

**Secondary Concentration for Majors in the College of Business and Administration**

The Department of Foreign Languages and Literatures participates with the College of Business and Administration's major program in business and administration by offering a secondary concentration of 20-23 hours for those students who wish to formulate an academic program leading to a career specialization which combines business and a foreign language.

The secondary concentration varies according to the language chosen, but does not normally exceed 23 hours and involves course work from the 100 through the 400 levels. For specific course requirements in the respective languages, interested students should contact advisers in the Department of Foreign Languages and Literatures.

**CHINESE**

**Minor**

<i>Chinese courses above 100 level</i> .....	18
200 level: 201a,b .....	8
300 level or 400 level .....	10

**CLASSICS**

**Bachelor of Arts Degree, College of Liberal Arts**

<i>Classics courses and courses from related disciplines</i> .....	36
Original Greek and Latin courses, two years of one language or one year of each .....	12-16
Electives approved by classics adviser from offerings in classics and related disciplines .....	20-24

**Minor in Greek**

Greek courses above 100-level .....	18
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**Minor in Latin**

Latin courses above 100-level (388 and 488 may not be counted); 320 recommended .....	18
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Classics Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
CLAS (Latin) 133a,b .....	4	4	CLAS 202a,b .....	3	3
ENGL 101, 102 .....	3	3	CLAS 130a,b .....	4	4
Math .....	3	-	Social Science .....	3	3
Fine Arts .....	-	3	Science .....	3	3
FL 230 .....	3	-	Multicultural .....	3	-
FL 101 .....	-	3	SPCM 101 .....	-	3
Human Health .....	2	-			
Elective .....	-	3			
Total .....	15	16	Total .....	16	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Latin 300-Level .....	3	3	Latin 400-Level .....	3	3
Greek 201a,b .....	3	3	Greek 300-Level .....	3	3
CLAS 270 or 271 .....	3	-	Elective .....	9	6
CLAS 401 .....	-	3			
CoLA Science .....	3	-			
FL 310i .....	-	3			
Elective .....	3	3			
Total .....	15	15	Total .....	15	12

Minor in Classical Civilization

Courses to be selected in consultation with classics adviser from Greek, Latin, or classical civilization: Classics 101, 225, 270, 271, 310, 332, 405, 406, 496, Foreign Languages and Literatures 101, 230, and approved courses in related disciplines. 15

<sup>1</sup>Classical civilization includes all classics courses above the 100-level for which no knowledge of Greek or Latin is required.

EAST ASIAN CIVILIZATION

Minor

Courses in Chinese and Japanese selected in consultation with adviser 15<sup>1</sup>

<sup>1</sup>18 hours is required for state certification.

FRENCH

Bachelor of Arts Degree, College of Liberal Arts

French courses above 100 level 36

200 level: 201a,b (220 recommended; does not usually count toward major or minor) 8<sup>1</sup>

300 level: 320a,b plus any other 300 level courses 14

400 level: any combination of 400 level courses 14

At least one literature course must be taken at either the 300 or the 400 level.

Bachelor of Science Degree, College of Education, or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

French courses above 100 level 36

200 level: 201 a,b (220 recommended; does not usually count toward major or minor) 8<sup>1</sup>

300 level: 320a,b plus any other 300 level courses 14

400 level: Foreign Languages and Literatures 436, plus any combination of 400 level courses 14

At least one literature course must be taken at either the 300 or the 400 level.

French Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
French 123a,b.....	4	4	French 201a,b.....	4	4
English 101, 102.....	3	3	SPCM 101.....	3	-
Core Math.....	3	-	Core Humanities.....	-	3
Core Fine Arts.....	-	3	Core Science.....	3	3
Core Social Science.....	3	3	Elective.....	3	3
Core Human Health.....	2	-	Elective.....	3	3
Elective.....	-	3			
Total.....	15	16	Total.....	16	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
French 320a,b.....	3	3	French 410, 411.....	3	3
French 321.....	3	-	French 430 or 435.....	4 or 3	-
French 335 or 330.....	-	3	French 470.....	-	4
CoLA Science.....	3	-	Interdisciplinary Course.....	3	-
Multicultural Course.....	-	3	French 414 or 440.....	-	3
Elective.....	6	6	Elective.....	5	3
Total.....	15	15	Total.....	14 or 15	13

Minor

French courses above 100 level .....	18
200 level: 201a,b .....	8 <sup>1</sup>
300 level: 320a,b plus any other 300 level courses .....	10

<sup>1</sup>With the approval of the French section, one semester of 220 may be counted toward the major or minor, in which case the 300 or 400-level requirements would be reduced by 2 hours for a major or minor.

GERMAN

At least one course in the history of Germany or Central Europe is recommended for all students majoring in German. Credit must be earned in at least one regularly scheduled 400-level course taken on the Southern Illinois University at Carbondale campus.

Bachelor of Arts Degree, College of Liberal Arts

Courses above 100 level .....	36
200 level: 201a,b (201c recommended) .....	8-11
300 level: 320, plus any other 300-level courses .....	10-13
400 level: Any combination of 400 level courses .....	12
German electives (300 or 400 level) .....	3
At least one literature course must be taken at either the 300 or the 400 level.	

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

Courses above 100 level .....	36
200 level: 201 a,b (201c recommended) .....	8-11
300 level: 320, plus any other 300-level courses .....	10-13
400 level: Foreign Languages and Literatures 436, plus any other 400 level courses .....	12
German electives (300 or 400 level) .....	3
At least one literature course must be taken at either the 300 or the 400 level.	

German Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
German 126a,b .....	4	4	German 201a,b .....	4	4
English 101, 102 .....	3	3	SPCM 101 .....	3	-
Math .....	3	-	Humanities .....	-	3
Fine Arts .....	-	3	Science .....	3	3
Social Science .....	3	3	Elective .....	3	3
Human Health .....	2	-	Elective .....	3	2
Elective .....	-	3			
Total .....	15	16	Total .....	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
German 320a,b .....	4	3	German 410, 411 .....	3	3
German 330 or 335 .....	3	-	German 440 .....	3	-
German 371 or 370 .....	-	3	German 480 .....	-	3
CoLA Science .....	3	-	Interdisciplinary Course .....	3	-
Multicultural Course .....	-	3	German 493 .....	-	3
Elective .....	6	6	Elective .....	6	3
Total .....	16	15	Total .....	15	12

Minor	
Courses above 100 level .....	18
200 level: 201a,b (201c recommended) .....	8-11
300 level: 320a,b .....	7
German electives (300 or 400 level including at least one regularly scheduled course) .....	0-3

GREEK

(SEE CLASSICS)

JAPANESE

Minor	
Japanese courses above 100 level .....	18
200 level: 201a,b .....	8
300 level or 400 level .....	10

LATIN

(SEE CLASSICS)

RUSSIAN

Bachelor of Arts Degree, College of Liberal Arts

Russian courses above 100 level .....	36
200 level: 201a,b .....	8
300 level: Any combination of 300 level courses .....	12
400 level: Any combination of 400 level courses including at least one literature course .....	12
Russian electives (300 or 400 level) .....	4

**Russian Suggested Curricular Guide**

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
Russian 136a,b .....	4	4	Russian 201a,b .....	4	4
ENGL 101, 102 .....	3	3	Humanities .....	3	-
Math .....	3	-	Russian 220 .....	-	2
Fine Arts .....	-	3	Science .....	3	3
Social Science .....	3	3	SPCM 101 .....	3	-
Human Health .....	2	-	Russian 470 .....	-	3
Elective .....	-	3	Elective .....	3	3
<i>Total</i> .....	15	16	<i>Total</i> .....	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Russian 305 .....	4	-	Russian 480 .....	3	-
Russian 306 .....	-	3	Russian 411 .....	-	3
Russian 330 .....	3	-	Russian 320 .....	4	-
Russian 465 .....	-	3	Russian 415 .....	-	3
CoLA Science .....	3	-	Interdisciplinary Course .....	3	-
Multicultural Course .....	-	3	Elective .....	2	6
Elective .....	3	3	Elective (CP 467) .....	3	-
Elective (HIST 437a,b) .....	3	3	<i>Total</i> .....	15	12
<i>Total</i> .....	16	15			

**Minor**

Russian courses above 100 level .....	18
200 level: 201a,b .....	8
Any combination of 300 or 400 level courses .....	10

**SPANISH****Bachelor of Arts Degree, College of Liberal Arts**

<i>Spanish courses above 100 level</i> .....	36
200 level: 201a,b .....	8
300 and 400 levels: one semester of 305, 306, 320, and 411, plus any combination of 300 or 400 level courses which includes a literature course and at least nine additional 400 level hours .....	21-24
Spanish electives (only one semester of 220 may be counted toward the major) .....	4-7

**Bachelor of Arts Degree, College of Liberal Arts (with a minor in secretarial and office specialties, for bilingual secretaries)**

<i>Spanish courses above 100 level</i> .....	36
200 level: 201a,b .....	8
300 and 400 levels: one semester of 305, 306, 320, and 410, plus any combination of 300 or 400 level courses which includes at least nine additional 400 level hours .....	21-24
Spanish electives (only one semester of 220 may be counted toward the major) .....	4-7

See office systems and specialties for a description of minor requirements.

**Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)**

<i>Spanish courses listed above 100 level</i> .....	36
200 level: 201a,b .....	8
300 and 400 levels: one semester of 305, 306, 320, 411, Foreign Languages and Literatures 436, plus any combination of 300 or 400	

level courses which includes a literature course and at least six additional 400 level hours .....	21-24
Spanish electives (only one semester of 220 may be counted toward the major) .....	4-7

Spanish Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
Spanish 140a,b.....	4	4	SPAN 201a,b.....	4	4
ENGL 101, 102 .....	3	3	SPCM 101 .....	3	-
Math .....	3	-	Spanish 220 .....	-	2
Fine Arts.....	-	3	Science .....	3	3
Social Science .....	3	3	Elective .....	3	-
Human Health .....	2	-	Humanities .....	-	3
Elective.....	-	3	Elective .....	3	3
Total.....	15	16	Total .....	16	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Spanish 320.....	4	-	Spanish 411 .....	3	-
Spanish 370 or 371 .....	-	3	Spanish 400-Level .....	3	3
Spanish 306.....	3	-	Spanish 400-Level .....	-	3
Spanish 305.....	-	2	Spanish 305 .....	2	-
CoLA Science .....	3	-	Elective .....	-	3
Multicultural Course .....	-	3	Interdisciplinary Course .....	3	-
Elective.....	6	6	Elective .....	3	5
Total.....	16	14	Total .....	14	14

Minor

Spanish courses above 100 level .....	18
200 level: 201a,b .....	8
300 level: 306 and 320 .....	7
Spanish electives (only one semester of 220 may be counted toward the minor) .....	3

Foreign Languages and Literatures Faculty

Aydt, Judith, Assistant Professor, M.A., Southern Illinois University, 1966.	Kilker, James, Professor, Emeritus, Ph.D., University of Missouri at Columbia, 1961.
Bender, M. Lionel, Professor, Emeritus, Ph.D., University of Texas at Austin, 1968.	Kim, Alan Hyun-Oak, Associate Professor, Ph.D., University of Southern California, 1985.
Betz, Frederick, Professor, Ph.D., Indiana University, 1973.	Liedloff, Helmut, Professor, Emeritus, Ph.D., Phillips University, Germany, 1956.
Bork, Albert W., Professor, Emeritus, Doctor en Letras, National University of Mexico, 1944.	Lowe-Dupas, Hélène, Assistant Professor, Ph.D., Ohio State University, 1993.
Cáceres, Alejandro, Assistant Professor, Ph.D., Indiana University, 1992.	McBride, Charles, Associate Professor, Ph.D., University of Texas, 1968.
Davis, J. Cary, Professor, Emeritus, Ph.D., University of Chicago, 1936.	Meinhardt, Warren, Associate Professor, Ph.D., University of California at Berkeley, 1965.
Edwards, Robert W., Associate Professor, Ph.D., University of Texas at Austin, 1988.	Neufeld, Anna K., Assistant Professor, Emerita, M.A., University of Kansas, 1937.
Fair-Christianson, Janet K., Assistant Professor, Ph.D., University of Chicago, 1993.	O'Brien, Joan, Professor, Emerita, Ph.D., Fordham University, 1961.
Gobert, David L., Professor, Emeritus, Ph.D., University of Iowa, 1960.	Orechwa, Olga, Associate Professor, Emerita, Ph.D., Ukrainian Free University, Germany, 1970.
Hammond, Charles E., Associate Professor, Ph.D., Columbia University, 1986.	Sanjabi, Maryam, Assistant Professor, Ph.D., University of Paris-Sorbonne, 1992.
Hartman, Steven Lee, Associate Professor, Ph.D., University of Wisconsin, 1971.	Speck, Charles, Assistant Professor, Emeritus, Laurea in Diritto Canonico, Pontifical Lateran University, Italy, 1963.
Hartwig, Hellmut A., Professor, Emeritus, Ph.D., University of Illinois, 1943.	
Keller, Thomas, Associate Professor and Chair, Ph.D., University of Colorado, 1975.	

Timpe, Eugene F., Professor, Ph.D., University of Southern California, 1960.

Ulner, Arnold, Assistant Professor, Ph.D., University of Missouri at Columbia, 1972.

Vogely, Maxine, Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1969.

Wilkinson, Mildred, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1965.

Williams, Frederick, Associate Professor, Ph.D., Cornell University, 1976.

Winston-Allen, C. Anne, Assistant Professor, Ph.D., University of Kansas, 1979.

Winters, Margaret E., Professor, Ph.D., University of Pennsylvania, 1975.

Woodbridge, Hensley, Professor, *Emeritus*, Ph.D., University of Illinois, 1950.

## Geography (Department, Major, Courses)

Geography is the discipline that deals with the relationship between human beings and their environment. The Department of Geography emphasizes the applied aspects of this theme, environmental planning and management, and geographic techniques such as cartography and spatial analysis. Students may earn a Bachelor of Arts or Bachelor of Science degree through the College of Liberal Arts. All geography majors develop a minor in consultation with the Department of Geography undergraduate program director, which can be fulfilled by taking courses in another department or by an interdisciplinary group of courses based on a topical specialty, for example, in water resources.

Community college and transfer students interested in geography are encouraged to visit the department to determine possibilities for waivers, proficiencies, and transfer credit substitution.

Honors in geography is a special three semester program available to majors with an overall grade point average of 3.00 or better. Interested students should apply during the junior year for departmental consent to initiate an honors program.

Students with a minor in geography must take Geography 103 or 300, three 300-level courses and one 400-level course. Geography 300 has been approved as a substitute for Geography 103 for the University Core Curriculum. Social Studies majors in the College of Education with a 9-hour concentration in geography must take Geography 103 or 300 and complete their concentration with electives from geography.

The core program provides a common background for all geography majors. The major then selects a series of 400-level courses to satisfy career goals. Three special interest sequences are as follows.

*Cartography and Geographic Information Management.* This option stresses cartography, quantitative techniques, and geographic data management, and is designed for those who wish to go into careers in which geographic techniques are necessary skills.

*Environmental Planning.* This option is for those interested in careers in environmental management and planning. The courses deal with the economic, social, and political aspects of environmental planning, techniques of evaluation and principles of the environmental systems under consideration.

*Geography General.* This option gives maximum flexibility for those seeking a broad understanding of the field of geography, or those wishing to combine several areas of interest.

### Bachelor of Arts or Bachelor of Science Degree, College of Liberal Arts

These courses provide the base for those seeking a broad understanding of the field of geography and who have interests in preparing for graduate study or in applying geography in teaching, industry, or government.

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements</i> .....	14
<i>Requirements for Major in Geography</i> .....	30-35
Geography Core Courses: 300, 303i, 304, 410 .....	13
Special Interest Sequence (one of the following):	
Cartography and Geographic Information Management: 310, 404, 406a, 406b, 416, 418a, 418b and 408 or 420 .....	18
Environmental Planning: 320, 422, 424, 426, and selection from 400, 425, 427, 430, 432, 434, 436, 471 and two courses from one of the following groups: 430, 434, 436, 471, 475 or 435, 452, 454, 456, 458, 459 .....	21-22
Geography General: Any 400-level courses .....	17-19
<i>Minor (or interdisciplinary selection to complement major)</i> .....	15
<i>Electives</i> <sup>1</sup> .....	15-20
<i>Total</i> .....	120

<sup>1</sup>Geography requires one college-level course in mathematics in addition to the University Core Curriculum requirement. This course does not contribute to the credit hours required for the major. It may be taken as an elective.

## Minor

A minor in geography requires .....	15-16
Geography 103 or 300 .....	3
Any three: 302, 304, 306, 310 .....	9
400 level courses .....	3-4

## Geography Faculty

**Arey, David G.**, Associate Professor, Ph.D., Clark University, 1969.

**Baumann, Duane D.**, Professor, Ph.D., Clark University, 1968.

**Bhattacharyya, Jnanabrata**, Associate Professor, Ph.D., University of Delhi, India, 1969.

**Beazley, Ronald I.**, Professor, *Emeritus*, Ph.D., Purdue University, 1954.

**Bennett, David A.**, Assistant Professor, Ph.D., University of Iowa, 1994.

**Christensen, David E.**, Professor, *Emeritus*, Ph.D., University of Chicago, 1956.

**Denise, Paul S.**, Assistant Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1974.

**Duram, Leslie A.**, Assistant Professor, Ph.D., University of Colorado at Boulder, 1994.

**Dziegielewski, Benedykt**, Associate Professor, Ph.D., Southern Illinois University, 1983.

**Horsley, A. D.**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1974.

**Irwin, Daniel R.**, Associate Professor, *Emeritus*, Ph.D., Syracuse University, 1972.

**Jones, David L.**, Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1960.

**Lant, Christopher**, Associate Professor and Chair, Ph.D., University of Iowa, 1988.

**Lieber, Stanley R.**, Professor, Ph.D., University of Iowa, 1974.

**Perk, H. F. W.**, Lecturer, *Emeritus*, A.B., University of California at Los Angeles, 1951.

**Poston, Richard W.**, Professor, *Emeritus*, B.A., University of Montana, 1940.

**Sharpe, David M.**, Professor, Ph.D., Southern Illinois University at Carbondale, 1968.

## History (Department, Major, Minor, Courses)

A major in history consists of thirty-six semester hours of history courses in addition to core curriculum requirements. Students who plan advanced study in preparation for college teaching or other professional work are advised to take added work.

A number of different patterns are available for students anticipating various futures. Students should consult with departmental advisers to choose the pattern that fits their needs. The basic regulation is that, for a course to count toward the major, it must be approved in advance by one of the advisers in the department. Normally the department will accept a substantial part of the credits in history taken in other ac-

credited institutions. In every case, transfer students must have taken at least 18 semester hours in history at Southern Illinois University at Carbondale.

Advisers are available in the Department of History to assist students in planning their programs in accordance with current University and departmental regulations. Normally courses must represent at least two areas of history (United States, European, and Third World) and should be distributed chronologically as well as geographically. Students must also complete a minimum of four courses at the 400 level and they must write two research papers in history. The first paper usually is done in History 392, and the second paper is written in a regularly scheduled 400-level course. Both papers meet the College of Liberal Arts Writing Across the Curriculum (WAC) requirement.

All history majors should meet with the department's undergraduate advisers each semester to keep up to date the records of their progress toward the degree and to receive advance approval of their courses. Transfer students should report to the department prior to their first semester of attendance. A C average in the major is required for graduation. A 2.5 average in the major is required before student teaching will be approved by the department.

Students with exceptional scholarly promise may be invited into the departmental honors program which begins with a colloquium and continues with an honors seminar and thesis prepared under the direction of a member of the department. Graduation with departmental honors in history is given to those who successfully complete the program.

### **Bachelor of Arts Degree, College of Liberal Arts**

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements (See above)</i> .....	14
<i>Requirements for Major in History</i> .....	36 <sup>1</sup>
History 205a,b or equivalent .....	6
History 300 and 301 or equivalent .....	6
History 392 or equivalent .....	3-4
History electives, 300 level or above distributed in two fields of history .....	20-21
<i>Electives</i> .....	30
These may include 31 hours in professional education for teacher certification <sup>2</sup> .....	
<b>Total</b> .....	<b>121</b>

### **Bachelor of Science Degree, College of Education**

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101, 102 and 121 or 204; SPCM 101; MATH 110 or 113 or approved substitute; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; HIST 101a <sup>1</sup> or non Western Civilization Substitute; AD 101, MUS 103, HIST 201 or THEA 101; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215; HED 101 or PE 101.	
<i>Requirements for Major in History</i> .....	36 <sup>1</sup>
History 205a,b and two additional world history courses <sup>3</sup> .....	12-14
History 300 and 301 and three additional U.S. history courses .....	14-16
History 392 or equivalent .....	3-4
History electives .....	2-7
<i>Education Requirements</i> .....	34
Professional Education Requirements .....	28
(See Teacher Education Program)	
Additional Certification Requirements .....	6
Curriculum and Instruction 469	

Psychology 102	
Electives .....	9
Total .....	120

<sup>1</sup>At least twelve hours must be taken at the 400 level.  
<sup>2</sup>Students in CoLA seeking teacher certification should select courses as described under the College of Education.  
<sup>3</sup>World history study should include at least three hours other than European and U.S. history.

Minor

A minor in history consists of 18 semester hours. The student is advised to balance courses between at least two of the three fields of American, European, or Third World history. Transfer students, in order to have a minor in history, must have taken at least nine semester hours in history at Southern Illinois University at Carbondale.

History Faculty

- Allen, Howard W., Professor, Ph.D., University of Washington, 1959.  
Allen, James S., Professor, Ph.D., Tufts University, 1979.  
Ammon, Harry, Professor, *Emeritus*, Ph.D., University of Virginia, 1948.  
Barton, H. Arnold, Professor, Ph.D., Princeton University, 1962.  
Batinski, Michael C., Associate Professor, Ph.D., Northwestern University, 1969.  
Bean, Jonathan J., Assistant Professor, Ph.D., The Ohio State University, 1994.  
Bengtson, Dale R., Assistant Professor, Ph.D., Hartford Seminary Foundation, 1971.  
Carr, Kathryn, Associate Professor, Ph.D., University of Chicago, 1987.  
Carrott, M. Browning, Associate Professor, Ph.D., Northwestern University, 1966.  
Chen, Jian, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1990.  
Conrad, David E., Professor, *Emeritus*, Ph.D., University of Oklahoma, 1962.  
Detwiler, Donald S., Professor, Dr. Phil., Göttingen University, Germany, 1961.  
Dotson, John E., Professor, Ph.D., Johns Hopkins University, 1969.  
Fladeland, Betty L., Distinguished Professor, *Emerita*, Ph.D., University of Michigan, 1952.  
Gardiner, C. Harvey, Professor, *Emeritus*, Ph.D., University of Michigan, 1945.  
Gold, Robert L., Professor, *Emeritus*, Ph.D., University of Iowa, 1964.
- Haller, John S., Professor, Ph.D., University of Maryland, 1968.  
Kuo, Ping-Chia, Professor, *Emeritus*, Ph.D., Harvard University, 1933.  
Lieberman, Robbie, Associate Professor, Ph.D., University of Michigan, 1984.  
Morgan, Marjorie L., Associate Professor, Ph.D., Tulane University, 1988.  
Murphy, James B., Associate Professor, *Emeritus*, Ph.D., Louisiana State University, 1968.  
O'Day, Edward J., Associate Professor, A.M., Indiana University, 1956.  
Shelby, Lon R., Professor, *Emeritus*, University of North Carolina, 1962.  
Simon, John Y., Professor, Ph.D., Harvard University, 1961.  
Stocking, Rachel L., Assistant Professor, Ph.D., Stanford University, 1994.  
Vyverberg, Henry S., Professor, *Emeritus*, Ph.D., Harvard University, 1950.  
Weeks, Theodore, Assistant Professor, Ph.D., University of California-Berkeley, 1992.  
Werlich, David P., Professor and *Chair*, Ph.D., University of Minnesota, 1968.  
Wilson, David L., Professor, Ph.D., University of Tennessee, 1974.  
Wu, Tien-Wei, Professor, *Emeritus*, Ph.D., University of Maryland, 1965.  
Zobairi, Riaz H., Adjunct Associate Professor, Ph.D., Southern Illinois University, 1971.

Linguistics (Department, Major, Courses)

Language is both a means of social communication and a unique property of the human mind. As such, linguistics -- the scientific study of language --has a broad appeal to students who are interested in the social sciences, the humanities, computer science, or the life sciences. The undergraduate program in linguistics helps students understand the diversity of human modes of communication, the social and psychological origins of language, and the processes by which languages are learned and lost. A major in linguistics thus provides students with a focused but broad-based education in the liberal arts. In addition, the way linguists think about their subject

has greatly influenced the development of other disciplines such as anthropology, computer science, language teaching, philosophy, psychology, and sociology. A degree in linguistics will thus be of great value to students intending to pursue careers in those fields.

Graduates of the linguistics program who enter the work force immediately after graduating find employment in a wide variety of settings: as teachers, writers, translators, editors, civil servants, community developers, etc. Graduates who go on to advanced study find themselves well prepared for professional careers in fields such as linguistics, language teaching, educational administration, language planning, language research, speech pathology, lexicography, publishing, and the foreign service.

The major in linguistics consists of a minimum of 34 semester hours comprising a core of basic courses in general linguistics plus a variety of electives. The core of the linguistic major consists of 22 semester hours in Linguistics 104, 200, 300, 402, 405, 406, and 408. Majors are required to obtain a grade of C or better in each of these core courses. In addition, 12 semester hours of electives must be selected from other linguistic courses offered at the 400 level. Students who have received credit for 200 and 300 will not receive additional credit for 401.

Since the study of linguistics involves familiarity with languages other than one's native language, knowledge of a foreign language is a requirement for a degree in linguistics. This requirement, which also satisfies the foreign language requirement of the College of Liberal Arts, involves either one year of an uncommon or non-Western language or two years of any foreign language. International students whose native language is not English and who have successfully satisfied the requirement of the Office of Admissions and Records for English language proficiency will also have satisfied the Linguistics Department foreign language requirement by offering English as their foreign language.

### Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements</i> (See above.) .....	14
<i>Requirements for Major in Linguistics</i> .....	34
Core courses: Linguistics 104, 200, 300, 402, 405, 406, and 408 each with a grade of C or better .....	22
Electives: Courses selected from 400-level linguistics courses .....	12
<i>Foreign Language Requirements</i> (satisfies the College foreign language require- ment) .....	10-16
<i>Electives</i> .....	10-29
<i>Total</i> .....	120

### Linguistics Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101 or LING 101 .....	3	-	Multicultural <sup>1</sup> .....	3	-
ENGL 102 or LING 105 .....	-	3	Human Health .....	-	2
Core Science .....	3	3	Interdisciplinary .....	3	3
Core Humanities .....	3	3	Foreign Language <sup>2</sup> .....	4	4
Core Social Science .....	3	3	Composition Course <sup>2</sup> .....	-	3
Core Fine Arts .....	-	3	LING 104, 200 .....	6	-
Core Math .....	3	-	LING 300 .....	-	3
<i>Total</i> .....	15	15	<i>Total</i> .....	16	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
LING 402 .....	3	-	LING 406 <sup>3</sup> .....	3	-
LING 405, 408 .....	-	8	Linguistic Elective .....	3	3
Linguistic Elective .....	3	3	Free Elective .....	9	12
SPCM 101 .....	3	-			
CS 102 .....	3	-			
<i>Total</i> .....	12	14	<i>Total</i> .....	15	15

<sup>1</sup> Linguistics 201, Language Diversity in the USA recommended<sup>2</sup> Meets CoLA Academic requirements<sup>3</sup> Meets CoLA Writing-Across-the-Curriculum Requirement

## Minor

The minor in linguistics (a minimum of 17 hours) draws upon the core courses of the Department of Linguistics. Students are introduced to the structure of language, the historical development of languages, and the relation of language to the rest of culture. A minor in linguistics would be of special interest to students in anthropology, computer science, English, foreign languages and literatures, mathematics, philosophy, psychology, sociology, speech communication, and communication disorders and sciences.

Course requirements for the minor in linguistics are 104, 200, and 300, plus at least three courses (9 semester hours) from among the following: 402, 404, 405, 406, 408, 415, 440, 450, 453, and 497.

## Linguistics Faculty

**Angelis, Paul J.**, Associate Professor and *Chair*, Ph.D., Georgetown University, 1968.

**Brutten, Sheila R.**, Associate Professor, M.A., Southern Illinois University at Carbondale, 1965.

**Friedenberg, Joan**, Professor, Ph.D., University of Illinois, 1979.

**Gilbert, Glenn G.**, Professor, Ph.D., Harvard University, 1963.

**He, Agnes Weiyun**, Assistant Professor, Ph.D., University of California at Los Angeles, 1993.

**Johnson, Ruth**, Assistant Professor, Ph.D., Florida State University, 1993.

**Kim, Alan Hyun-Oak**, Associate Professor, Ph.D., University of Southern California, 1985.

**Lakshmanan, Usha**, Associate Professor, Ph.D., University of Michigan, 1989.

**Nathan, Geoffrey S.**, Associate Professor, Ph.D., University of Hawaii, 1978.

**Nguyen, Dinh-Hoa**, Professor, *Emeritus*, Ph.D., New York University, 1956.

**Parish, Charles**, Professor, *Emeritus*, Ph.D., University of New Mexico, 1959.

**Perkins, Allen Kyle**, Professor, Ph.D., University of Michigan at Ann Arbor, 1976.

**Redden, James E.**, Professor, *Emeritus*, Ph.D., Indiana University, 1965.

**Wilhelm, Kim Hughes**, Assistant Professor, Ph.D., Indiana University, 1992.

**Winer, Lise S.**, Associate Professor, Ph.D., University of the West Indies, 1982.

**Winters, Margaret E.**, Professor, Ph.D., University of Pennsylvania, 1975.

## Mathematics (Major)

Opportunities for mathematics majors have expanded greatly in recent years. Mathematics majors become actuaries, statisticians, mathematical computer scientists, applied mathematicians, operations research analysts and mathematical researchers. Mathematics is growing and changing and holds fascinating challenges for inquiring minds.

As an undergraduate mathematics major at Southern Illinois University at Carbondale, you may work toward a Bachelor of Science degree in the College of Science or the College of Education, or a Bachelor of Arts degree in the College of Liberal Arts. The classes in the mathematics major curriculum are small and are taught by senior faculty members. A strong support system of college and departmental advisement is available to you at SIUC throughout the year.

A student planning for employment with a bachelor's degree should consider a minor or a second major in some field in which mathematics is applied. Many students earn a double major in mathematics and computer science. All of the bachelor's degree programs in mathematics, including the Bachelor of Science degree in the College of Education, have sufficient flexibility to allow you to prepare for alternate career possibilities.

To prepare to major in mathematics at SIUC, you should have a solid high school preparation in algebra, geometry in two and three dimensions, and trigonometry,

including a substantial study of functions and graphing. Students transferring to SIUC after two years at a community college should have completed the calculus sequence and, if possible, linear algebra and a course in Pascal or equivalent programming proficiency.

As a mathematics major at SIUC, you will meet with a Department of Mathematics adviser at least once each semester for planning and departmental approval of courses appropriate to your goals and interests.

A grade of C or better is required in every mathematics course used to satisfy departmental requirements.

### Option in Statistics

A student majoring in mathematics in the College of Science or the College of Liberal Arts may choose to concentrate in statistics. For this option, the 300- and 400-level course requirements are: 417; 305 or 472; one of 352, 450, 452, or 455; 380 or 480; 483; and at least two of 473, 481, 484, 485.

### Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements</i> .....	11
English Composition .....	3
Foreign Language .....	8
<i>Requirements for Major in Mathematics</i> .....	(3) + 41 <sup>1</sup>
Mathematics 150, 221, 250, 251, .....	(3) + 11
Computer Science 202 or approved substitute .....	3
At least one course from each of the following groups: .....	12
(One group may be waived for students who have a minor in Computer Science)	
Group A: Algebra/Discrete Mathematics/Linear Algebra: 319, 349, 419, 421, 447, 449	
Group B: Analysis: 352, 450, 452, 455	
Group C: Applied Mathematics/Numerical Analysis: 305, 361, 471, 472, 475a	
Group D: Probability/Statistics: 380, 480, 483	
Five additional courses in mathematics numbered above 299 (excluding 311, 314, 319e, 352e, 400, 411, 412, 457, 458) .....	15
Each student's program must include at least 5 mathematics courses at the 400 level and must be approved by a mathematics department adviser.	
Courses taken Pass/Fail will not count toward the major.	
<i>Secondary Concentration Requirements</i> .....	6-9
Six to nine hours approved by the Department of Mathematics in one of the following areas: engineering, computer science, physics, economics, busi- ness and administration. A minor in any department of the College of Lib- eral Arts or the College of Science may be substituted for this requirement.	
<i>Electives</i> .....	15-18
<i>Total</i> .....	120

<sup>1</sup>Numbers in parenthesis are hours which may be substituted into the University Core Curriculum.

Mathematics Major , College of Liberal Arts Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
MATH 111 <sup>1</sup> .....	5	-	MATH 221 .....	3	-
MATH 150 .....	-	4	MATH 250 .....	4	-
CS 202.....	-	3	MATH 251 .....	-	3
ENGL 101, 102 .....	3	3	MATH 302 or 305.....	-	3
Fine Arts.....	-	3	Human Health .....	2	-
Humanities .....	3	-	SPCM 101 .....	3	-
Social Science .....	3	3	Science .....	3	3
			Humanities .....	-	3
			English Composition .....	-	3
Total .....	14	16	Total .....	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Two 300-400 level Math.....	6	6	300-400 level Math.....	6	6
Secondary Concentration .....	3	3	Secondary Concentration.....	3	-
Multicultural .....	3	-	300-400 level Elective .....	3	8
Interdisciplinary .....	-	3	Additional Science w/lab .....	3	-
Foreign Language .....	4	4			
Total .....	16	15	Total .....	15	14

<sup>1</sup>Fulfills University Core Curriculum Foundation Skills

Faculty

(SEE MATHEMATICS IN COLLEGE OF SCIENCE)

Museum Studies (Minor)

Museum studies is available as an undergraduate interdisciplinary minor. The purpose of the minor is to introduce students to various aspects of museum work, to acquaint them with the opportunities and problems faced by museums and museum personnel, and to create career opportunities for students who might seek employment in a museum. Emphasis will be placed on actual work situations in such diverse museum functions as exhibition, curation, cataloging, acquisition, and administration.

Minor

The museum studies minor consists of 18 hours, with 12 hours of required core courses and 6 hours of electives.

Core Courses: 12 hours selected from Anthropology 450; Art 207 and 447; Geology 445; History 497; Political Science 446.

Electives: 6 hours selected from Anthropology 400c, 402, 404 or 460; Art 499; Political Science 441; Geology 440; History 490, 493 or 496; or courses listed above which are not used for the core.

Music (School, Major, Courses)

The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the published regulations of the National Association of Schools of Music, of which this school of music is a member.

Students who wish to major in music are assumed to have acquired extensive experience in performing with school groups or as soloist, basic music reading ability, and a strong sensitivity to music and a desire to communicate it to others. Those without such a background will have to complete additional preparation, which may extend the time to graduation beyond four academic years. Music credits earned at other accredited institutions will apply toward requirements, but the transferring

student remains subject to evaluation by the appropriate music faculty for proper placement in the music curriculum.

All Music majors must maintain satisfactory membership in one of the following ensembles: Music 011, 013, 014, 017, 020, 021, or 022 every term in residence. Students are exempt from this requirement during the session of student teaching. Piano performance and piano pedagogy majors may substitute Music 341 during the junior and senior years. Students who are unable to meet the major ensemble entrance requirements for one semester will be placed on probation by the School of Music. Students who are denied entrance into a major ensemble a second time will be reviewed by the undergraduate committee for possible continued probation or suspension from all music degree programs. The choice of major ensembles must be compatible with the student's applied field. Instrumental music education students must enroll in Music 011 for a minimum of one semester. Students also may elect additional large or small ensembles, not to exceed three in any one session.

Each student with a major or minor in music must designate a principal applied field and complete the credits specified within the selected specialization. Changes in the principal applied field are permissible so long as the student accumulates the required credit total and meets the required level of proficiency.

Credits in one's principal applied field are based on private lessons with a member of the faculty; weekly participation in Studio Hour and Convocations (Tuesday, at 10:00 a.m.); and recorded attendance each semester at seven campus recitals or concerts, approved for that purpose by the School of Music faculty. The student may not be a participant. Students who fail to fulfill either the Studio Hour or attendance at campus recitals or concerts requirement will receive a grade of Incomplete, which can be removed only by making up the deficiency during the ensuing semester. A student who wishes to attempt the performance specialization in applied music must have prior approval of the appropriate faculty jury, and thereafter enrolls for and receives two lessons per week for 4 credits per semester.

A student may elect private instruction in a second field or fields, but this is for one credit per semester since the studio hour and recital attendance requirements pertain only to the principal applied field.

Students not majoring or minoring in music may elect private applied music instruction if: 1) they can exhibit sufficient ability; 2) they are participating simultaneously in one of the University performing groups; and 3) faculty loads will allow. Registration is at one credit per semester, with no studio hour or recital attendance requirement. Those wishing such instruction should arrange for an interview and audition with the appropriate instructor.

Students specializing in music education should apply for admission to the Teacher Education Program as soon as they have accumulated 30 semester hours of credit. After being admitted, they must complete a series of specific requirements in order to qualify for student teaching and for the Illinois teaching certificate. Additional information is given under Education, Professional Education Experiences, and Curriculum and Instruction in this chapter.

### Upper Division Examination

All Bachelor of Music degree students must pass an upper division examination in order to be admitted to the 340 level of applied music. It is normally taken before finishing 60 hours of academic study and in the second semester of Music 240. The upper division examination for transfer students is normally taken at the end of the first semester at Southern Illinois University at Carbondale. The upper division examination consists of an applied music jury performance before the entire music faculty. Students will provide a complete repertoire list at the time of the jury.

Financial Information

Special grants and awards are available to students enrolled in the School of Music who are qualified and in need of financial assistance. Opportunities for employment in the student work program are excellent. In addition, there are scholarships (tuition awards) and loan programs available through the Office of Student Work and Financial Assistance.

A \$20 instrument maintenance fee is assessed every student enrolled in applied music or using a school instrument each semester. Students are responsible for purchase of their own textbooks, solo literature, and incidental supplies for music lessons and classes. Such costs normally range from \$50 to \$100 per semester.

Bachelor of Music Degree, College of Liberal Arts

University Core Curriculum Requirements .....	41
Including Music 357a as University Core Curriculum substitute .....	
Requirements for Major in Music .....	81
Theory: Music 104a,b; 105a,b; 204; 205; 207; 321; 322 .....	19
History-Literature: Music 102; 357a,b .....	(3) + 5 <sup>1</sup>
Conducting: Music 316 .....	1
Partial Recital: Music 398 .....	1
Beginning Piano: Music 030 .....	4 <sup>2</sup>
Specialization .....	51
Total .....	122

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, INSTRUMENTAL (STANDARD ORCHESTRAL AND BAND INSTRUMENTS)

Music 140-440, principal field, 8 semesters .....	28
Major performing ensembles .....	6
Music 498 .....	2
Music 461 .....	3
Music 407, 421 or any of 470 series .....	6
Music 365 .....	2
Approved music electives .....	4
Total .....	51

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, GUITAR

Music 140-440, principal field, 8 semester .....	28
Major performing ensembles .....	6
Music 107 .....	1
Music 498 .....	2
Music 250 .....	3
Music 407, 421, 461 or any of 470 series .....	6
Approved music electives .....	5
Total .....	51

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, KEYBOARD (PIANO, ORGAN AND HARPSICHORD)

Music 030 not required .....	
Music 140-440, principal field, 8 semesters .....	28
Major performing ensembles .....	6
Music 498 .....	2
Music 461 .....	3
Music 407, 421, or any of 470 series .....	7
Music 341 .....	3

Approved music electives .....	2
Total .....	51

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, VOICE

Music 140-440, principal field, 8 semesters .....	28
Major performing ensembles .....	4
Music 498 .....	2
Music 407, 421, 461, or any of 470 series .....	5
Approved foreign language, 2 semesters .....	8
Music 346 .....	2
Music 363 .....	2
Total .....	51

MUSIC MAJOR – PIANO PEDAGOGY SPECIALIZATION

Music 140-440, principal field, 8 semesters .....	16-22
Major performing ensembles .....	6
Music 398-1, and 498-2 or 398-2 .....	2-3
Music 110-4, 210, 211, 310, 311, 410-4 .....	16
Approved music electives .....	5-11
Total .....	51

MUSIC MAJOR – MUSIC THEORY / COMPOSITION SPECIALIZATION

Music 140-340, principal field, 6 semesters .....	12
Major performing ensembles .....	6
Music 280 .....	4
Music 380 .....	4
Music 480, 407, 447 or 481 .....	6
Music 421 .....	2
Music 470 series .....	6
Approved music electives, 300 level or above .....	11
Total .....	51

**Bachelor of Music Degree, College of Liberal Arts or Bachelor of Science Degree,  
College of Education**

MUSIC MAJOR – MUSIC EDUCATION SPECIALIZATION

<i>University Core Curriculum Requirements</i> .....	41
Including Mathematics 108 or higher; English 101, 102, and 121 or 204; Speech Communication 101; Psychology 102; History 110; Political Science 114; one of the following: Plant Biology 301i, 303i or Zoology 312i; one of the following: Chemistry 106, Geology 110 or Physics 101; one of the following: Anthropology 202, History 202, 210 or Sociology 215; one of the following: Plant Biology 115, 117 or Zoology 115; Health Education 101; and Music 357a as a University Core Curriculum substitute.	
<i>Requirements for Major in Music</i> .....	59
Theory: Music 104a,b; 105a,b; 204, 205; 207; 321, 322 .....	19
History-Literature: Music 102, 357a,b .....	(3) <sup>1</sup> + 5
Major performing ensembles .....	5
Music 140-340, principal field, 6 semesters .....	12
Music 398 .....	1
Music 031 .....	1
Music 304 .....	2
Approved Music Electives .....	2

Music education specialization .....	12
Music 030 .....	2
Music 032, 033, 034, 035 .....	4
Music 305, 316, 318, 324 .....	6
or	
Music 030 .....	4
Music 316, 317, 325 .....	4
Music 306 or 032-036 series .....	2
Music 363 .....	2
Professional Education Requirements .....	31
See Teacher Education Program.	
Additional course required for Teacher Certification: History 101a .....	3
Total .....	131

<sup>1</sup>University Core Curriculum substitute  
<sup>2</sup>Exceptions for Music 030 and consequent credit hour adjustment in keyboard performance, piano pedagogy and instrumental music education specialization.

Music Education Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102 .....	3	3	Science Group 1, 2.....	3	3
MATH (any except 107 or 114) ..	3	-	HIST 110.....	3	-
SPCM 101 .....	-	3	POLS 114.....	-	3
MUS 104a.....	1	-	MUS 204 .....	1	-
HED 101 or PE 101 .....	-	2	MUS 207 .....	-	2
MUS 105a.....	3	-	MUS 205 .....	3	-
MUS 104b.....	-	1	MUS 030d or 033 .....	-	1
MUS 030a.....	1	-	MUS 030c or 032.....	1	-
MUS 105b.....	-	3	MUS 035 or 363b.....	-	1
MUS 140.....	2	-	MUS 034 or 363a .....	1	-
MUS 030b.....	-	1	MUS 240 .....	2	2
Major ensemble.....	1	1	Major Ensemble.....	1	1
MUS 140.....	-	2	EDUC 311 .....	-	2
MUS 102.....	2	-	EDUC 310 .....	2	-
MUS 031.....	-	1	Music Elective .....	-	2
Total.....	16	17	Total.....	17	17
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
MUS 357a.....	3	-	HIST 202 or 210 or ANTH 202		
ENGL 121 or 204.....	-	3	or SOC 215 .....	3	-
HIST 101a .....	3	-	EDUC 401 .....	-	12
MUS 357b.....	-	3	PLB 301i or 303i or ZOOL 312i ..	3	-
MUS 321.....	2	-	EDUC 315 .....	3	-
MUS 340.....	2	2	EDUC 316 .....	2	-
Major Ensemble .....	1	1	EDUC 317 .....	2	-
MUS 305 or 306.....	-	2	Major Ensemble.....	1	-
MUS 304.....	2	-	MUS 398 .....	1	-
MUS 322.....	-	3	MUS 317 or 318 .....	1	-
PSYC 102.....	3	-	MUS 324 OR 325 .....	1	-
MUS 316.....	-	1			
EDUC 314 .....	2	-			
EDUC 308.....	-	3			
Total.....	18	18	Total.....	17	12

Bachelor of Arts Degree, College of Liberal Arts

The Bachelor of Arts degree is individually tailored to meet the educational goals of each student pursuing it. Three areas of specialization are available: Open Studies, Music Theater, and Music Business. All specializations have a common core of 18 to 19 hours of music literature and music theory courses.

Of the 56 to 57 hours required to complete the Open Studies Specialization, the required courses are Music 357a,b, 499 and 11-16 hours of approved music electives. In addition, at least one year of foreign language is required. This can be met by one of the following: (a) passing an 8-hour 100-level sequence in one language; (b) by earn-

ing 8 hours of 100-level credit in one language by proficiency examination; or (c) completing three years of one language in high school with no grade lower than C. The 29 to 34 core of elective hours necessary to complete the degree program are selected by the student with the approval of the student's faculty sponsor and the undergraduate committee. At least 40 hours toward the B.A. Open Studies Specialization must be at the 300-400 level. This planning should be done during the first semester of the student's admittance to the School of Music with undergraduate committee approval secured no later than the end of the second semester. Changes may be made if agreed upon by the student, the undergraduate committee and the student's faculty sponsor. The B.A. degree does not provide the necessary prerequisites for graduate study in a Master of Music degree program.

Of the 55 to 56 hours required to complete the Music Business Specialization, 18 to 19 hours are in specific music courses, 14 to 15 hours in music electives, and 27 hours of accounting, economics, finance and marketing courses.

Of the 55 hours required to complete the Music Theater Specialization, 20 hours are in music, 18 hours in theater, 8 hours in a foreign language, 3 hours in science and 6 hours in physical education (dance)

**Bachelor of Arts Degree, College of Liberal Arts**

<i>University Core Curriculum Requirements</i> .....	41
Including Music 357a as University Core Curriculum substitute .....	
<i>Requirements for Major in Music</i> .....	80
Theory: Music 104a,b; 105a,b .....	8
Literature and History: Music 102, 357a,b .....	(3) + 5 <sup>1</sup>
Major performing ensembles .....	4
Applied Music 140-240, principal field, 4 semesters .....	7-8
Specialization (see below) .....	55-56
<i>Total</i> .....	121

**MUSIC MAJOR – OPEN STUDIES SPECIALIZATION**

Music 499 .....	2
Approved Music Electives .....	11-16
Foreign Language .....	8
Elective Core .....	29-34
<i>Total</i> .....	55-56

**MUSIC MAJOR – MUSIC THEATER SPECIALIZATION**

Foreign Language .....	8
Science.....	3
<i>Required Music Courses</i> .....	20
Music 203, 205.....	4
Music 030a,b,c.....	3
Music 346, 347, 363a,b 364, 468.....	10
Approved Music Theater or Opera History elective .....	3
<i>Required Department of Theater Courses</i> .....	18
Theater 217, 303a, 317a, 403 .....	12
Approved Theater Electives.....	6
<i>Required Department of Physical Education Courses</i> .....	6
Physical Education 102a, 103c, 103f .....	
<i>Total</i> .....	55

MUSIC MAJOR – MUSIC BUSINESS SPECIALIZATION

Required Music Courses	
Music 030, 2 semesters .....	2
Music 031 .....	1
Music 032-1, 033-1, 034-1, 035-1, 036-1 .....	5
Music 305 .....	2
Music 174, 499 .....	6
Music 420 .....	1-2
Approved Music Electives .....	14-15
Required Business Courses	
Accounting 220, 230 .....	6
Management 304 .....	3
Economics 240 .....	(3) <sup>3</sup>
Finance 280 .....	3
Marketing 304, 363, 401, 438 .....	12
Total .....	55-56

<sup>1</sup>University Core Curriculum substitute.

<sup>2</sup>Up to six hours in related areas may be substituted for Required Business Courses with the approval of the undergraduate committee.

<sup>3</sup>University Core Curriculum substitute (for Economics 113).

Open Studies Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102 .....	3	3		Science Group 1, 2.....	3	3	
MATH (any except 107 or 114) ..	3	-		Foreign Language .....	4	4	
SPCM 101.....	-	3		Social Science.....	3	3	
MUS 104a,b.....	1	1		MUS 240.....	2	2	
MUS 105a,b.....	3	3		Major Ensemble.....	1	1	
MUS 140.....	2	2		Approved Elective Area.....	3	3	
Major Ensemble .....	1	1					
MUS 102.....	2	-					
Health.....	-	2					
Total.....	15	15		Total.....	16	16	
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
MUS 357a.....	3	-		Integrative Studies (UCC).....	3	-	
Humanities Group 1, 2.....	3	3		Interdisciplinary (UCC) .....	-	3	
MUS 357b.....	-	3		Approved Music Elective .....	3	6	
Major Ensemble .....	1	1		Major Ensemble.....	1	1	
Approved Music Elective .....	3	3		Approved Elective Area.....	9	3	
Approved Elective.....	6	6		MUS 499.....	-	2	
Total.....	16	16		Total.....	16	15	

Music Business Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102 .....	3	3		Science Group 1, 2.....	3	3	
MATH (any but 107 or 114).....	3	-		SPCM 101 .....	3	-	
MUS 102.....	-	2		Social Science.....	-	3	
MUS 104a,b.....	1	1		ECON 240 .....	3	-	
MUS 105a,b.....	3	3		ACCT 220, 230.....	3	3	
MUS 030a,b.....	1	1		MUS 240.....	2	2	
MUS 140.....	2	2		MUS 032a or b .....	-	1	
Major Ensemble .....	1	1		MUS 031a .....	1	-	
MUS 174.....	-	3		Major Ensemble.....	1	1	
				Health .....	-	2	
Total.....	14	16		Total.....	16	15	

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
MUS 357a.....	3	-	Integrative Studies .....	3	-
Humanities Group 1, 2.....	3	3	Interdisciplinary .....	-	3
MUS 357b.....	-	3	MKTG 363 .....	3	-
MKTG 304.....	3	-	MKTG 438 .....	-	3
MUS 034.....	-	1	MKTG 401 .....	3	-
MUS 240.....	2	-	Approved Music Elective.....	3	5
MGMT 304.....	-	3	Major Ensemble.....	1	1
Major Ensemble .....	1	1	MUS 499.....	-	3
MUS 033.....	1	-	MUS 035.....	1	-
MUS 316.....	-	1	MUS 036.....	-	1
Approved Music Elective .....	3	3	MUS 420.....	1	-
MUS 306.....	-	2			
<i>Total</i> .....	16	17	<i>Total</i> .....	15	16

## Minor

The minor in music includes Music 102, 030a,b, 104a,b, 105a,b, 357a,b; two semesters of performing ensembles, two hours; and two semesters of 040 or 140, four hours for a total of 24 credits. Students must comply with the studio hour and recital requirements listed above. Students who wish to pursue the minor curriculum must make a declaration of their intent at the Music Advisement Office before registering for classes.

## Music Faculty

**Allison, Robert**, Associate Professor, D.M.A., University of Illinois, 1988.

**Barta, Michael**, Professor, M.M., Franz Liszt Academy of Music (Hungary), 1977.

**Barwick, Steven**, Professor, *Emeritus*, Ph.D., Harvard University, 1949.

**Bateman, Marianne Webb**, Professor, M.Mus., University of Michigan, 1959.

**Beattie, Donald**, Associate Professor, M.Mus., University of Colorado, 1977.

**Benyas, Edward**, Assistant Professor, M.M., Northwestern University, 1994.

**Best, Richard**, Professor, Northwestern University.

**Bottje, Will Gay**, Professor, *Emeritus*, D.M.A., Eastman School of Music, 1955.

**Breznikar, Joseph**, Professor, M.Mus., University of Akron, 1977.

**Brown, Philip**, Assistant Professor, M.M.E., University of North Texas, 1983.

**Delphin, Wilfred**, Professor, D.M.A., University of Southern Mississippi, 1976.

**Fink, Timothy**, Assistant Professor, M.F.A., Southern Illinois University at Carbondale.

**Fligel, Charles**, Associate Professor, M.M., University of Kentucky, 1966.

**Grizzell, Mary Jane**, Assistant Professor, *Emerita*, M.Mus., Eastman School of Music, 1943.

**Hanes, Michael**, Professor, M.M.E., Southern Illinois University, 1965.

**Hartline, Elisabeth**, Assistant Professor, *Emerita*, M.Mus. Northwestern University, 1936.

**House, Mary Elaine Wallace**, Professor, *Emerita*, M.Mus., University of Illinois, 1954.

**Hunt, C. B., Jr.**, Professor, *Emeritus*, Ph.D., University of California, Los Angeles, 1949.

**Hussey, George**, Professor, *Emeritus*, M.A.Ed., Washington University, 1963.

**Mandat, Eric P.**, Professor, D.M.A., Eastman School of Music, 1986.

**McHugh, Catherine**, Professor, *Emerita*, Ed.D., Columbia University, 1959.

**Mellado, Daniel**, Associate Professor, Ph.D., Michigan State University, 1979.

**Mochnick, John**, Associate Professor, D.M.A., University of Cincinnati, 1978.

**Mueller, Robert**, Professor, *Emeritus*, Ph.D., Indiana University, 1954.

**Olsson, Phillip**, Professor, *Emeritus*, M.Mus., Chicago Conservatory, 1949.

**Phillips, Dan**, Associate Professor, M.M., University of Notre Dame, 1979.

**Poulos, Helen**, Associate Professor, *Emerita*, D.M., Indiana University, 1971.

**Resnick, Robert**, Professor, *Emeritus*, M.Mus., Wichita State University, 1949.

**Romersa, Henry**, Visiting Associate Professor, M.M.Ed., Oberlin College, 1955.

**Roubos, Robert**, Professor, D.M.A., University of Michigan, 1966.

**Simmons, Margaret**, Associate Professor, M.M., University of Illinois, 1976.

**Stemper, Frank**, Professor, Ph.D., University of California, 1981.

**Taylor, Charles**, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1950.

**Underwood, Jervis**, Professor, *Emeritus*, Ph.D., North Texas State University, 1970.

**Wagner, Jeanine**, Associate Professor, D.M.A., University of Illinois, 1987.

**Weiss, Robert L., Jr.**, Professor and Director, Ph.D., Southern Illinois University, 1984.

**Werner, Kent**, Associate Professor, *Emeritus*, Ph.D., University of Iowa, 1966.

Paralegal Studies for Legal Assistants (Major, Courses)

The program leads to the Bachelor of Science degree in paralegal studies for legal assistants. It prepares the graduate to function as a paraprofessional in the legal profession and as a legal assistant in private practice, legal aid offices, or the law-related operations of business, industry, education, or government.

In overall philosophy as well as in curriculum content and format, the paralegal studies for legal assistants program is based on the proposed *Curriculum for the Training of Law Office Personnel* as stated by the American Bar Association Special Committee on Legal Assistants. The program has two components: a core of legal specialty, administration, and communication skills courses to provide professional competency and a range of social science and humanities courses to provide the intellectual background for the student's future professional life including an understanding of law and its function in society. Students must meet a minimum 2.25 grade point average requirement for admission. Paralegal majors can satisfy the CoLA Writing-Across-the-Curriculum requirement by passing 300A and B.

Qualified students may be admitted to the Capstone option with a major in paralegal studies for legal assistants. The Capstone option is explained in Chapter 3.

Bachelor of Science Degree, College of Liberal Arts

University Core Curriculum .....	41
College of Liberal Arts Academic Requirements (See above) .....	11
Requirements for Major in Paralegal Studies for Legal Assistants .....	54
Paralegal Courses .....	27
Paralegal Studies for Legal Assistants 300a,b, 310, 320, 330, 350 .....	18
Political Science 330 (general law) .....	3
Six hours selected from those listed below .....	6
Political science 334 (criminal law) or approved substitute	
Accounting 240 or 341 (income taxation)	
Accounting 441 (advanced taxation)	
Finance 270 (legal and social environment of business)	
Finance 320 (real estate)	
Finance 323 (real estate law)	
Finance 280 and 380 or approved substitute (business law)	
Paralegal Studies for Legal Assistants 340, internship. Students who take the internship will be required to work ten hours a week for one semester for each three hours of credit. A student may earn 12 hours of internship credit but not more than three will count toward the major.	
Administration Related Courses .....	9
Office Systems and Specialties 220 .....	3
Accounting 210 or approved substitute .....	3
Computer Science 102, Information Management Systems 109, Office Systems and Specialties 114 .....	3
Liberal Arts Courses .....	18
Two upper-division courses in one social science department and one humanities department. The remaining hours may be taken in either field. University Core Curriculum courses numbered 300 or above may be counted.	
Electives .....	14
Total .....	120

At least fifteen hours in paralegal courses must be taken at Southern Illinois University at Carbondale.

Paralegal Studies Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102.....	3	3	Multicultural.....	3	-
Science.....	3	3	ACCT 210.....	-	3
POLS 114.....	3	-	Human Health.....	2	-
Humanities.....	3	3	POLS 330.....	-	3
Social Science.....	-	3	SPCM 101.....	3	-
Mathematics.....	3	-	Interdisciplinary <sup>1</sup> .....	-	3
Fine Arts.....	-	3	LAC 300 <sup>1</sup> or 400.....	3	3
			OSS 220.....	-	3
			CS 102.....	3	-
Total.....	15	15	Total.....	14	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
PARL 300a,b.....	3	3	PARL 310.....	3	-
PARL 320.....	3	-	PARL 330.....	-	3
PARL 350.....	-	3	Law Elective <sup>2</sup> .....	3	-
Foreign Language I,II.....	4	4	LAC 300 <sup>1</sup> or 400.....	3	3
LAC 300 <sup>1</sup> or 400.....	3	3	Free Elective.....	6	8
Law Elective <sup>2</sup> .....	-	3			
Free Elective.....	3	-			
Total.....	16	16	Total.....	15	14

<sup>1</sup> For the purposes of this program core curriculum courses at the 300 level can be used to meet the 18 hour upper division liberal arts requirements.  
<sup>2</sup> One of the law electives can be an internship.

Minor

A minor in paralegal studies for legal assistants requires 15 hours. Paralegal Studies for Legal Assistants 300a,b and Political Science 330 are required. The remaining six hours should be chosen from Paralegal Studies for Legal Assistants 310, 320, 330, 340 or 350.

Paralegal Studies for Legal Assistants Faculty

- Dibble, Elizabeth, Lecturer, J.D., Southern Illinois University, 1983.

Hood, Howard, Lecturer, J.D., University of Illinois, 1968.

Hughes, Kenneth, Lecturer, J.D., Southern Illinois University, 1982.
- Lacey, Pamela, Lecturer, J.D., Southern Illinois University, 1982.

Murray, Richard, Lecture, J. D., Southern Illinois University at Carbondale, 1982.

Smoot, Carolyn, Lecturer, J.D., Southern Illinois University at Carbondale, 1983.

Philosophy (Department, Major, Minor, Courses)

Philosophy is a critical, speculative, and reflective discipline concerned with the exploration of ideas. The questions with which it deals can be found in every human pursuit and subject matter. Among the subjects it embraces are the nature of truth and reality, the possibility of knowledge, the quest for moral values and political justice, and the nature of mind, language, art, and reason. The field of logic is a formal study of the art of exact thinking. Given this breadth, philosophy can be related to almost any subject or profession.

Recent studies have shown that strong liberal arts majors are in much demand in the world outside the University. While preprofessionals may enter the job market with higher salaries, those with liberal arts majors tend to rise higher in their professions. This is because a liberal arts degree indicates a capacity for thinking, learning, writing, and breadth of understanding. Philosophy is a strong liberal arts major, and majors in philosophy rank in the highest percentages for GRE, LSAT, and GMAT

scores. In addition to further academic work, philosophy contributes toward careers in law, medicine, business, government, journalism, religion, computers, and education.

The Department of Philosophy at SIUC is a pluralistic department, representing a variety of traditions, such as analytic philosophy, phenomenology, American philosophy, Asian philosophy, and feminism. It has faculty who specialize in the history of philosophy, logic, ethics, metaphysics, political and legal philosophy, the philosophy of science, the philosophy of technology, the philosophy of religion, and Islamic Studies. The undergraduate program is chartered by the national honor society in philosophy, *Phi Sigma Tau*.

The student electing to major in philosophy should consult the department's director of undergraduate studies. Early in the senior year, majors should contact a faculty member to direct the writing of the senior thesis. Philosophy majors will satisfy the College of Liberal Arts Writing-Across-the-Curriculum requirement by passing Philosophy 204, 205 and 399. A minor is not required for a major in philosophy, though it is recommended that the student take foreign languages such as Greek, Latin, French or German.

**Bachelor of Arts Degree, College of Liberal Arts**

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements (See above.)</i> .....	14
<i>Requirements for Major in Philosophy</i> .....	33
Logic requirement: Philosophy 105 or 320 .....	3
Ethics requirement: Philosophy 104 or 340 .....	3
History of Philosophy requirement: Philosophy 304 or 305 .....	6
Six hours from 300 level courses in addition to 304 and 305 (not including courses offered in the Interdisciplinary Studies component of the University Core Curriculum).....	6
At least six hours of 400-level courses .....	6
Senior Thesis: Philosophy 499 .....	3
<i>Electives</i> .....	<u>32</u>
<i>Total</i> .....	120

**Minor**

A minor in philosophy requires 15 hours, a maximum of 6 of which may be selected from philosophy courses offered in the University Core Curriculum and 6 of which must be selected from the courses listed above for the major. Philosophy 204 and 205 are recommended.

**Honors**

Honors in philosophy will be granted to eligible majors who maintain a 3.50 average in philosophy and a 3.00 overall average. To be eligible for Honors, the student's senior thesis must be read by two faculty members and the student must receive at least an A or a B.

**Philosophy Faculty**

<b>Alexander, Thomas</b> , Associate Professor, Ph.D., Emory University, 1984.	<b>Eames, Elizabeth R.</b> , Professor, Emerita, Ph.D., Bryn Mawr College, 1951.
<b>Black, Andrew</b> , Assistant Professor, Ph.D., University of Massachusetts at Amherst, 1992.	<b>Gaskill, Thomas E.</b> , Assistant Professor, Ph.D., Vanderbilt University, 1992.
<b>Clarke, David S., Jr.</b> , Professor, Ph.D., Emory University, 1964.	<b>Gatens-Robinson, Eugenie</b> , Associate Professor, Ph.D., Southern Illinois University, 1984.
<b>Diefenbeck, James A.</b> , Professor, Emeritus, Ph.D., Harvard University, 1950.	<b>Gillan, Garth J.</b> , Professor, Ph.D., Duquesne University, 1966.

**Hahn, Lewis E.**, Professor, *Emeritus*, and Editor of *Library of Living Philosophers*, Ph.D., University of California, 1939.

**Hahn, Robert A.**, Associate Professor, Ph.D., Yale University, 1976.

**Hickman, Larry A.**, Professor, Ph.D., University of Texas at Austin, 1971.

**Howie, John**, Professor and *Chair*, Ph.D., Boston University, 1965.

**Kelly, Matthew J.**, Associate Professor, *Emeritus*, of Notre Dame, 1963.

**Manfredi, Pat A.**, Assistant Professor, University of Notre Dame, 1982.

**Plochmann, George Kimball**, Professor, *Emeritus*, Ph.D., University of Chicago, 1950.

**Schedler, George E.**, Professor, Ph.D., University of California at San Diego, 1973; J.D., Southern Illinois University, 1987.

**Steinbock, Anthony J.**, Associate Professor, Ph.D., SUNY, Stony Brook, NY, 1993.

**Summerfield, Donna M.**, Associate Professor, Ph.D., University of Notre Dame, 1984.

**Tyman, Stephen**, Associate Professor, University of Toronto, 1980.

## Political Science (Department, Major, Courses)

The study of political science is concerned with predicting, explaining, and evaluating the political behavior, beliefs, laws, and organizational arrangements of people in a variety of settings. A major in political science provides rigorous social science training. A variety of courses afford a student an opportunity to study, in depth, individual and group behavior, political, administrative, and judicial processes, comparative national and subnational governmental systems, intergovernmental relations and conflict resolution, and normative and empirical political theory. The student who is interested in the public sector will find discussions of such topics as voting behavior, American foreign policy, and the decisions and opinions of Supreme Court justices to be challenging experiences.

A major in political science provides excellent training for the public service, scientific polling and political analysis, management training programs, and teaching, particularly at the secondary level. A political science major also provides an excellent foundation for professional graduate training in law, journalism, public administration or public affairs, as well as for graduate work in political science which is essential for a career in higher education. For the non-vocationally oriented student, political science is an excellent major for anyone with a keen interest in politics and public affairs.

A student planning to major in political science should consult with a faculty advisor of the department as early as possible in order to plan an orderly and coherent program. All members of the department are available for consultation on their academic specialties.

Students majoring in political science must take Political Science 114. Political Science 200, 213, 250, 270, and 378 are background courses for many advanced courses in the department. In fulfilling University Core Curriculum requirements or in choosing electives, political science majors should select courses from economics, psychology, sociology, anthropology, geography, and history. Mathematical or statistical training is highly recommended because of the emphasis on empirical research and analysis in political science. Such training will also enhance vocational opportunities. Depending on special interest, a student should also consider courses in foreign languages or computer science. Such courses are particularly important for the student who is planning to enter graduate school.

Students in political science must fulfill College of Liberal Arts Writing-Across-the-Curriculum (WAC) requirements. Political Science majors must receive a C or better in two of the three following courses containing writing across the discipline components: Political Science 200 (Introduction to the Discipline of Political Science: Scope); Political Science 300 (Introduction to the Discipline of Political Science: Methods); or Political Science 330 (Introduction to Legal Process). Students must also receive a C or better in an approved 400-level course. The research paper from the 400-level course must be submitted to the director of undergraduate studies by April 15 or November

15 of the student's graduating semester as a final graduation requirement for the major in Political Science.

Qualified students are encouraged to inquire about individualized courses of study such as Political Science 390, 395, and 494. The interested student should contact the director of undergraduate studies or a member of the faculty.

At least fifteen of the required thirty-three credit hours for political science must be earned at Southern Illinois University at Carbondale. Majors are limited to a maximum of nine credit hours in Political Science 390, 395, and the Individualized Learning Program-ILP (a maximum of six hours in ILP). On-campus Political Science majors may not register for political science courses offered in ILP.

**Bachelor of Arts, College of Liberal Arts**

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements (See above.)</i> .....	14
<i>Requirements for Major in Political Science</i> .....	33

Political Science 114 or equivalent. Additional political science courses offered by the department must total 33 hours. Political Science 130 does not apply to hours for the political science major. Courses shall be distributed so that a minimum of one course is taken in 5 of the following 6 areas: scope, methods and political theory; American politics; public law; public administration; comparative politics; and international relations. Political Science 114 does not satisfy an area requirement. A minimum of three courses must be taken at the 400 level.

<i>Electives</i> .....	<u>32-38</u>
<i>Total</i> .....	120

**Bachelor of Science Degree, College of Education**

A major in political science for education requires 33 credit hours of work in the department. This work must be distributed among the subfields of the discipline in the same manner as the 33-hour requirement described above for the Bachelor of Arts degree.

Every student enrolled in this program should seek regular advisement in the Department of Political Science to ensure that department requirements will be fulfilled.

Students obtaining a Bachelor of Science degree in the College of Education must satisfy all requirements of that college. See Teacher Education Program. University Core Curriculum for teacher certification must include: English 101, 102 and 121 or 204; Speech Communication 101; Mathematics 110, 113 or approved substitute; Chemistry 106, Geology 110 or Physics 101; Plant Biology 117 or Zoology 115/Plant Biology 115; Plant Biology 301i, 303i or Zoology 312i; History 101a or non Western Civilization substitute; Art and Design 101, Music 103, History 201 or Theater 101; Political Science 114; Psychology 102; Anthropology 202, History 202, 210 or Sociology 215; Health Education 101 or Physical Education 101. Additional courses required for Teacher Certification: History 110 or 301 and one 3 hour elective from humanities. Professional education and other certification requirements may be found in the section of this catalog titled Curriculum and Instruction. All students enrolled in a teacher education program are required to take a special methods course. Since there is no methods course in political science, Curriculum and Instruction 469 is a required course for all students in this program. The course should be completed before student teaching. A student enrolled in the teacher education program is required to have a 2.50 grade point average in political science in order to be recommended for student teaching by the department. In fulfilling core curriculum education requirements or in choosing electives, a student must complete at least nine

semester hours in United States history or one of the following social science disciplines: geography, economics, sociology, or anthropology.

### Minor

A minor in political science consists of 15 hours to be approved by the department adviser. At least nine of the required fifteen credit hours must be earned at Southern Illinois University at Carbondale.

<sup>1</sup>Students completing a minor in political science for purposes of obtaining teacher certification in the State of Illinois must complete a minimum of 18 semester hours in the minor area.

### Individualized Learning Program (ILP)

Students registered on-campus at the University will not receive credit toward their major requirements for Political Science courses completed in ILP. Off-campus students not registered for courses on campus may enroll in a maximum of two Political Science courses offered in ILP. Only one of these courses can be utilized to meet the department's 400-level requirement.

### Research and Teaching

The faculty in the department come from a variety of academic institutions located in different parts of the country. Faculty research has received national recognition and quality of teaching is accorded a high priority. Virtually all political science courses are taught by full-time faculty. The department emphasizes small sections and a close student/faculty relationship.

### Advisement

Students in political science have access both to the excellent advisement services in the College of Liberal Arts and to a faculty adviser in the department. Each student is assigned a political science professor to whom he or she can turn for academic counseling. Help is offered in course selection and registration, in long-range planning for the degree program and career information.

### Awards

The department administers several endowed annual awards. Two are awarded competitively, one to the highest ranking junior in political science and one to the highest ranking senior in the major. Students may also qualify for membership in the national political science honor society. See the awards brochure and your adviser for additional information on eligibility requirements.

### Honors Program

Students interested in the Political Science honors program should discuss this option with their departmental advisor at the beginning of the junior year. Opportunities available for this program are described in detail in the Political Science Handbook available in the department.

### Political Science Faculty

**Baker, John H.**, Associate Professor, Ph.D., Princeton University, 1961.

**Bhattacharyya, Jnanabrota**, Associate Professor, Ph.D., University of Delhi, 1969.

**Brown, Barbara L.**, Lecturer, Ph.D., Southern Illinois University, 1985.

**Chou, Ikua**, Professor, *Emeritus*, Ph.D., Fletcher School of Law and Diplomacy, 1949.

**Clinton, Robert**, Associate Professor, Ph.D., University of Texas at Austin, 1985.

**Collins, Susan**, Assistant Professor, Ph.D., Boston College, 1995.

**Dale, Richard**, Associate Professor, Ph.D., Princeton University, 1962.  
**Derge, David Richard**, Professor, Ph.D., Northwestern University, 1955.  
**Desai, Uday**, Professor and *Chair*, Ph.D., University of Pittsburgh, 1973.  
**Ervin, Osbin L.**, Associate Professor, Ph.D., University of Tennessee, 1974.  
**Foster, John L.**, Associate Professor, Ph.D., University of Minnesota, 1971.  
**Garner, William R.**, Associate Professor, *Emeritus*, Ph.D., Tulane University, 1963.  
**Hamman, John A.**, Associate Professor, and *Director*, Ph.D., University of Illinois, 1988.  
**Hays, Scott**, Assistant Professor, Ph.D., Florida State University, 1991.  
**Jackson, John S., III**, Professor, *Dean*, Ph.D., Vanderbilt University, 1971.  
**Kamarasy, Egon K.**, Assistant Professor, *Emeritus*, Doctor Politics, Budapest University, Hungary, 1942.  
**Kenney, David**, Professor, *Emeritus*, Ph.D., University of Illinois, 1952.  
**Klingberg, Frank L.**, Professor, *Emeritus*, Ph.D., University of Chicago, 1938.

**Landecker, Manfred**, Associate Professor, *Emeritus*, Ph.D., Johns Hopkins University, 1965.  
**Mason, Ronald M.**, Associate Professor, Ph.D., University of Iowa, 1976.  
**Melone, Albert**, Professor, Ph.D., University of Iowa, 1972.  
**Miller, Roy E.**, Associate Professor, Ph.D., University of Illinois, 1971.  
**Morton, Ward M.**, Professor, *Emeritus*, Ph.D., University of Texas, 1941.  
**Nelson, Randall H.**, Professor, *Emeritus*, Ph.D., University of Michigan, 1956.  
**Schubert, Glendon**, Research Professor, *Emeritus*, Ph.D., Syracuse University, 1948.  
**Snavely, Keith**, Associate Professor, and *Director*, Ph.D., University of California at Davis, 1984.  
**Somit, Albert**, Distinguished Service Professor, *Emeritus*, Ph.D., University of Chicago, 1947.  
**Tarry, Scott**, Assistant Professor, Ph.D., University of Michigan, 1993.  
**Turley, William S.**, Professor, Ph.D., University of Washington, 1972.

## Psychology (Department, Major, Minor, Courses)

The undergraduate program in psychology provides a broad general education in the tradition of the liberal arts. This tradition focuses on the development of wide-ranging interests in the arts, humanities, and social sciences, and on the development of critical and analytical thinking. A student who has earned a degree in one of the liberal arts, such as psychology, should be prepared to pursue lifelong learning and personal enrichment, as well as to enter the work force or to pursue more advanced studies.

Graduates of the psychology program who have entered the work force immediately have found employment in a wide variety of settings, ranging from sales and personnel work in the business sector, to positions with the human service agencies of local, state, and federal governments. Graduates who have gone on to advanced study have successfully prepared themselves for professional careers in such fields as law, medicine, and psychology.

Students planning to apply to law or medical schools after completing a major in psychology should plan their programs of study in close consultation with the pre-medical or pre-law advisers on campus. Students planning to apply for admission to graduate study in psychology should plan their undergraduate program of study very carefully in consultation with advisers in the Department of Psychology. At least two years, and as many as six years, of graduate study are required for qualification as a professional psychologist, and admission to the graduate programs is highly selective and competitive.

Students who enter the University with a major in psychology should meet with the director of undergraduate studies in the Department of Psychology as soon as possible after arrival at the University in order to discuss their interests and plans of study. Students already at the University who wish to change to a major in psychology should contact the office of the director of undergraduate studies in the Department of Psychology in order to initiate the request for a change of major.

**Bachelor of Arts Degree, College of Liberal Arts**

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements (See above)</i> .....	14
<i>Requirements for Major in Psychology</i> .....	37-40
Psychology 102 (must be passed with a grade of C or better) .....	(3)
Mathematics 108, 111, or 139 (choose one) .....	(3) + 0-2
Psychology 211, 212 (must be passed with a grade of C or better, completion before senior year recommended) .....	8
Psychology Electives .....	29-30
Ten courses from the list below. At least six must be from Groups A, B, and C, with at least one course from each of these three groups. A minimum of three courses must be chosen at the 400-level from among the total offerings in the A, B, and C Groups.	
Group A: 301, 303, 304, 305, 307, 333, 431, 432, 440, 451, 461, 463, 464	
Group B: 302, 308, 309, 310, 371, 407, 409, 415, 416, 419, 445	
Group C: 320, 322, 323, 340, 411, 413, 420, 421, 441, 465	
Group D: 222, 389, 391, 392, 393, 394, 489, 499, Educational Psychology 402, Mathematics 282	
Of all credits that a student completes for Psychology 391, 392, 393, and 394, a maximum of three hours from any or all of these courses may count towards the major.	
<i>Electives</i> .....	25-34
<i>Total</i> .....	120

<sup>1</sup>Courses in parenthesis will also count towards the 41 hours of University Core Curriculum requirements.

**Psychology Suggested Curricular Guide**

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Core Curriculum.....	15	12		Core Curriculum .....	6	5	
PSYC 102.....	-	3 <sup>1</sup>		MATH 108 or 139.....	-	3	
				PSYC Electives.....	3	3	
				Elective .....	6	4	
<i>Total</i> .....	15	15		<i>Total</i> .....	15	15	
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
PSYC 211,212.....	4	4		PSYC 400-Level .....	6	3	
PSYC Electives .....	6	3		PSYC Electives.....	3	3	
Electives .....	5	8		Electives.....	6	9	
<i>Total</i> .....	15	15		<i>Total</i> .....	15	15	

<sup>1</sup> Satisfies Core Curriculum Social Science requirement

**Minor**

A minor in psychology requires the successful completion of at least 15 semester hours (5 courses) in courses offered by the Department of Psychology and acceptable to the department for fulfillment of major requirements. Psychology 393 may not be included. A maximum of three hours from any or all Psychology 391, 392 and 394 may count towards the minor. Courses in other departments, such as the Department of Educational Psychology, do not fulfill minor requirements. An average gpa of at least 2.0 in psychology courses must be successfully completed. Students completing a minor in psychology for purposes of qualifying to teach psychology in the State of Illinois must complete a minimum of 20 semester hours in psychology.

A student wishing to complete a minor in psychology must apply to the Department of Psychology for approval of the program of study for the minor. Without this approval the minor will not be officially listed on the student's transcript at the time of graduation. Application forms are available in the office of the director of undergraduate studies in psychology.

Courses taken at other institutions may count towards the minor only if those courses are acceptable for transfer credit in psychology. If credit is not accepted for transfer, a revised application for the minor must be approved.

### Transfer Credit

Credit for a course in psychology successfully completed at another accredited institution will be transferred to meet major or minor requirements in psychology at SIUC, subject to the following conditions:

1. The course number must bear a departmental prefix clearly indicating the course is a psychology course. Examples are *PSYCH* and *PSYC*.
2. The course must have covered substantially the same content material as a course currently offered at SIUC to meet major requirements.
3. Credit for a course completed at a community or junior college is not transferable if the corresponding course at SIUC is offered at the 400-level.
4. A grade of C or higher must have been earned in the course.
5. All transfers of credit to meet major or minor requirements in psychology must be explicitly approved by the department of psychology.

Courses from other institutions that do not meet these conditions may still be acceptable for elective credit to meet general university requirements. Students should consult their departmental or college adviser about such courses.

### Senior Honors Program

A small number of students is selected each year for the honors program. Selection criteria are promising academic performance (3.0 overall grade point average and 3.25 psychology grade point average minimum), expressed interest, recommendation by departmental adviser, and capacity of program to take new students. Emphasis is on small seminar and individual research work by the student.

### Psychology Faculty

**Berenbaum, Sheri A.**, Professor, Ph.D., University of California-Berkeley, 1977.

**Brutten, Gene J.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1957.

**Buck, Terence D.**, Associate Professor, Ph.D., University of Missouri, 1968.

**Carrier, Neil A.**, Professor, *Emeritus*, Ph.D., University of Michigan, 1956.

**Chwalisz, Kathleen D.**, Assistant Professor, Ph.D., University of Iowa, 1992.

**Dollinger, Stephanie M. Clancy**, Associate Professor, Ph.D., Syracuse University, 1989.

**Corcoran, Kevin J.**, Associate Professor, Ph.D., University of Connecticut, 1984.

**DiLalla, David Louis**, Associate Professor, Ph.D., University of Virginia, 1989.

**DiLalla, Lisabeth F.**, Assistant Professor, Ph.D., University of Virginia, 1987.

**Dillon, Ronna**, Professor, Ph.D., University of California, Riverside, 1978.

**Dollinger, Stephen J.**, Professor, Ph.D., University of Missouri-Columbia, 1977.

**Dunagan, Shirley S.**, Instructor, *Emerita*, M.S., University of Tennessee, 1954.

**Ehrenfreund, David**, Professor, *Emeritus*, Ph.D., State University of Iowa, 1947.

**Gannon, Linda**, Professor, Ph.D., University of Wisconsin, 1975.

**Gilbert, Brenda O.**, Assistant Professor, Ph.D., University of Florida, 1985.

**Gilbert, David G.**, Associate Professor, Ph.D., Florida State University, 1978.

**Glidden-Tracey, Cynthia E.**, Assistant Professor, Ph.D., University of Illinois, 1987.

**Graham, Jack W.**, Professor, *Emeritus*, Ph.D., Purdue University, 1951.

**Guthrie, Robert V.**, Professor, Ph.D., U.S. International University, 1970.

**Hetherington, John D.**, Assistant Professor, Ph.D., University of Arizona, 1992.

**Jensen, Robert A.**, Associate Professor, Ph.D., Northern Illinois University, 1976.

**Kelley, Noble H.**, Professor, *Emeritus*, Ph.D., State University of Iowa, 1936.

**Labott, Susan M.**, Assistant Professor, Ph.D., Northern Illinois University, 1986.

**Lit, Alfred**, Professor, *Emeritus*, Ph.D., Columbia University, 1948.

**McHose, James H.**, Professor, Ph.D., University of Iowa, 1961.

**McKillip, John A.**, Professor, Ph.D., Loyola University of Chicago, 1974.

**Meltzer, Donald**, Professor, Ph.D., University of Pittsburgh, 1963.

**Mitchell, Thomas O.**, Associate Professor, *Emeritus*, Ph.D., University of Colorado, 1969.

**Molfese, Dennis L.**, Professor, Ph.D., Pennsylvania State University, 1972.  
**Molfese, Victoria J.**, Professor, Ph.D., Pennsylvania State University, 1974.  
**O'Donnell, James P.**, Associate Professor, Ph.D., University of Pittsburgh, 1965.  
**Pitz, Gordon F.**, Professor, Ph.D., Carnegie-Mellon University, 1963.  
**Purcell, Thomas D.**, Associate Professor, Ph.D., Southern Illinois University, 1965.  
**Radtke, Robert C.**, Associate Professor, Ph.D., State University of Iowa, 1963.  
**Ramanaiah, Nerella**, Professor, Ph.D., University of Oregon, 1971.  
**Ringuette, Eugene L.**, Associate Professor, *Emeritus*, Ph.D., Purdue University, 1963.  
**Schill, Thomas R.**, Professor, Ph.D., Oklahoma State University, 1963.  
**Schmeck, Ronald R.**, Professor, Ph.D., Ohio University, 1969.  
**Shea, Sandra**, Assistant Professor, Ph.D., Vanderbilt University, 1980.

**Shoemaker, Donald J.**, Professor, *Emeritus*, Ph.D., Ohio State University, 1955.  
**Smith, Douglas C.**, Associate Professor, Ph.D., Kansas State University, 1977.  
**Snyder, John F.**, Associate Professor, Ph.D., Loyola University, 1965.  
**Stockdale, Margaret S.**, Associate Professor, Ph.D., Kansas State University, 1990.  
**Swanson, Jane L.**, Assistant Professor, Ph.D., University of Minnesota, 1986.  
**Taub, Diane E.**, Associate Professor, Ph.D., University of Kentucky, 1986.  
**Tinsley, Howard E. A.**, Professor, Ph.D., University of Minnesota, 1971.  
**Vaux, Alan C.**, Professor and *Chair*, Ph.D., Trinity College, Ireland, 1979; Ph.D., University of California at Irvine, 1980.  
**Westberg, William C.**, Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1948.  
**Wendt, Rachel**, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1966.  
**Yanico, Barbara**, Associate Professor, Ph.D., Ohio State University, 1977.

## Sociology (Department, Major, Minor, Courses)

Sociology is the science of society. It explains how human groups, institutions, and social movements shape our lives. Sociology develops students' insights into theoretical and practical aspects of life. Sociology students study such topics as social thought, sex and gender roles, marriage and the family, social problems, criminology, large-scale business and government organizations, international development, and social change.

Training in sociology is basic both to creative living and to such practical tasks as the development and effective working of businesses, families, community service agencies, political movements and parties, churches, social clubs, government, industry, and schools.

Those with degrees in sociology find meaningful and rewarding employment as consultants to business and government, social change agents (e.g., community organizers), politicians, educators, and diplomats. Like other liberal arts students, sociology majors also enter the business world, particularly in the sales or personnel divisions of major corporations.

An undergraduate major in sociology is excellent preparation for those anticipating graduate study in law, social welfare, business administration, journalism, and many of the technical and scientific fields. In addition, many students have enjoyed the benefits of double majors or major-minor combinations between sociology and one of these related fields. Sociology and paralegal studies for legal assistants is an example of double majors involving two programs that are both in the College of Liberal Arts, while sociology and journalism are double majors involving programs in the College of Liberal Arts and the College of Communications and Fine Arts.

The Department of Sociology offers the two following alternative plans of study for completion of its major.

*General Sociology Plan.* This plan is for students seeking a broad academic background in sociology. It usually is chosen either by those who want a general liberal arts education in the social sciences or those anticipating graduate study in one of the social sciences.

*Applied Sociology Plan.* This plan combines general study in sociology in individually planned programs built around applied courses, including field work/internship experience. The applied sociology plan is primarily for those who seek careers in governmental, business, or community service occupations for which graduate school training either is unnecessary or taken as an option somewhat later in one’s career. Both the general and applied plans provide maximum flexibility in course selection by students, while still ensuring that all majors receive training in the fundamentals of the field. Such flexibility enables students to tailor either their general or applied plan to specific career goals.

*Academic Advisement.* A student planning to major or minor in sociology should consult the department’s director of undergraduate studies as early as possible in order to plan an integrated program. After the petition to major in sociology has been approved, the student will be expected to visit the director each semester until all major requirements have been completed. A record of progress for each student will be on file in the department.

To graduate with a major in sociology the student must meet all the University Core Curriculum requirements of the University and the requirements of the College of Liberal Arts. The major requires thirty-four hours of course work. Twelve hours are in sociology core requirements: Sociology 301, 308 and 312. An additional four hours of senior year experience also is required: Sociology 497 or 498. The remaining eighteen hours for the major must include at least eight hours at the 400 level and may be elected from regularly scheduled departmental courses. These requirements are summarized below.

*Transfer Students.* Credits for some sociology courses taken at community colleges are transferable. Students should have their sociology credits evaluated by the department’s director of undergraduate studies at the earliest opportunity. At least 20 hours of sociology credit must be earned at Southern Illinois University at Carbondale. The eight hours of 400-level courses must be earned at a senior level institution and Sociology 497 or 498 must be taken at Southern Illinois University at Carbondale.

**Bachelor of Arts Degree, College of Liberal Arts**

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements (See above)</i> .....	14
<i>Requirements for Major in Sociology</i> .....	34
1) Sociology Core Requirements: Sociology 301, 308 and 312	
2) Senior Year Work: Sociology 497 (General Sociology Plan) or Sociology 498 (Applied Sociology Plan)	
3) At least eight hours must be earned in sociology 400-level courses	
<i>Electives</i> .....	<u>31</u>
<i>Total</i> .....	120

**Minor**  
A minor in sociology consists of a minimum of 16 hours of which four must be Sociology 301 and at least six more hours from 300- or 400-level courses at SIUC.

**Honors Program**

The department offers an honors program for academically outstanding sociology majors. Qualifications for acceptance into this program are: (1) an overall grade point average of at least 3.00; and (2) completion of 8 hours in sociology courses with a

grade point average of at least 3.25 in all sociology courses taken at Southern Illinois University at Carbondale, and the completion of no fewer than six, nor more than fourteen, semester hours in research or independent study which are counted toward the major. Successful completion of the department's honors program is noted on the academic record at the time the degree is recorded and on the diploma, i.e., Departmental Honors in Sociology. For details, qualified students interested in this program should consult the department's director of undergraduate studies.

### Sociology Faculty

**Alix, Ernest K.**, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1966.

**Best, Joel**, Professor and *Chair*, Ph.D., University of California- Berkeley, 1971.

**Blinde, Elaine M.**, Associate Professor, Ph.D., University of Illinois, 1987.

**Burger, Thomas**, Associate Professor, Ph.D., Duke University, 1972.

**Eynon, Thomas G.**, Professor, Ph.D., Ohio State University, 1959.

**Hendrix, Lewellyn**, Associate Professor, Ph.D., Princeton University, 1974.

**Hope, Keith**, Professor, Ph.D., Oxford University, 1963.

**Matsuo, Hisako**, Assistant Professor, Ph.D., University of California at Riverside, 1994.

**Nall, Frank C., II**, Associate Professor, *Emeritus*, Ph.D., Michigan State University, 1959.

**Patterson, Edgar I.**, Assistant Professor, M.A., University of Kansas, 1961.

**Pryor, Doug**, Assistant Professor, Ph.D., Indiana University, 1994.

**Schneider, Mark A.**, Assistant Professor, Ph.D., Yale University, 1985.

**Taub, Diane E.**, Associate Professor, Ph.D., University of Kentucky, 1986.

**Ward, Kathryn B.**, Professor, Ph.D., University of Iowa, 1982.

**Williams, Rhys H.**, Associate Professor, Ph.D., University of Massachusetts at Amherst, 1988.

## Speech Communication (Department, Major, Courses)

The Department of Speech Communication offers courses in the history, theory and application of communication. These courses reflect the liberal arts and social science tradition as an approach to theory and application.

The department also sponsors co-curricular activities in debate, forensics, performance studies (oral interpretation), and public relations, all of which are open to non-majors.

English is the language of instruction in the Department of Speech Communication and proficiency in written and oral English is required of all students in Speech Communication. To meet the requirements for a major in the Department of Speech Communication a student must demonstrate the following basic skills: the ability to deliver effective public speeches and oral performances of literature; the ability to write clear, correct English prose; the ability to communicate effectively at the interpersonal level as well as in small and large groups; and the ability to understand and apply theory and research which are relevant to the student's program specialization.

These communication competencies may be demonstrated by completing the major program and any one of the specializations described below and by receiving no lower than a C grade in courses listed in the required core and as required in the student's chosen specialization. Under certain circumstances, a student may elect to demonstrate a competency by passing a proficiency examination administered by the Department of Speech Communication.

### Bachelor of Science Degree, College of Liberal Arts

#### SPEECH COMMUNICATION MAJOR

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Liberal Arts Academic Requirements (See above)</i> .....	11-17

Includes: one year of foreign language, one science course beyond University Core Curriculum and two writing intensive courses chosen from those listed in the required curriculum specializations below.	
Requirements for Major in Speech Communication .....	42
Required Core Courses .....	9
Communication theory: 230	
Communication skills: 3 hours of public communication selected from 221, 325, 326 or 370; and 3 hours of interpersonal communication selected from 261, 262, 371 or 383.	
Required Curriculum Specialization (see below) .....	33
Interpersonal Communication Specialization .....	33
For students interested in topics of communication in interpersonal relationships, language in everyday interactions, group communication dynamics, and non-verbal and intercultural aspects of communication; and careers in communication skills training, interviewing, communication research, conflict management, and employee or client relations.	
Required: 261, 262, 361, 383, 442, 461; and 15 hours selected from 280, 340, 341, 362, 371, 382, 401, 440, 441, 443, 444, 446, 452, 460, 462, 465, 480 or 483.	
Performance Studies Specialization .....	33
For students interested in theatrical and everyday performance and the oral interpretation of literature, and in careers in performance, writing-as-performance, and public presentation from business to the arts.	
Required: 370, 371, 471, 472; 6 hours selected from 474, 475, 476; at least one hour selected from 390 or 490; and 15 hours selected from 221, 310, 325, 326, 341, 361, 383, 401, 411, 421(3), 431, 432, 433, 435 or 461.	
Persuasive Communication Specialization .....	33
For students interested in public and political discourse, argumentation, rhetoric, social influence and media; careers in law, politics, sales, corporate and public advocacy, and selected areas in business and mass media.	
Required: 221, 325, 326, 358, 411, 421(3), 442; 12 hours selected from 280, 281, 310, 341, 361, 362, 371, 382, 401, 421(3,3), 440, 441, 443, 446, 451, 452, 465 or 476.	
Organizational Communication Specialization.....	33
For students interested in a broad spectrum of communication topics in the context of the organization including, but not limited to, compliance-gaining, superior-subordinate interaction, communication audit methods, organizational networks, organizational climate and culture, conflict resolution, impact of new communication technology, and information flow.	
Required: 280, 281, 326, 383, 441, 480, 483; 12 hours selected from 221, 261, 262, 341, 361, 381, 382, 390, 411, 442, 452, 481, 490.	
Public Relations Specialization .....	33
For students interested in social influence and change through diverse media; and careers in agency, corporate or not-for-profit public relations.	

Required: 280, 281, 326, 381, 382, 481, Journalism 309 and 310, Art and Design 497d or Journalism 315, and 6 hours selected from 390, 490, 493 or 494.

Electives .....	26
Professional Requirements and Advisement:	
1. Electives cannot be professional communication courses; professional communication includes journalism, graphics, cinema and photography, organizational communication, and radio and television.	
2. Students interested in agency or corporate public relations are also advised to select 15 hours of electives from the College of Business and Administration. Recommended courses are Management 304, Marketing 304, 305 and 363.	
Total .....	120

Speech Communication Faculty

Breniman, Lester R., Associate Professor, Emeritus, Ph.D., Ohio State University, 1953.	Lanigan, Richard L., Professor, Ph.D., Southern Illinois University, 1969.
Crow, Bryan, Associate Professor, Ph.D., University of Iowa, 1982.	McOmber, James, Assistant Professor, Ph.D., University of Iowa, 1991.
Daughton, Suzanne, Assistant Professor, Ph.D., University of Texas at Austin, 1991.	Pace, Thomas J., Professor, Emeritus, Ph.D., University of Denver, 1957.
Ekachai, Daradirek, Assistant Professor, Ph.D., Southern Illinois University, 1991.	Parkinson, Michael G., Associate Professor, A.P.R., Ph.D., University of Oklahoma, 1978.
Glenn, Phillip, Associate Professor, Ph.D., University of Texas at Austin, 1987.	Pelias, Ronald J., Professor, Ph.D., University of Illinois, 1979.
Goodiel, Eunice B., Assistant Professor, Emerita, M.A., Northwestern University, 1941.	Pineau, Elyse, Associate Professor, Ph.D., Northwestern University, 1990.
Higgerson, Mary Lou, Professor, Ph.D., University of Kansas, 1974.	Potter, David J., Professor, Emeritus, Ph.D., Columbia University, 1943.
Hincheliff-Pelias, Mary, Associate Professor, Ph.D., Southern Illinois University, 1982.	Smith, William D., Associate Professor, Emeritus, Ph.D., Southern Illinois University, 1964.
Kleinau, Marion L., Professor, Emerita, Ph.D., University of Wisconsin, 1961.	Stucky, Nathan, Associate Professor, Ph.D., University of Texas at Austin, 1988.
Kleinau, Marvin D., Associate Professor, Emeritus, Ph.D., Southern Illinois University, 1977.	VanOosting, James, Professor and Chair, Ph.D., Northwestern University, 1980.
Langsdorf, L., Professor, Ph.D., SUNY at Stony Brook, 1977.	Wiley, Raymond D., Assistant Professor, Emeritus, M.S., Southern Illinois University, 1965.

Theater (Department, Major, Minor, Courses)

The Bachelor of Arts degree in Theater is designed to provide the student with broad-based exposure to human experience and sound foundation in basic skills of theater craft. The undergraduate theater major provides the student with invaluable interpersonal and intrapersonal skills and builds inquiring and open minds—qualities required in most professions the student might wish to pursue after graduation—and further offers essential education and training for continued work in graduate or professional schools.

The extensive production schedule in two theaters—a proscenium house, the McLeod Theater, seating about 488, and a flexible Laboratory Theater, seating about 100—provides training in all aspects of theater, augmented by courses in acting, voice, movement, directing, playwriting, production design, and technical theater. The production schedule is extensive enough to allow students the opportunity to design sets, lights, and costumes and to write, perform, and direct for productions bridging all dramatic genres, including musical theater.

In addition to the University Core Curriculum requirements, all theater majors must complete a theater core curriculum of 27 semester hours, all of which must be completed with a grade of C or better; a liberal arts component of 20 hours, selected by advisement from courses outside the Department of Theater; and 33 hours of theater electives, to include at least 9 hours at the 400 level. These 33 hours may include a minor of 15 hours in such complementary fields as art, clothing and textiles, computer science, English, foreign languages, history, journalism, music, philosophy, psychology, recreation, sociology, and speech communication.

Theater course credit earned at other institutions of higher learning, not used for University Core Curriculum requirements at the time of transfer, can be applied to the Bachelor of Arts degree program with the approval of the faculty of the Department of Theater.

**Bachelor of Arts Degree, College of Liberal Arts**

<i>University Core Curriculum Requirements</i> .....	41
Must include Theater 101.	
<i>Requirements for Major in Theater</i> .....	80
Theater Core Curriculum .....	27
Theater 205, 218a, 218b or c, 217, 300, 311a, 354a,b, 402a	
Liberal Arts Component (by advisement) .....	20
Theater Electives (minimum of 9 semester hours at the 400 level) .....	33
Students interested in acting might elect: Theater 203, 303a, 303b, 317a, 317b, 350, 402b, 403 or 417	
Students interested in design/technical might elect: Theater 218b or c, 350, 407, 408, 409, 414, 418 or 419	
<i>Total</i> .....	121

**Minor**

<i>Requirements for Minor in Theater</i> .....	16
A minor in theater consists of Theater 311a, with Theater 101 as a pre-requisite, Theater 354a or b, 218a,b or c, 217 and 323-1.	

**Theater Faculty**

<b>Barnes-McLain Noreen</b> , Associate Professor, Ph.D., Tufts University, 1986.	<b>Moe, Christian H.</b> , Professor, Emeritus, Ph.D., Cornell University, 1958.
<b>Blackstone, Sarah J.</b> , Associate Professor and Chair, Ph.D., Northwestern University, 1983.	<b>Naversen, Ronald</b> , Associate Professor, Ph.D., Southern Illinois University, 1990.
<b>Chrestopoulos, Alexander</b> , Assistant Professor, M.F.A., University of Arizona, 1979.	<b>Stewart-Harrison, Eelin</b> , Professor, Emerita, Ph.D., Louisiana State University, 1968.
<b>Krasner, David</b> , Assistant Professor, Ph.D., Tufts University, 1996.	<b>Straumanis, Alfreds</b> , Professor, Emeritus, Ph.D., Carnegie Institute of Technology, 1966.
<b>Merrill-Fink, Lori</b> , Associate Professor, M.F.A., University of Arizona, 1988.	<b>Varnes, Mark</b> , Assistant Professor, M.F.A., University of Missouri-Kansas City, 1990.

**University Studies (Program)**

The University Studies program allows students to design interdisciplinary program of study leading to a Bachelor of Science or Bachelor of Arts degree. The Bachelor of Arts degree requires one full year of college-level foreign language; the Bachelor of Science degree does not. Students must also take one science course with lab in addition to the University Core Curriculum science requirement, one course in English composition in addition to the University Core Curriculum composition requirement

and one writing intensive course designated by a College of Liberal Arts department as fulfilling the Writing-Across-the-Curriculum requirement.

To be admitted to the University Studies degree program, a student must meet the following criteria.

1. Have passed no more than 90 semester hours.
2. Have completed at least one full year of college course work (a minimum of 24 semester hours) with a 2.00 grade point average or higher.
3. Have exceeded none of the limitations prescribed by the program.

Although University Studies imposes few specific requirements for the degree, other than those which are University-wide baccalaureate requirements, there are limitations on the selection of course work. In addition, students must achieve a minimum grade point average of 2.00 for the 40 semester hours of 300-400 level course work (including 300-level University Core Curriculum courses).

### Bachelor of Arts Degree

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
<i>Requirements for University Studies</i> .....	79 <sup>2</sup>
Foreign language .....	8
English Composition .....	3
Writing Intensive course .....	3
Science with lab .....	3
300-400 level coursework .....	40
Other courses approved by the chief academic advisor in the College of Liberal Arts. ....	22
<b>Total</b> .....	<b>120</b>

### Bachelor of Science Degree

<i>University Core Curriculum Requirements</i> .....	41
<i>Requirements for University Studies</i> .....	79 <sup>1</sup>
English Composition .....	3
Writing intensive course .....	3
Science with lab .....	3
300-400 level coursework .....	40
Other courses approved by the chief academic advisor in the College of Liberal Arts .....	30
<b>Total</b> .....	<b>120</b>

<sup>1</sup>Two limitations are placed on course distribution:

a. Students may take no more than 40 semester hours excluding courses used to satisfy University Core Curriculum requirements, in any College (or the School of Social Work), except for the College of Liberal Arts where they may take up to 54 hours (but no more than 27 semester hours in the social sciences, humanities, or fine and performing arts)

b. Students may take no more than 20 semester hours excluding courses used to satisfy University Core Curriculum requirements, in a department or in a School within a College).

## College of Mass Communication and Media Arts

Joe S. Foote, *Dean*

Departments: Cinema and Photography; Radio-Television

Schools: Journalism

The College of Mass Communication and Media Arts offers the Bachelor of Arts degree in Cinema and Photography, and Radio-Television. The Bachelor of Science degree is awarded in Journalism.

Students in the college are required to complete three core courses dealing with basic concepts. The three courses - Mass Communication and Media Arts 201, *Media in Society*; 202, *Visual Literacy*; and 203, *Critical Thinking Through Media Writing* provide a common experience and conceptual framework for college majors.

Admission to the University is handled through the Office of Admissions and Records, but those students who desire more specific information about a major should make an appointment with an academic adviser of that department or school. Each department or school of the college has one or more individuals who will advise prospective students about major requirements, curriculum, activities, careers, and opportunities. Transfer students may also discuss transfer credit and placement in courses at Southern Illinois University at Carbondale.

Students who wish to explore any or all of the academic majors in the college may apply for admission as an undecided major in Mass Communication and Media Arts. This gives the student access to any of the beginning courses in cinema, photography, journalism, radio or television as well as to the required core courses in Mass Communication and Media Arts.

Faculty of the college are engaged in research/creative activities concerning mass communication and the media arts. They also provide consulting service and other community services to schools, newspapers, radio and television stations, museums, businesses, and governments. They hold professional memberships and serve as officers in various local, state, national, and international organizations in the mass communication and media arts. A number of special events are presented each year, including lectures by noted artists and media professionals, photography exhibits, and film showings.

The Broadcasting Service is also part of the college. The Broadcasting Service operates WSIU (FM), a public radio station, and WSIU (TV), channel 8, a public television station, both located in Carbondale. It also operates a second public television station, WUSI (TV), channel 16, at Olney.

Administrative offices of the college are located in the Communication Building, which includes the broadcasting facilities, film production facilities, and office of the *Daily Egyptian*.

### Cinema and Photography (Department, Major, Courses)

The major in cinema and photography provides undergraduate students with experience and background in the history, theory, and practice of cinematic and photographic communication and expression. The program is structured to make available a foundation for professional, fine arts, and educational careers in cinema and photography; to explore the social, critical, and ideological implications of still and motion pictures; and to provide opportunities for study of and experimentation with both cinema and photography as media for communication and personal expression.

The major requires a minimum of 38 hours in cinema and photography coursework, including the required courses in the department. Students may tailor course-

work selection to meet specific areas of emphasis: cinema production, cinema studies, fine arts photography, professional photography. Course work in electronic imaging is also available.

Students are urged to declare their major as soon as possible. To be admitted to the major, a student must have a grade point average of C or better. In order to remain in the major, each student must maintain an overall grade point average of at least a C and at least a C average for all cinema and photography coursework. Grades below C in cinema and photography courses will not be accepted as fulfilling minimum major requirements. Cinema and photography courses in which students have received grades of D, F, AU, or INC may not be used to satisfy prerequisite requirements for other cinema and photography courses.

Courses in cinema and photography have limited enrollment, especially advanced courses. Not all courses are offered each semester. Admission to certain cinema and photography courses is restricted, and permission must be obtained prior to registration. Permission to register for some courses is based upon submission of photographic portfolios or films. Students are encouraged to plan their course scheduling well in advance to ensure necessary prerequisites and fulfillment of major requirements.

Students may design their own programs of study within the requirements for graduation. The department recommends that students choose an area of emphasis to give a sense of direction to their studies. Students interested in cinema production are encouraged to enroll in 349, 355, 356, 360, 368, 452, 455 and 456, 470b, 472, and nine hours of cinema history courses; cinema studies, 349, 355, 356, 360, 368, 449, 462, 463, 466, 467, 470a, and 499b; fine arts photography, 310, 311, 320, 322, 401, 402, 420, 421, 422, 425, 426, 470c and 471; professional photography, 310, 311, 320, 322, 401, 402, 404, 405, 406, 407 and 408; photojournalism, 310, 311, 320, 322, 407, 408 and Journalism 300, 310, and 311.

Cinema and Photography 498 or 499 or an equivalent is required of all majors who have not completed 320 and 322 and optional for others. This senior thesis will consist of the preparation of a film, screenplay, research or critical paper under the supervision of a cinema and photography faculty member. A copy of the thesis is to be provided for the department by the student.

Students provide photographic materials for all cinema and photography production courses. In still photography production courses, students supply their own film, photographic paper, certain specialized chemicals, and a fully adjustable 35mm or 120 roll film camera. Some students have found that owning additional items of equipment is advantageous. A fee for laboratory materials is charged for each still photography production course in which the student enrolls. In cinema production courses, students provide their own film, processing, recording materials, and editing supplies. In courses which involve the screening of a number of films, there is a \$10 screening fee, and many cinema courses have an equipment usage fee.

The University reserves the right to retain examples of the work of each student in each photography class, to make and retain prints of all films made as part of course work other than thesis, and to retain copies of student papers. Such photographs, films, or papers become part of a permanent departmental collection.

No more than nine hours from a combination of the following courses may count toward the first 38 hours in the cinema and photography major: 491, 495, 497.

Electives, required for the major in cinema and photography, are defined as coursework outside the minimal University Core Curriculum Requirements and not offered for major credit in the department. There is no required minor.

#### **Bachelor of Arts Degree, College of Mass Communication and Media Arts**

<i>University Core Curriculum Requirements</i> .....	41
Mass Communication and Media Arts College Requirements.....	9

Mass Communication and Media Arts 201, 202, 203	
Requirements for Major in Cinema and Photography .....	38-54
Either Cinema and Photography 310 and 311 or 360 and 368 .....	6
Either Cinema and Photography 320 and 322 or 355 and 356 .....	8
Cinema and Photography courses numbered 400 to 499 .....	24
Must include 498 or 499 or its equivalent.	
Cinema and Photography electives .....	0-16
Electives .....	16-32
Total .....	120

Cinema And Photography Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101,102 .....	3	3	CP 320 or CP 355.....	4	-
MCMA 201,202 .....	3	3	CP 322 or CP 356.....	-	4
SPCM 101.....	3	-	CP 310 or CP 360.....	3	-
Mathematics .....	-	3	CP 311 or CP 368.....	-	3
Core Disciplinary Studies.....	6	6	MCMA 203.....	3	-
			Core Disciplinary Studies .....	5	6
			Core Integrative Studies .....	-	3
Total.....	15	15	Total .....	15	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
CP 400-Level.....	6	6	CP 400-Level.....	6	6
Core Integrative Studies .....	3	-	Electives .....	9	8
Electives .....	6	9			
Total.....	15	15	Total .....	15	14

Cinema and Photography Faculty

Blumenberg, Richard M., Professor, Ph.D., Ohio University, 1969.	Logan, Fern, Assistant Professor, M.F.A., School of the Art Institute of Chicago, 1993.
Boruszkowski, Lilly A., Associate Professor, M.F.A., Northwestern University, 1979.	Mercer, John, Professor, Emeritus, University of Nebraska, 1952.
Cocking, Loren D., Assistant Professor, M.A., Ohio State University, 1969.	Overturf, Dan, Assistant Professor, M.F.A., Southern Illinois University, 1983.
Covell, Michael D., Assistant Professor, M.F.A., Ohio University, 1975.	Paine, Frank, Associate Professor, Emeritus, B.S., Iowa State University, 1950.
Dulig, Susan, Assistant Professor, Ph.D., Cornell University, 1994.	Roddy, Jan, Assistant Professor, M.F.A., University of Illinois, 1987.
Gilmore, David A., Associate Professor, M.F.A., Ohio University, 1969.	Swedlund, Charles A., Professor, M.S., Illinois Institute of Technology, 1961.
Kolb, Gary P., Associate Professor, M.F.A., Ohio University, 1977.	

Journalism (School, Major, Courses)

The School of Journalism at Southern Illinois University at Carbondale occupies a national leadership role in mass communication education with a comprehensive program combining a broad knowledge of the liberal arts with a detailed understanding of the practice of journalism in modern society. After completing the University's liberal arts core, undergraduate students learn about the integral connections between the various components of today's mass media in the college-wide core courses. They then acquire the specific skills necessary to become professionals in advertising/integrated marketing communications, news-editorial or other communication fields. Students are further encouraged to develop in-depth knowledge by completing the requirements of a structured minor in a subject area outside the College. The curriculum prepares students for positions of responsibility in advertising and related marketing communications fields, news-editorial journalism or other fields in which the ability to communicate is essential. The School of Journalism also prepares students for graduate studies in mass communication, the social sciences, and the law.

The School of Journalism is accredited by the Accrediting Council on Education in Journalism and Mass Communication, the agency formally recognized by the Council on Postsecondary Accreditation and the U.S. Office of Education.

Prospective students should be aware that excellent written and oral language skills are essential for successful careers in the journalism field. With this in mind, the School of Journalism has adopted admission and retention standards that emphasize language facility and academic proficiency.

### **Admission Standards**

To be admitted to the School of Journalism, applicants must meet the following requirements:

Beginning freshmen must meet the University's regular admission requirements, as described in Chapter 2.

Transfer students who have completed fewer than 26 semester hours must meet the requirements for beginning freshmen and have earned an overall collegiate grade point average of at least 2.00 (4.0 scale).

Transfer students who have completed more than 26 semester hours must have earned an overall collegiate grade point average of at least 2.00.

Students currently enrolled or who were previously enrolled at SIUC in another major must meet the same requirements as transfer students. If they have completed more than 26 semester hours they must have an overall grade point average of at least 2.00. Students with fewer than 26 semester hours must meet beginning freshman requirements as well as have a grade point of at least 2.00.

Grade point average is calculated for purposes of admission to the School of Journalism by using all grades earned at SIUC and other collegiate institutions. This includes repeated courses.

### **Retention Policies**

Students majoring in journalism must meet these retention requirements to continue their enrollment in the major:

Students who have completed 26 semester hours or more must have an accumulative SIUC grade point average of 2.00 or higher.

A grade of C or better is required in all journalism and Mass Communication and Media Arts College courses taken in order to be counted toward the major or minor and to satisfy prerequisite requirements.

Strong skills in the use of the English language are required to enter the first writing course in the School of Journalism: Journalism 302 or 310. Students may demonstrate proficiency in the use of the English language with an English ACTE subscore of 20 or higher, or by earning a grade of C or higher in English 290 or Linguistics 290 (for international students). This prerequisite must be successfully completed prior to registration for any course for which the prerequisite is required.

Students who are unable to meet these retention requirements will be placed in probationary status within the School of Journalism. These students will be given one semester to correct their deficiency prior to dismissal. Those who are dismissed from the School of Journalism but are eligible to continue in the University will be placed in the Undergraduate Academic Services or they may request permission to enter another collegiate unit.

### **Other Requirements**

Journalism students must demonstrate typing ability of 30 words per minute by receiving a passing grade in a typing course or on a typing examination specified by the School of Journalism before registering for Journalism 302 or 310. Those who cannot meet this requirement must enroll in a typing course and receive a grade of C or better.

Enrollment in Journalism courses may be canceled for students who do not attend the initial class session of the semester.

Fees will be assessed for supplies and materials in some courses. Students should inquire about amounts before registering.

Subject to the approval of the School's director, undergraduate students may receive as many as 9 hours of journalism credit toward their degrees for courses not taken in residence.

Prior to the junior year the student must decide upon a specialization described below or obtain approval of a faculty sponsor and the school's director for another coherent combination of courses tailored to individual interest from the general requirements of the School of Journalism.

### **Bachelor of Science Degree, College of Mass Communication and Media Arts**

The academic requirements for the Bachelor of Science degree in journalism include 30 to 36 hours in journalism and Mass Communication and Media Arts courses as approved by the School of Journalism a minimum of 28 hours in junior-senior level course work in the College of Liberal Arts, the College of Science or other areas approved by the faculty.

Students will also complete a 15-hour minor in an area approved by the School of Journalism. Students who select a minor within the College of Liberal Arts or another approved area may include those hours in their minimum of 28 junior-senior level hours.

The School of Journalism is accredited by the Accrediting Council on Education in Journalism and Mass Communication (ACEJMC). As a result, there are ACEJMC requirements that must be met. A major must complete a minimum of 90 semester hours outside of journalism and mass communication courses, with a minimum of 65 of those semester hours in liberal arts courses. The student, with the assistance of the journalism academic adviser, should exercise care in course selection to assure that these requirements are met.

While most students are best served by one of the following specializations, other programs of study in the major may be designed to meet special needs. Individualized programs might address such student interests as agricultural journalism, international communication, mass media institutions, and communication research. Such a specialized program of study must be sponsored by a journalism faculty member and approved by the director. Further information on specialized programs of study is available from the academic adviser.

#### **ADVERTISING/INTEGRATED MARKETING COMMUNICATIONS SPECIALIZATION**

Students in the advertising/integrated marketing communications specialization learn to analyze problems in, and identify solutions for, the promotion of goods and services through integrated marketing communications. They develop skills in verbal and visual communication and presentation of IMC materials. The program prepares students to enter a wide variety of positions with marketing communications firms (including advertising, sales promotion, public relations and direct marketing agencies), in the communications media and with retail or manufacturing firms.

#### **NEWS-EDITORIAL SPECIALIZATION**

As the communication revolution expands the ways in which news and information can be presented, the need increases for individuals with the ability to prepare and present news and information precisely and accurately for a variety of media. Students in the news-editorial specialization receive practical training in the theory and practice of identifying, gathering, processing, interpreting, writing and presenting news for traditional print and broadcast/cable media, and for new computer-based media. The program prepares students for professions in which the ability to communicate to mass audience is essential.

University Core Curriculum Requirements .....	41
Mass Communication and Media Arts Core Courses .....	9
Requirements for a Major in Journalism .....	27
Specialization Requirements .....	27
Advertising/Integrated Marketing Communication Specialization: 301, 302, 303, 304, 405, 406, 407, Speech Communication 281, plus selected approved electives to bring the total to 27 hours.	
News-Editorial Specialization: 310, 311, 312, 442; two of 390, 411, and a choice of 391 or 462; one of 400, 401, 405, 407, 452, plus journalism electives to bring total to 27 hours.	
Minor .....	15
Approved Non-Journalism Electives .....	28
Must include Marketing 304 for Advertising/Integrated Marketing Communication Specialization	
Total .....	120

### Journalism Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102.....	3		3	Core Science.....	3		3
Core Math.....	-		3	Multicultural.....	3		-
Core Humanities.....	3		3	Interdisciplinary.....	-		3
Core Social Science.....	3		3	Core Fine Arts.....	3		-
Core Human Health.....	2		-	MCMA 202, 203.....	3		3
SPCM 101.....	3		-	Major Course.....	3		3
MCMA 201.....	-		3	Liberal Arts Elective.....	-		3
Total.....	14		15	Total.....	15		15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
Journalism Courses.....	6		6	Journalism Courses.....	6		6
Liberal Arts Courses.....	6		6	Liberal Arts Courses.....	3-4		6-7
Minor.....	3		3	Minor.....	6		3
Total.....	15		15	Total.....	15-16		15-16

### Minor

A total of 15 hours of journalism courses at the 300 level or higher, at least one of which must be a writing course (302 or 310), approved by the journalism academic advisor constitutes a minor for nonjournalism majors.

### Journalism Faculty

**Akhavan-Majid, Roya**, Associate Professor, Ph.D., University of Minnesota, 1988.

**Atwood, L. Erwin**, Professor, *Emeritus*, Ph.D., University of Iowa, 1965.

**Brown, George C.**, Professor, *Emeritus*, Ph.D., Southern Illinois University, 1963.

**Ford, James L. C.**, Professor, *Emeritus*, Ph.D., University of Minnesota, 1948.

**Gruny, C. Richard**, Assistant Professor, J.D., University of Illinois, 1959.

**Hart, Jim Allee**, Professor, *Emeritus*, Ph.D., University of Missouri, 1959.

**Jaehnig, Walter**, Associate Professor, Ph.D., University of Essex, 1974.

**Johnson, Thomas J.**, Associate Professor, Ph.D., University of Washington, 1989.

**Jugenheimer, Donald W.**, Professor and Director, Ph.D., University of Illinois, 1972.

**Kelly, James D.**, Associate Professor, Ph.D., Indiana University, 1989.

**Lowry, Dennis**, Professor, Ph.D., University of Iowa, 1972.

**McCoy, Ralph E.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1956.

**Paddon, Anna R.**, Assistant Professor, Ph.D., University of Tennessee, 1985.

**Ramaprasad, Jyotika**, Associate Professor, Ph.D., Southern Illinois University, 1985.

**Rice, W. Manion**, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1967.

**Shidler, Jon A.**, Associate Professor, M.S., Roosevelt University, 1980.

**Spellman, Robert L., Jr.**, Associate Professor, J.D., Cleveland State University, 1977.

**Stone, Gerald C.**, Professor, Ph.D., Syracuse University, 1975.

**Stonecipher, Harry W.**, Professor, *Emeritus*, Ph.D., Southern Illinois University, 1971.

**Radio-Television** (Department, Major, Courses)

The Department of Radio-Television prepares students for positions in broadcasting and telecommunications by combining practical and theoretical courses in broadcasting with a broad liberal arts background.

To be admitted to the Department of Radio-Television, incoming freshmen must rank in the top one-fourth of their high school graduating class and have a Standard Composite ACT Score of 20 or higher or rank in the top one-half of their graduating class and have a Standard Composite ACT score of 22 or higher.

Transfer students seeking admission from another institution or from another program at Southern Illinois University at Carbondale must have a 2.25 grade point average or above. Transfer students with fewer than 26 semester hours must have a 2.25 grade point average or above as well as the rank and test score requirements of an entering freshman.

Mass Communication and Media Arts 201 must be completed and the language skills and English requirements described below must be met before students may advance into other radio-television courses, with the exception of 300M.

All radio-television students are required to maintain an overall 2.0 grade point average in the major. If a radio-television student does not achieve an accumulative 2.0 grade point average in the major in any one semester, that student is subject to departmental warning. Students who are on departmental warning and do not earn an overall 2.0 grade point average in radio-television courses in a subsequent semester will be placed in a status of departmental dismissal. A student who has been placed on collegiate dismissal will be transferred to Pre-Major Advisement or may seek transfer to another University program if the student has an overall SIUC grade point average of 2.0. A dismissed student may appeal to the Undergraduate Committee for reinstatement into the program.

Each student enrolled in the radio-television program must complete by the end of the sophomore year or, if a transfer student, by the end of the first semester of enrollment at SIUC and prior to enrollment in any RT course beyond 300m and Mass Communication and Media Arts 201:

- 1. English 101, 102 with a grade of *B* and, if the student receives less than a *B* in either English 101 or 102, English 290 with a grade of *C*;
- 2. A language skills examination, given by the department, with a minimum score of 7;
- 3. A passing grade in Mass Communication and Media Arts 201 before taking any courses in Radio-Television. This course may not be repeated more than once.

Transfer students must complete a minimum of 21 hours in radio-television courses at the University to earn a degree.

**Bachelor of Arts Degree, College of Mass Communication and Media Arts**

<i>University Core Curriculum Requirements</i> .....	41
Mass Communication and Media Arts Core .....	9
Mass Communication and Media Arts 201, 202 and 203	
Language Requirement .....	6-8
Foreign language or computer programming must be selected to meet this requirement.	
<i>Requirements for Major in Radio-Television</i> .....	30-39
Radio and Television 308, 393 .....	6
Radio and Television electives with at least one course at the 400-level .....	24-33
<i>Minor in a Related Area</i> .....	15

All 15 hours must be in a single department beyond University Core Curriculum courses. Students should check with departmental advisers for a list of recommended minors.

*Electives* (All electives must be pre-approved by the department.) ..... 11-19  
*Total* ..... 120

### Radio and Television Suggested Curricular Guide

FIRST YEAR	FALL	SPRING
MCMA 201, 202 .....	3	3
ENGL 101, 102.....	3	3
SPCM 101.....	3	-
MATH 113 .....	-	3
Science .....	3	3
Fine Arts.....	3	-
Humanities .....	-	3
<i>Total</i> .....	15	15
THIRD YEAR	FALL	SPRING
RT 308.....	3	-
RT Sequence Course.....	3	6
Minor .....	3	3
Integrative Studies.....	3	3
General Elective .....	3	3
<i>Total</i> .....	15	15

SECOND YEAR	FALL	SPRING
MCMA 203.....	3	-
RT Sequence Course .....	3	3
Computer/Foreign Language ...	3	3
Minor .....	-	3
Humanities .....	3	-
Social Science .....	3	3
General Elective .....	-	3
<i>Total</i> .....	15	15
FOURTH YEAR	FALL	SPRING
RT Sequence Course .....	6	-
RT 393.....	-	3
RT Sequence Course-400 Level ...	-	3
Minor .....	3	3
General Elective .....	6	4
Health Education .....	-	2
<i>Total</i> .....	15	15

### Radio-Television Faculty

**Brown, William Edward**, Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1974.

**Collette, Larry A.**, Assistant Professor, Ph.D., Michigan State University, 1991.

**Dybvig, Homer E.**, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1970.

**Foote, Joe S.**, Professor and *Dean*, Ph.D., University of Texas at Austin, 1979.

**Gher, Leo**, Assistant Professor, M.S., Southern Illinois University, 1980.

**Hodgson, Scott R.**, Associate Professor, M.S., Southern Illinois University, 1990.

**Keller, Kenneth R.**, Associate Professor, M.T.V., University of Illinois, 1966.

**Kaye, Barbara K.**, Assistant Professor, Ph.D., Florida State University, 1994.

**Kim, Haeryon**, Assistant Professor, Ph.D., Ewha Women's University, 1990.

**McCray, Judith**, Assistant Professor, M.A., Rutgers University, 1985.

**Murrie, Michael H.**, Associate Professor, M.A., University of Missouri, 1977.

**Philbin, John**, M.F.A., Lecturer, Southern Illinois University, 1995.

**Robbins, Buren**, Associate Professor, *Emeritus*, M.A., University of Iowa, 1935.

**Shipley, Charles W.**, Professor, *Emeritus*, Ph.D., Florida State University, 1971.

**Sitaram, K. S.**, Professor, Ph.D., University of Oregon, 1969.

**Starr, Michael F.**, Associate Professor and *Chair*, J.D., Georgetown University, 1965.

**West-Johnson, Phylis**, Associate Professor, M.A., Texas A&M University, 1986.

## College of Science

Jack Parker, *Dean*

Departments: Chemistry and Biochemistry; Computer Science; Geology; Mathematics; Microbiology; Physics; Plant Biology; Zoology

The College of Science offers majors leading to the Bachelor of Arts and Bachelor of Science degrees in the following fields of study:

Biological Sciences  
Chemistry  
Computer Science  
Geology  
Mathematics

Microbiology  
Physics  
Physiology  
Plant Biology  
Zoology

Included in the curriculum of each department are survey courses that provide an introduction to the subject matter of that discipline while fulfilling the University Core Curriculum requirements of Southern Illinois University at Carbondale. These courses assist all students to develop an understanding and appreciation of the impact of science on one's daily life. Elementary and advanced courses are provided to prepare students for professional employment or entrance into professional and graduate schools. Graduate training is also provided by each of the science departments leading to the M.S. or Ph.D. degree. The research interests of the faculty are extremely diverse.

Students in the College of Science may prepare for teaching at the secondary level by fulfilling the additional requirements of the College of Education. The Bachelor of Arts or the Bachelor of Science degree is granted to students who fulfill the requirements for graduation as given and the requirements of the departments in which the students declare their majors.

Regularly enrolled students must declare a College of Science major by the end of their sophomore year. Transfer students must declare a College of Science major by the beginning of their second semester following transfer. Students planning post-baccalaureate work in a professional field may designate their intention by declaring a preprofessional area as a secondary concentration, e.g., pre-medicine.

Each department has specific requirements for students to major in the selected field of interest, but the College of Science has some minimum general requirements listed below.

### ACADEMIC REQUIREMENTS

None of these general academic requirements may be satisfied by taking the required courses on a Pass/Fail grading basis.

*Biological Sciences.* Six semester hours in courses offered by the biological sciences departments in the college, with the proviso that this requirement cannot be satisfied in whole or in part by the University Core Curriculum courses, but may be substituted for the latter in meeting the University Core Curriculum requirements.

*Mathematics.* The mathematics requirement can be met by (a) passing Mathematics 108 and 109 or 111 or its equivalent or Mathematics 141 or its equivalent, (b) by proficiency credit.

*Physical Sciences.* Six semester hours in courses offered by the physical science departments of the college, with the proviso that this requirement cannot be satisfied in

whole or in part by University Core courses, but may be substituted for the latter in meeting the University Core Curriculum requirements.

**Supportive Skills.** Two courses, totaling at least six credit hours must be completed as supportive skills. Supportive skills courses are courses in communication or computation skills which have been approved by the major program and must be chosen from the following subject areas: (a) foreign language; (b) English composition or technical writing; (c) statistics; or (d) computer science. Students may not fulfill this requirement with courses offered by the student's major department or program. Because departments have different supportive skills requirements, students should consult individual program descriptions for approved courses for each major.

**General Requirements.** At least 40 hours of the student's 120 hours for graduation must be at the 300- or 400-level. The total may include transfer credit for courses judged by the department involved to be equivalent to its upper division courses. For transfer students submitting only the last year in residence, at least 24 of these must be at the 300- or 400- level.

#### PREPROFESSIONAL PROGRAMS

A student planning a professional career in any of the following fields should register in the College of Science immediately: dentistry, medicine, optometry, pharmacy, physical therapy, physician assistant, or podiatry. Students pursuing a career in veterinary science should register in the College of Science or the College of Agriculture. Students planning a double major need register only in the College in which they will earn a degree. Preprofessional students should refer to the baccalaureate section in this chapter.

## Biological Sciences (Major)

Biological Sciences is an appropriate major for students wishing to pursue a pre-professional curriculum, planning a teaching career, seeking a career as a laboratory research scientist or pursuing an interest in environmental biology. The Biological Sciences major is an interdepartmental, interdisciplinary major designed to give the student a measure of breadth rather than an in-depth concentration in one particular facet of the biological areas. The curriculum is drawn from the resources of four life science departments, each of which have their own undergraduate degrees.

Students with a major in Biological Sciences may not select one of the four life science areas as a minor, and students electing to pursue a double major may not use more than 11 semester hours of biological sciences courses to satisfy the requirements for both majors. In addition to the biological sciences courses, students are required to take courses in mathematics, physics and chemistry.

Students planning a major in Biological Sciences should consult with the director of the Biological Sciences Program for information concerning specific questions about the curriculum requirements.

#### Bachelor of Arts Degree, College of Science

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
<i>College of Science Academic Requirements</i> .....	6-8
Supportive Skills: at least 6 credit hours chosen from Mathematics 282 or 283 or Plant Biology 360; Computer Science 200, 201, 202 or 210; English 291 or 491; or any two semester sequence of a foreign language <sup>2</sup> .....	6-8
<i>Requirements for Biological Sciences</i> .....	64-66

Biology 200a,b.....	6
Biology 305 .....	3
Microbiology 301 .....	4
Physiology 310 .....	5
Plant Biology 204 .....	4
Zoology 220a,b .....	6
Any one of Biology, Microbiology, Physiology, Plant Biology or Zoology 300-level courses .....	3
At least 9 credit hours of Microbiology, Physiology, Plant Biology or Zoology 400-level courses .....	9 <sup>3</sup>
Chemistry 200, 201 .....	4
Chemistry 340, 341 .....	5
Chemistry 350 .....	3
Physics 203a, 253a or Physics 205a, 255a .....	4
Mathematics 108 and 109, or 111 .....	5-6
Any one of the following: Mathematics 141, or 150; Plant Biology 360, Mathematics 282 or 283 <sup>4</sup> .....	3-4
General Electives .....	5-9 <sup>5</sup>
Total .....	120

<sup>1</sup>The 41 hour requirement may be reduced by taking major requirements which are approved substitutes for University Core Curriculum courses.

<sup>2</sup>The supportive skills foreign language requirement may also be met by one of the following: (a) completing three years of one language in high school with a grade of C or better; or (b) earning 8 credit hours of 100-level courses in one language by proficiency examination.

<sup>3</sup>Courses identified as independent research, special problems, readings or seminars may not be used to fulfill this requirement.

<sup>4</sup>If Plant Biology 360 or Mathematics 282 or 283 is used as a supportive skill requirement, it may not be used to fulfill the mathematics requirement.

<sup>5</sup>Substitution of majors courses for University Core Curriculum courses will increase the number of general elective hours.

Biological Sciences Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102 .....	3	3	BIOL 200a,b .....	3	3
Fine Arts Core .....	3	-	CHEM 200, 201.....	4	-
MATH 108,109.....	3	3	CHEM 340, 341.....	-	5
Social Science Core .....	-	3	MATH 141 .....	4	-
PLB 200 or ZOOL 118 .....	4	-	Humanities Core .....	-	3
SPCM 101.....	-	3	Social Science Core .....	3	-
Elective.....	2	-	ZOOL 220a or b.....	-	3
ZOOL 220a or b .....	-	3			
Total.....	15	15	Total .....	14	14
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Humanities Core.....	3	-	MICR 301 .....	4	-
CHEM 350 .....	-	3	BIOL 305.....	-	3
MATH 282 .....	3	-	Multicultural .....	3	-
PLB 204 .....	-	4	ENGL 291.....	-	3
PHSL 310 .....	5	-	Interdisciplinary .....	-	3
BIOL 300-level.....	-	3	BIOL 400-level .....	6	3
PHYS 203a, 253a .....	4	-	Elective .....	3	4
Elective.....	-	5			
Total.....	15	15	Total .....	16	16

Bachelor of Science Degree, College of Education

Students planning to obtain their degree in the College of Education must satisfy all the requirements of that college. The teacher education program requires 28 hours of professional education courses. See Teacher Education Program 3. University Core Curriculum requirements for teacher education must include the following: ENGL 101, 102; SPCM 101; MATH 108 or 111; CHEM 200; PLB 200; FL 101, HIST 101a<sup>1</sup>, 101b, PHIL 103a or 103b; HIST 110; AD 101, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; FL 313I<sup>1</sup>, HIST 304I<sup>1</sup> or PHIL 308i; POLS 114; PSYC 102; ANTH 202, HIST

202, 210 or SOC 215; HED 101 or PE 101. The requirements in biological sciences will be the same as those in the College of Science. Those students desiring to attain a secondary education teaching certificate must also enroll in Curriculum and Instruction 468.

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<sup>1</sup> One course in non-western civilization must be taken

## Minor

A minor in biological sciences consists of a minimum of 20 hours and must include: any one of Biology 305, 306 or 307 (3 hours); at least nine hours from Microbiology 301, Physiology 310, Plant Biology 204 and Zoology 220a,b; and eight hours selected from course offerings in Microbiology, Physiology, Plant Biology and Zoology. A student with a major in one of the four life sciences may not take a minor in Biological Sciences. All minors must be approved by the director of the Biological Sciences Program.

## Chemistry and Biochemistry (Department, Major [Chemistry], Courses)

The Department of Chemistry and Biochemistry offers two degree programs with a major in chemistry. First there is the Bachelor of Science degree in the College of Science. This degree is for those who wish to prepare for graduate study in chemistry or who will become professional chemists. Within this degree there are two options. A more rigorous program of study carries American Chemical Society (ACS) certification, while a program with fewer hours does not. Although students are encouraged to seek ACS certification it should be understood that ACS certification is not a requirement for graduate study or employment as a chemist.

The Bachelor of Arts degree in the College of Science is designed primarily for students who wish to complete a major in chemistry but will specialize in areas related to it. Students complete a group of core courses, along with additional courses that will lead to a specialization in biochemistry, business, environmental or forensic chemistry.

A knowledge of computer programming is recommended for all majors in chemistry.

The department enforces the following retention policy: A grade point average of at least 2.0 in chemistry courses is required on completion of the first 22 hours of formal chemistry coursework. Any exception will require written approval of the chair of undergraduate advisement. A minimum gpa of 2.0 in chemistry coursework is needed in order for a student to receive a degree in Chemistry. Students will meet with a departmental advisor each semester for planning, monitoring progress and approval of courses appropriate to their goals and interests.

Students taking a laboratory course will be required to purchase a notebook or a laboratory exercise book. Students are required to wear approved safety glasses in the laboratory at all times. All students enrolled in a chemistry class that includes a laboratory session will be assessed a breakage charge for all glassware broken. The amount assessed will be based on actual replacement costs. A fee will also be assessed if a student fails to check in their locker at the end of the semester.

Students wishing more detailed information should contact the undergraduate adviser, Department of Chemistry and Biochemistry, Southern Illinois University at Carbondale, Carbondale, IL 62901.

## Bachelor of Science Degree, College of Science

*University Core Curriculum Requirements* ..... 41

<i>College of Science Academic Requirements</i> .....	11-14
Supportive Skills: a minimum of six hours from among: Chinese 120, Classics 130, 133, French 123, German 126, Japanese 131, Russian 136, Spanish 140, Computer Science 200, 210, Mathematics 483, 484 and English 291. If a foreign language is chosen, two semesters of one language must be taken to satisfy the requirement .....	6-8
Mathematics 108 and 109 or 111 .....	(3) + 2-3
Biological Sciences (not Core Curriculum) .....	(3) + 3
<i>Requirements for Major in Chemistry</i> .....	56-57
Chemistry 200, 201, 210, 211, 230, 340, 341, 342, 343, 350 (or 451a), 411, 434, 461, 462, 466a,b .....	(3) + 37-38
Mathematics 150, 250 and either 221 or 305 .....	11
Physics 205a,b; 255a,b .....	8
<i>Electives</i> .....	<u>8-12</u>
<i>Total</i> .....	120

### American Chemical Society Certification:

To receive certification by the ACS a student must complete the following additional courses: Chemistry 396 (2) or 496 (2) and any two courses from among 431, 439, 444, 451b and 468; and Mathematics 251. These courses may substitute for electives.

### Bachelor of Arts Degree, College of Science

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Science Academic Requirements</i> .....	11-14
Supportive Skills: a minimum of six hours from among: Chinese 120, Classics 130, 133, French 123, German 126, Japanese 131, Russian 136, Spanish 140, Computer Science 200, 210, Mathematics 483, 484 and English 291. If a foreign language is chosen, two semester of one language must be taken to satisfy the requirement. ....	6-8
Mathematics 108 and 109, or 111 .....	(3) + 2-3
Biological Sciences (not University Core Curriculum) .....	(3)+ 3
<i>Requirements for Major in Chemistry</i> .....	48-63
Required Core Courses: Chemistry 200, 201, 210, 211, 230, 340, 341, 342, 343, 350, (or 451a), 411, 462, 466a .....	(3) + 29-30
Mathematics 150 .....	4
Physics 203a,b and 253a,b or 205a,b and 255a,b .....	8
Required Curriculum Specialization: .....	(2-3) + 7-21

#### *Biochemistry Specialization* .....

(2)+ 7

For students interested in the biological aspects of chemistry.

Required: An additional nine hours at the 300-400 level in biochemistry, microbiology, physiology, plant biology or zoology, chosen in consultation with an adviser in chemistry and approved by the chair of the department. Chemistry 451a,b are strongly recommended in lieu of 350 and three of the additional nine hours above. Chemistry 456 should be substituted for 462. A course at the 300-400 level that includes a lab in a bioscience area is recommended.

#### *Business Specialization* .....

(3) + 21

For students interested in pursuing a career in chemistry, but with an interest in the business aspects of it such as management,

marketing and production, rather than research and development.

Required: An additional three hours in chemistry at the 300-400 level, chosen in consultation with an adviser and approval of the chair of the department; Mathematics 250; Accounting 220, 230; Economics 240; Finance 330; Management 304; and Marketing 304.

*Environmental Chemistry Specialization* ..... 16  
For students interested in chemistry as it relates to air, water and soil in the environment.

Required: Chemistry 431 and nine hours from among Chemistry 434, Civil Engineering 310, Mechanical Engineering 416 and Plant and Soil Science 446 (has 240 as a prerequisite); Mathematics 250 and 283 or 483. Mathematics 483 cannot count as a supportive-skills requirement.

*Forensic Chemistry Specialization* ..... 13  
For students interested in chemistry applied to solving problems encountered in crime labs.

Required: Chemistry 434, 439, 396-2 (Chemistry 396 will involve research on problems of interest to the State Crime Lab or a formal internship at the State Crime Lab. The latter is subject to availability and approval of the Crime Lab); Mathematics 250.

<i>Electives</i> .....	<u>2-20</u>
<i>Total</i> .....	120

Chemistry Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
CHEM 200, 201.....	4	-	-	CHEM 230.....	4	-	-
CHEM 210, 211.....	-	4	-	CHEM 340, 341.....	5	-	-
ENGL 101, 102.....	3	3	-	CHEM 342, 343.....	-	5	-
MATH 108, 109.....	3	3	-	CHEM 350.....	-	4	-
Fine Arts.....	-	3	-	MATH 150, 221.....	4	3	-
Human Health.....	-	2	-	Humanities.....	-	3	-
PLB 200 or ZOOL 118.....	4	-	-	SPCM 101.....	3	-	-
<i>Total</i> .....	14	15	-	<i>Total</i> .....	16	15	-
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
CHEM 461, 462.....	3	3	-	CHEM 434.....	4	-	-
CHEM 466a,b.....	1	1	-	CHEM 411.....	-	3	-
Humanities.....	3	-	-	CHEM 444 or 468.....	3	-	-
MATH 250, 251.....	4	3	-	CHEM 431.....	-	3	-
PHYS 205a, 255a.....	4	-	-	CHEM 396 or 496.....	-	2	-
PHYS 205b, 255b.....	-	4	-	CS 200.....	-	3	-
Social Science.....	-	3	-	MATH 483.....	4	-	-
<i>Total</i> .....	15	14	-	Integrative Studies.....	3	3	-
				Social Science.....	3	-	-
				<i>Total</i> .....	17	14	-

Minor

The minor in chemistry requires a minimum of 16 semester hours of chemistry in formal course work at the 200 level or above including 200, 201, 210, 211 or their equivalents. At least eight of the sixteen hours must be taken at SIUC. A grade point average of at least 2.0 is required in the minor, both in course work taken at SIUC and overall.

## Chemistry and Biochemistry Faculty

**Arnold, Richard T.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1937.

**Bartholomew, Blaine**, Assistant Professor, Ph.D., University of California, Davis, 1988.

**Bausch, Mark J.**, Associate Professor, Ph.D., Northwestern University, 1984.

**Beyler, Roger E.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1949.

**Caskey, Albert L.**, Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1961.

**Dave, Bakul C.**, Assistant Professor, Ph.D., University of Houston, 1993.

**Davis, Joe M.**, Associate Professor, Ph.D., University of Utah, 1985.

**Groziak, Michael P.**, Associate Professor, Ph.D., Northwestern University, 1983.

**Gupta, Ramesh**, Associate Professor, Ph.D., University of Illinois, 1981.

**Guyon, John C.**, Professor, Ph.D., Purdue University, 1961.

**Hadler, Herbert I.**, Professor, *Emeritus*, Ph.D., University of Wisconsin, 1952.

**Hadley, Elbert H.**, Professor, *Emeritus*, Ph.D., Duke University, 1940.

**Hardwicke, Peter M.D.**, Professor, Ph.D., Kings College, London, 1969.

**Hinckley, Conrad C.**, Professor, Ph.D., University of Texas, 1964.

**Koropchak, John A.**, Professor and *Chair*, Ph.D., University of Georgia, 1980.

**Koster, David F.**, Professor, Ph.D., Texas A & M University, 1965.

**Lim, Louis**, Assistant Professor, Ph.D., Washington University, 1979.

**Meyers, Cal Y.**, Distinguished Professor, Ph.D., University of Illinois, 1951.

**Neckers, J. W.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1927.

**Niederhoffer, Eric C.**, Associate Professor, Ph.D., Texas A&M University, 1983.

**Phillips, John B.**, Professor, Ph.D., University of Arizona, 1977.

**Scheiner, Steven I.**, Professor, Ph.D., Harvard University, 1976.

**Schmit, Joseph**, Associate Professor, Ph.D., Purdue University, 1971.

**Schmulbach, C. David**, Professor, *Emeritus*, Ph.D., University of Illinois, 1958.

**Shriver, John W.**, Professor, Ph.D., Case Western University, 1977.

**Smith, Gerard V.**, Professor, Ph.D., University of Arkansas, 1959.

**Trimble, Russell F.**, Professor, *Emeritus*, Ph.D., Massachusetts Institute of Technology, 1951.

**Tyrrell, James**, Professor, Ph.D., University of Glasgow, 1963.

**Van Lente, Kenneth A.**, Professor, *Emeritus*, Ph.D., University of Michigan, 1931.

**Vermeulen, Lori A.**, Assistant Professor, Ph.D., Princeton University, 1994.

**Wotiz, John H.**, Professor, *Emeritus*, Ph.D., Ohio State University, 1948.

**Zhu, Xiaoyang**, Assistant Professor, Ph.D., University of Texas, 1992.

## Computer Science (Department, Major, Courses)

Computer Science encompasses the theory, tools and techniques by which information is derived, stored, manipulated, and communicated using computers. It deals particularly with the study of algorithms that are used to direct the computer and with the expression of these algorithms as programs. Of central concern is the study and further development of the computer systems, including both hardware and software, that support the execution of these programs.

The Computer Science department offers courses covering all major areas of computer science leading to a Bachelor of Science degree through the College of Science. These courses prepare students for a variety of professional and technical careers in business, industry, and government or for graduate work leading to advanced degrees. In addition, the department offers an undergraduate minor and service courses for students from other fields who will use computer science as a tool in their own areas. Students interested in computer science will be advised with respect to computer science courses by the department so they may profitably pursue their academic and professional interests.

The department enforces the following retention policy: A computer science major will not be permitted to enter any of the courses, 220, 306, 311, 315, 320, 330 and 355, unless that student has achieved a grade point average of at least 2.00 for all required precedent computer science courses. Any exceptions to this policy will require the written approval of the departmental chair.

The department also enforces the following restriction on students repeating its courses: a student cannot repeat a course or its equivalent, in which a grade of B or better was earned, without the consent of the department.

**Bachelor of Science Degree, College of Science**

<i>University Core Curriculum Requirements</i> .....	41 <sup>1</sup>
<i>College of Science Academic Requirements (See above)</i> .....	13
Biological Sciences .....	(3) <sup>1</sup> + 3
Physical Sciences .....	(3) <sup>1</sup> + 3
Supportive Skills .....	7
A course in statistics, Mathematics 483, and a course in English composition beyond English 102 chosen from an approved list. <sup>2</sup>	
<i>Requirements for Major in Computer Science</i> .....	56-65
Computer Science Core .....	28
Computer Science 202, 215, 220, 306, 311, 315, 320, 330, 355, 399, each with a grade of C or better.	
Computer Science electives .....	18
To build on the core and to provide breadth and depth, six 400-level Computer Science courses must be chosen from an approved list. <sup>2</sup>	
Mathematics 150, 221, 250 .....	(3) <sup>1</sup> + 8-11
Science .....	(3-6) <sup>1,3</sup> + 2-8
A two-semester sequence of laboratory science courses chosen from an approved list. <sup>2</sup>	
<i>Electives</i> .....	1-10
<i>Total</i> .....	120

<sup>1</sup> The 41 hour Core curriculum requirement is reduced by taking science and mathematics courses which are approved substitutes.

<sup>2</sup> See departmental adviser for the current approved list.

<sup>3</sup> These courses can be chosen to satisfy the science requirement of the college and the major.

**Computer Science Suggested Curricular Guide**

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
CS 202.....	-	3	CS 220, 315 .....	3	3
CS 215.....	-	3	ENGL 290.....	3	-
ENGL 101, 102.....	3	3	MATH 250, 221.....	4	3
MATH 111, 150 .....	5	4	PHYS 205a, 255a.....	4	-
PHIL 105 .....	3	-	PHYS 205b, 255b .....	-	4
SPCM 101.....	-	3	Core Humanities .....	-	3
ZOOL 214 .....	3	-	Core Social Science .....	-	3
<i>Total</i> .....	14	16	<i>Total</i> .....	14	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
CS 306.....	-	3	CS 399.....	1	-
CS 311.....	3	-	CS 4XX.....	3	3
CS 320.....	3	-	CS 4XX.....	3	3
CS 330.....	3	-	CS 4XX.....	3	3
CS 355.....	-	3	Core Interdisciplinary .....	-	3
MATH 483 .....	-	4	Core Multicultural .....	3	-
PLB 200 or ZOOL 118.....	-	4	Free Elective.....	3	3
Core Fine Arts .....	3	-			
Core Social Science .....	3	-			
<i>Total</i> .....	15	14	<i>Total</i> .....	16	15

Minor

A minor consists of Computer Science 202, 215, 220, and at least nine hours of 300-level Computer Science course work.

Computer Science Faculty

Carver, Norman F., III, Assistant Professor, Ph.D., University of Massachusetts, 1990.

Chu, Jiang-Hsing, Associate Professor, Ph.D., University of Maryland, 1989.

Danhof, Kenneth J., Professor and Chair, Ph.D., Purdue University, 1969.

Gupta, Bidyut, Associate Professor, Ph.D., University of Calcutta, 1986.

Hou, Wen-Chi, Associate Professor, Ph.D., Case Western Reserve University, 1989.

Mark, Abraham M., Professor, Emeritus, Ph.D., Cornell University, 1947.

McGlinn, Robert, Associate Professor, Ph.D., Southern Illinois University, 1976.

Phillips, Nicholas C. K., Associate Professor, Ph.D., University of Natal, 1967.

Tragoudas, Spyros, Associate Professor, Ph.D., University of Texas at Dallas, 1991.

Wainer, Michael S., Associate Professor, Ph.D., University of Alabama-Birmingham, 1987.

Wright, William E., Professor, D.Sc., Washington University, 1972.

Zargham, Mehdi R., Professor, Ph.D., Michigan State University, 1983.

Geology (Department, Major, Courses)

In the field of geology a student may work toward either a Bachelor of Arts or Bachelor of Science degree.

The Bachelor of Arts degree requires a major in geology but is a flexible program, permitting a student to combine education in geology with courses in other areas, such as other environmental sciences, management, or pre-law. A minor is optional. Having obtained a Bachelor of Arts degree, students may continue their education toward a Master of Science degree in geology, although it may be necessary to absorb deficiencies in physics and mathematics.

The Bachelor of Science degree requires a major in geology and courses in biology, chemistry, mathematics, physics, and science electives. This degree will ordinarily be pursued by students desiring to do graduate work in geology or to become professional geologists.

Bachelor of Arts Degree, College of Science

University Core Curriculum Requirements .....	41
College of Science Requirements .....	(6) + 11-12
Mathematics 108 and 109 or 111 .....	(3) + 2-3
Biological Sciences (Not University Core Curriculum) .....	(3) + 3
Supportive Skills (choose from the following) .....	6
Computer Science 200 or 201 or 202 or Engineering 222, English 291 or 491, Mathematics 282 or 283, two semester sequence of a foreign language offered at Southern Illinois University at Carbondale	
Requirements for Major in Geology .....	(3) + 42-46 <sup>1</sup>
Geology 220, 221, 223, 224, 302, 310, 315, 325, 425, 474, and 450 or 454 .....	(3) + 30-34
Chemistry 200, 201, 210, 211 .....	8
Physics 203a, 253a or 205a, 255a .....	4
Electives .....	20-25
Total .....	121

**Bachelor of Arts in Geology Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
GEOL 220, 223 .....	4	-	GEOL 310 .....	4	-
GEOL 221, 224 .....	-	4	GEOL 315 .....	-	4
ENGL 101, 102 .....	3	3	PHYS 203a, 253a .....	4	-
CHEM 200, 201 .....	4	-	BIOL SCI .....	-	3
CHEM 210, 211 .....	-	4	SPCM 101 .....	-	3
MATH 108 <sup>2</sup> , 109 .....	3	3	Core Social Science .....	3	3
Core Human Health .....	2	-	Core Humanities .....	3	3
<i>Total</i> .....	16	14	<i>Total</i> .....	14	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
GEOL 302 .....	4	-	Interdisciplinary .....	3	-
GEOL 325 .....	-	4	GEOL 450 .....	-	3
GEOL 425 .....	4	-	Elective .....	9	9
GEOL 474 .....	-	3	Supportive Skills .....	3	3
BIOL SCI (w/Lab) <sup>3</sup> .....	4	-			
Core Fine Arts .....	-	3			
Core Multicult Diversity .....	3	-			
Elective .....	-	5			
<i>Total</i> .....	15	15	<i>Total</i> .....	15	15

<sup>1</sup> Geology 220 and 223 subs for Geology 110<sup>2</sup> Mathematics 108 may be used for Core Curriculum Mathematics<sup>3</sup> Subs for Core biology**Bachelor of Science Degree, College of Science**

University Core Curriculum Requirements .....	41
College of Science Requirements .....	(6) + 11-12
Mathematics 108 and 109 or 111 .....	(3) + 2-3
Biological Sciences (Not University Core Curriculum) .....	(3) + 3
Supportive Skills (choose from the following) .....	6
Computer Science 200 or 201 or 202 or Engineering 222, English	
291 or 491, Mathematics 282 or 283, two semester sequence of a	
foreign language offered at Southern Illinois University at Car-	
bondale .....	
Requirements for Major in Geology .....	(3) + 67-68 <sup>1</sup>
Geology 220, 221, 223, 224, 302, 310, 315, 325, 415, 425, 454, 474, and	
435 or 436 .....	(3) + 40-41
Geology electives .....	4
Mathematics 150 .....	4
Chemistry 200, 201, 210, 211 .....	8
Physics 203a,b, 253a,b or 205a,b 255a,b .....	8
Electives in supporting sciences or technology .....	3
<i>Total</i> .....	121-123

<sup>1</sup>Numbers in parenthesis are hours which may be substituted into the University Core Curriculum.**Bachelor of Science in Geology Suggested Curricular Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
GEOL 220, 223 <sup>1</sup> .....	4	-	GEOL 310 .....	4	-
GEOL 221, 224 .....	-	4	GEOL 315 .....	-	4
ENGL 101, 102 .....	3	3	PHYS 203a,b .....	3	3
CHEM 200, 201 .....	4	-	PHYS 253a,b .....	1	1
CHEM 210, 211 .....	-	4	MATH 150 .....	4	-
MATH 108 <sup>2</sup> , 109 .....	3	3	SPCM 101 .....	-	3
Core Human Health .....	2	-	Core Humanities .....	3	3
<i>Total</i> .....	16	14	<i>Total</i> .....	15	14

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
GEOL 302.....	4	-	GEOL 435 or 436 .....	3-4	-
GEOL 325.....	-	4	GEOL 415.....	-	3
GEOL 425.....	4	-	GEOL Elective .....	3	3
GEOL 474.....	-	3	Supportive Skills .....	3	3
Core Fine Arts .....	3	-	Integrative Studies .....	3	3
BIOL SCI (w/lab) <sup>3</sup> .....	-	4	Sci/Tech Elective .....	3	-
Core Social Science .....	3	3	BIOL SCI .....	-	3
Total .....	14	14 <sup>4</sup>	Total .....	15-16	15

<sup>1</sup>Geology 220, 223 subs for Geology 110  
<sup>2</sup>Mathematics 108 may be used for Core Curriculum Mathematics  
<sup>3</sup>Subs for Core Biology  
<sup>4</sup>Geology 454 for six hours needs to be taken in Summer school after the junior year.

Minor

A minor consists of 16 hours, determined by consultation with the geology adviser.

Geology Faculty

- Crelling, John C.**, Professor, Ph.D., The Pennsylvania State University, 1973.

**Dutcher, Russell R.**, Professor, *Emeritus*, Ph.D., The Pennsylvania State University, 1960.

**Esling, Steven Paul**, Associate Professor, Ph.D., University of Iowa, 1984.

**Fifarek, Richard H.**, Associate Professor, Ph.D., Oregon State University, 1985.

**Frank, Charles O.**, Assistant Professor, Ph.D., Syracuse University, 1973.

**Harris, Stanley E., Jr.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1947.

**Kruege, Michael A.**, Associate Professor, Ph.D., University of California, Berkeley, 1985.
- Marzolf, John E.**, Associate Professor, Ph.D., University of California at Los Angeles, 1970.

**Pinter, Nicholas**, Assistant Professor, Ph.D., University of California, Santa Barbara, 1992.

**Ravat, Dhananjay**, Assistant Professor, Ph.D., Purdue University, 1989.

**Sexton, John L.**, Professor, Ph.D., Indiana University, 1974.

**Staub, James R.**, Associate Professor, Ph.D., University of South Carolina, 1985.

**Utgaard, John E.**, Professor, Ph.D., Indiana University, 1963.

**Zimmerman, Jay, Jr.**, Professor and *Chair*, Ph.D., Princeton University, 1968.

Mathematics (Department, Major, Courses)

Opportunities for mathematics majors have expanded greatly in recent years. Mathematics majors become actuaries, statisticians, mathematical computer scientists, applied mathematicians, operations research analysts and mathematical researchers. Mathematics is growing and changing and holds fascinating challenges for inquiring minds.

As an undergraduate mathematics major at Southern Illinois University at Carbondale, you may work toward a Bachelor of Science degree in the College of Science or the College of Education, or a Bachelor of Arts degree in the College of Liberal Arts. The classes in the mathematics major curriculum are small and are taught by senior faculty members. A strong support system of college and departmental advisement is available to you at SIUC throughout the year.

A student planning for employment with a bachelor's degree should consider a minor or a second major in some field in which mathematics is applied. Many students earn a double major in mathematics and computer science. All of the bachelor's degree programs in mathematics, including the Bachelor of Science degree in the College of Education, have sufficient flexibility to allow you to prepare for alternate career possibilities.

To prepare to major in mathematics at SIUC, you should have a solid high school preparation in algebra, geometry in two and three dimensions, and trigonometry, including a substantial study of functions and graphing. Students transferring to SIUC after two years at a community college should have completed the calculus se-

quence and, if possible, linear algebra and a course in Pascal or equivalent programming proficiency.

As a mathematics major at SIUC, you will meet with a Department of Mathematics adviser at least once each semester for planning and departmental approval of courses appropriate to your goals and interests.

A grade of C or better is required in every mathematics course used to satisfy departmental requirements.

### Double majors in mathematics and related fields

Special provisions are made for students to earn a double major in mathematics and a field in which mathematics is extensively applied. The courses Math 361, 447, 449, 471, 472, and 475 carry credit in both mathematics and computer science. See Bachelor of Science Degree, College of Science for specific requirements in mathematics for students who also earn a major or minor in computer science.

For students who also have a major in engineering, physics, or chemistry, the requirements for a major in mathematics are Math 150, 221, 250, 251, 305 and five additional mathematics courses numbered above 300, including at least three courses above 400, and including two of the three areas of algebra, analysis, probability and statistics. The courses must be approved by a mathematics department adviser.

Students majoring in business and administration with a secondary concentration in mathematics may obtain a second major in mathematics. The requirements are Mathematics 150, 250, 251, 221, and five approved mathematics courses at the 300-400 level, of which at least four are at the 400-level. Recommended courses for this program are Mathematics 361, 471, 472, 483, 484, Management 352, 453, 456; Economics 315, 465; Finance 310, 331, and 341.

### Option in Statistics

A student majoring in mathematics in the College of Science or the College of Liberal Arts may choose to concentrate in statistics. For this option, the 300- and 400-level course requirements are: 417; 305 or 472; one of 352, 450, 452, or 455; 380 or 480; 483; and at least two of 473, 481, 484, 485.

### Bachelor of Science Degree, College of Science

*University Core Curriculum Requirements* ..... 41

*College of Science Academic Requirements* ..... (6) + 14<sup>1</sup>

Supportive Skills: a two-semester sequence in a foreign language, or three years of one foreign language in high school with no grade lower than C.

Biological Sciences (not University Core) ..... (3) + 3

Physical Sciences (not University Core) ..... (3) + 3

*Requirements for Major in Mathematics* ..... (3) + 41<sup>1</sup>

Mathematics 150, 221, 250, 251 ..... (3) + 11

Computer Science 202 or approved substitute ..... 3

At least one course from each of the following groups: ..... 12

(one group may be waived for students who have a minor in Computer Science)

Group A: Algebra/Discrete Mathematics/Linear Algebra: 319, 349, 419, 421, 447, 449

Group B: Analysis: 352, 450, 452, 455

Group C: Applied Mathematics/Numerical Analysis: 305, 361, 471, 472, 475a

Group D: Probability/Statistics: 380, 480, 483

Five additional courses in mathematics numbered above 299 (excluding 311, 314, 319e, 352e, 400, 411, 412, 457, 458) .....	15
Each student's program must include at least 5 mathematics courses at the 400 level and must be approved by a mathematics department adviser.	
Courses taken Pass/Fail will not count toward the major.	
Electives .....	24
Total .....	120

College of Science Mathematics Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
MATH 111 <sup>1</sup> .....	5	-	MATH 221 .....	3	-
MATH 150 .....	-	4	MATH 250, 251 .....	4	3
CS 202 .....	-	3	MATH 302 or 305 .....	-	3
ENGL 101, 102 .....	3	3	Human Health .....	2	-
Fine Arts .....	3	-	SPCM 101 .....	3	-
Foreign Language .....	4	4	PLB 200 or ZOOL 118 <sup>2</sup> .....	4	-
			Biology .....	-	2-3
			Humanities .....	-	3
			Social Science .....	-	3
Total .....	15	14	Total .....	16	14-15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Two 300-400-Level Math <sup>3</sup> .....	6	6	Two 300-400-Level Math <sup>3</sup> .....	6	6
Humanities .....	3	-	Multicultural .....	3	-
PHYS 203a, 253a <sup>2</sup> .....	4	-	Interdisciplinary .....	-	3
PHYS 203b .....	-	3	Elective .....	6	6
Social Science .....	-	3			
Elective .....	2-3	3			
Total .....	15-16	15	Total .....	15	15

<sup>1</sup>Fulfills University Core Curriculum foundation skills  
<sup>2</sup>Fulfills University Core Curriculum science requirement  
<sup>3</sup>Must be approved by a mathematics advisor.

Bachelor of Arts Degree, College of Liberal Arts

University Core Curriculum Requirements .....	41
College of Liberal Arts Academic Requirements .....	11
English Composition .....	3
Foreign Language .....	8
Requirements for Major in Mathematics .....	(3) + 41 <sup>1</sup>
Mathematics 150, 221, 250, 251, .....	(3) + 11
Computer Science 202 or approved substitute .....	3
At least one course from each of the following groups: .....	12
(One group may be waived for students who have a minor in Computer Science)	
Group A: Algebra/Discrete Mathematics/Linear Algebra: 319, 349, 419, 421, 447, 449	
Group B: Analysis: 352, 450, 452, 455	
Group C: Applied Mathematics/Numerical Analysis: 305, 361, 471, 472, 475a	
Group D: Probability/Statistics: 380, 480, 483	
Five additional courses in mathematics numbered above 299 (excluding 311, 314, 319e, 352e, 400, 411, 412, 457, 458) .....	15
Each student's program must include at least 5 mathematics courses at the 400 level and must be approved by a mathematics department adviser.	
Courses taken Pass/Fail will not count toward the major.	
Secondary Concentration Requirements .....	6-9

Six to nine hours approved by the Department of Mathematics in one of the following areas: engineering, computer science, physics, economics, business and administration. A minor in any department of the College of Liberal Arts or the College of Science may be substituted for this requirement.

<i>Electives</i> .....	15-18
<i>Total</i> .....	120

<sup>1</sup>Numbers in parenthesis are hours which may be substituted into the University Core Curriculum.

### College of Liberal Arts Mathematics Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
MATH 111 <sup>1</sup> .....	5	-	MATH 221.....	3	-
MATH 150 .....	-	4	MATH 250, 251.....	4	3
CS 202.....	-	3	MATH 302 or 305.....	-	3
ENGL 101, 102.....	3	3	Human Health.....	2	-
Fine Arts.....	-	3	SPCM 101 .....	3	-
Humanities .....	3	-	Science .....	3	3
Social Science.....	3	3	Humanities .....	-	3
			English Composition .....	-	3
<i>Total</i> .....	14	16	<i>Total</i> .....	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Two 300-400 Level Math <sup>2</sup> .....	6	6	Two 300-400 Level Math <sup>2</sup> .....	6	6
Secondary Concentration .....	3	3	Secondary Concentration.....	3	-
Multicultural .....	3	-	300-400 Level Elective .....	3	8
Interdisciplinary.....	-	3	Additional Science w/lab .....	3	-
Foreign Language .....	4	4			
<i>Total</i> .....	16	15	<i>Total</i> .....	15	14

<sup>1</sup>Fulfills University Core Curriculum Foundation Skills

<sup>2</sup>Must be approved by a mathematics advisor.

### Bachelor of Science Degree, College of Education

Students in the College of Education with a major in mathematics must plan schedules of mathematics courses numbered above 199 with a mathematics adviser. Grades must be at least C in mathematics courses used to satisfy these requirements.

<i>University Core Curriculum Requirements</i> .....	41
To include ENGL 101, 102 and 121 or 204; SPCM 101; MATH 111 or 150; FL 101, HIST 101a, 101b, PHIL 103a or 103b; HIST 110; AD 101, HIST 201, MUS 103 or THEA 101; POLS 114; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; ANTH 202, HIST 202, 210 or SOC 215; FL 313i, HIST 304i or PHIL 308i; HED 101 or PE 101.	
<i>Requirements for Major in Mathematics</i> .....	39 <sup>1</sup>
Mathematics 150, 250, 251 or 305 .....	(3) + 8
Mathematics 221 .....	3
A student may take some of the above courses by proficiency examination.	
Computer Science 202 or approved substitute .....	3
Mathematics 311, 319, (or 419), 335, and 352 (or 452) .....	13
Mathematics 319e and 352e; or Mathematics 302 .....	2-3
At least 3 additional mathematics courses numbered above 399 .....	9
(At least one course in probability and statistics must be included in the student's program.)	
<i>Education Requirements</i> .....	34
Professional Education Requirements .....	28
See Teacher Education Program.	

Additional Courses for Teacher Certification .....	6
Psychology 102, Science elective-3	
Electives .....	6
Total .....	120

<sup>1</sup>Numbers in parenthesis are hours which may be substituted into the University Core Curriculum.

Unconditional admission into the Teacher Education Program in mathematics requires a 2.5 average in Mathematics 150, 250, 251 or 305 and 221. Retention in the Teacher Education Program and approval for student teaching requires a 2.5 average in the major (excluding Mathematics 311, 314 and 400) and departmental approval.

Approval for student teaching also requires a grade of C or better in Mathematics 311 and a 2.25 average in mathematics courses numbered above 299, including a grade of C or better in at least four other mathematics courses not including Mathematics 314 or 400. Students with a minor in mathematics must also meet this requirement to student teach in mathematics.

College of Education Mathematics Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
MATH 150, 250 .....	4	4	MATH 305 or 251.....	3	-
MATH 221 .....	-	3	MATH 302, 335 .....	3	3
ENGL 101, 102 .....	3	3	CS 202.....	-	3
POLS 114.....	3	-	Science Core <sup>1</sup> .....	3	-
Science Core <sup>1</sup> .....	3	-	Science Elective <sup>1</sup> .....	-	3
Fine Arts <sup>1</sup> .....	3	-	HIST 110.....	3	-
HED 101 or PE 101 .....	-	2	ENGL 121 or 204 .....	3	-
PSYC 102.....	-	3	Humanities Core <sup>1</sup> .....	-	3
			EDUC 311 .....	-	2
			EDUC 314 .....	-	2
Total.....	16	15	Total.....	15	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
MATH 319, 352 .....	6	-	MATH 311 .....	4	-
MATH 483.....	-	4	MATH 400-Level <sup>2</sup> .....	3	-
MATH 400-Level <sup>2</sup> .....	-	3	EDUC 316 .....	2	-
EDUC 308 .....	-	3	EDUC 317 .....	2	-
EDUC 310 .....	2	-	EDUC 401 .....	-	12
EDUC 315 .....	3	-	Interdisciplinary <sup>1</sup> .....	3	-
SPCM 101.....	3	-			
Multicultural .....	-	3			
Elective.....	2	3			
Total.....	16	16	Total .....	14	12

<sup>1</sup>Consult with College of Education academic advisor for appropriate course  
<sup>2</sup>Must be approved by mathematics department advisor

Minor

A non-teaching minor consists of Mathematics 150, or 140, or equivalent and 12 hours of mathematics credit at the 200 level or above, including at least one course at the 400 level (excluding 311, 314, 400, 411, 412, 457, and 458). Courses should be approved by a mathematics departmental adviser. Elementary and secondary education students interested in a mathematics minor should see a mathematics departmental education adviser to obtain a current list of specific requirements. A grade of C or better must be earned in all courses used to meet minor requirements.

Honors

Mathematics 395 and 495 are used for individual honors work for upper level undergraduates in mathematics.

## Placement

In addition to having taken the prerequisite mathematics, new students are required to present a satisfactory placement score as a condition for registration in mathematics courses. Contact the Department of Mathematics for current information regarding placement.

## Mathematics Faculty

**Beckemeyer, Imogene C.**, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1952.

**Bhattacharya, Bhaskar**, Assistant Professor, Ph.D., University of Iowa, 1993.

**Budzban, Gregory**, Assistant Professor, Ph.D., University of South Florida, 1991.

**Burton, T. A.**, Professor, Ph.D., Washington State University, 1964.

**Chen, Pei-Li**, Associate Professor, Ph.D., State University of New York at Buffalo, 1988.

**Clark, Lane**, Associate Professor, Ph.D., University of New Mexico, 1980.

**Crenshaw, James**, Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1967.

**Danhof, Kenneth**, Professor, Ph.D., Purdue University, 1969.

**Dharmadhikari, Sudhakar**, Professor, Ph.D., University of California at Berkeley, 1962.

**Earnest, Andrew**, Professor, Ph.D., Ohio State University, 1975.

**Elston, George**, Assistant Professor, *Emeritus*, M.S., University of Wisconsin, 1949.

**Feinsilver, Philip**, Professor, Ph.D., New York University (Courant), 1975.

**Fitzgerald, Robert W.**, Professor, Ph.D., University of California at Los Angeles, 1980.

**Foland, Neal E.**, Professor, *Emeritus*, Ph.D., University of Missouri, 1961.

**Gates, Leslie D.**, Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1952.

**Gregory, John**, Professor, Ph.D., University of California at Los Angeles, 1969.

**Grimmer, Ronald C.**, Professor, Ph.D., University of Iowa, 1967.

**Hall, Dilla**, Associate Professor, *Emeritus*, Ph.D., St. Louis University, 1955.

**Hooker, John W.**, Professor, Ph.D., University of Oklahoma, 1967.

**Hughes, Harry R.**, Associate Professor, Ph.D., Northwestern University, 1988.

**Hunsaker, Worthen N.**, Professor, Ph.D., Washington State University, 1966.

**Jeyaratnam, Sakthivel**, Professor, Ph.D., Colorado State University, 1978.

**Kammler, David**, Professor, Ph.D., University of Michigan, 1971.

**Kim, Henry**, Assistant Professor, Ph.D., University of Chicago, 1992.

**Kirk, Ronald B.**, Professor and *Chair*, Ph.D., California Institute of Technology, 1968.

**Koch, Charles**, Assistant Professor, *Emeritus*, Ph.D., University of Illinois, 1961.

**Langenhop, Carl E.**, Professor, *Emeritus*, Ph.D., Iowa State University, 1948.

**Lei, Junjiang**, Assistant Professor, Ph.D., University of Oregon, 1991.

**Mark, Abraham M.**, Professor, *Emeritus*, Ph.D., Cornell University, 1947.

**Maxwell, Charles**, Professor, *Emeritus*, Ph.D., University of Illinois, 1955.

**Mohammed, Salah-Eldin A.**, Professor, Ph.D., University of Warwick (England), 1976.

**Moore, Robert A.**, Associate Professor, *Emeritus*, Ph.D., Indiana University, 1961.

**Neuman, Edward G.**, Professor, Ph.D., University of Wroclaw (Poland), 1972.

**Olmsted, John M. H.**, Professor, *Emeritus*, Ph.D., Princeton University, 1940.

**Paine, Thomas B.**, Assistant Professor, *Emeritus*, Ph.D., University of Oregon at Eugene, 1966.

**Panchapakesan, S.**, Professor, Ph.D., Purdue University, 1969.

**Parker, George D.**, Associate Professor, Ph.D., University of California at San Diego, 1971.

**Patula, William T.**, Professor, Ph.D., Carnegie-Mellon University, 1971.

**Pedersen, Franklin D.**, Associate Professor, *Emeritus*, Ph.D., Tulane University, 1967.

**Pericak-Spector, Kathleen**, Associate Professor, Ph.D., Carnegie-Mellon University, 1980.

**Porter, Thomas D.**, Associate Professor, Ph.D., University of New Mexico, 1990.

**Redmond, Donald**, Associate Professor, Ph.D., University of Illinois, 1976.

**Skalsky, Michael**, Professor, *Emeritus*, D.Nat.Sc., University of Gottingen, 1949.

**Slechticky, James L.**, Instructor, *Emeritus*, M.S., Washington University, 1940.

**Snyder, Herbert H.**, Professor, *Emeritus*, Ph.D., Lehigh University, 1965, Ph.D., University of South Africa, 1971.

**Spector, Scott J.**, Professor, Ph.D., Carnegie-Mellon University, 1978.

**Sullivan, Michael**, Assistant Professor, Ph.D., University of Texas at Austin, 1992.

**Wallis, Walter**, Professor, Ph.D., University of Sydney, 1968.

**Wilson, Joseph C.**, Professor, *Emeritus*, Ph.D., Louisiana State University, 1954.

**Wright, Mary H.**, Professor, Ph.D., McGill University (Montreal), 1977.

**Yucas, Joseph**, Professor, Ph.D., Pennsylvania State University, 1978.

**Zeman, Marvin**, Professor, Ph.D., New York University (Courant Institute), 1974.

# Microbiology (Department, Major, Courses)

Microbiology is the study of microorganisms, a large and diverse group of organisms that exist as single cells or cell clusters. The science of microbiology includes the study of microbial growth, biochemistry, genetics and ecology and the relationship of microorganisms to other organisms including humans. As a basic biological science, microbiology provides some of the most accessible research tools for probing the nature of life processes. Our sophisticated understanding of the chemical and physical principles governing life has developed from studies of microorganisms. As an applied biological science, microbiology deals with many important practical problems in medicine, agriculture, biodegradation and food industries, and is at the heart of biotechnology industries. Students pursuing a major in microbiology will have an opportunity to take coursework related to these important areas. Chemistry is also an integral part of modern microbiology. Therefore, general and organic chemistry are required for the microbiology major. The chemistry courses required for the microbiology degree satisfy the requirements for a chemistry minor. In addition, opportunities for undergraduate research in microbial biochemistry, genetics and diversity, as well as in immunology and molecular biology are available for outstanding undergraduate students. The microbiology major, chemistry minor and undergraduate research options are strong assets for students who seek careers in health care professions or industrial microbiology, or who seek graduate training in microbiology or related disciplines.

The following program of study prepares students for research or teaching positions after the bachelor's degree or for advanced study in graduate programs in microbiology, molecular biology or cell biology. A grade of C or better must be earned in Microbiology 301 and 302 to fulfill degree requirements. An overall grade point average of 2.00 or better for all microbiology courses is required to satisfy degree requirements.

## Bachelor of Arts Degree, College of Science

University Core Curriculum Requirements .....	41 <sup>1</sup>
College of Science Academic Requirements .....	6
Supportive skills coursework consisting of a minimum of six semester hours selected from: Computer Science 200, 201, 202, 212; English 291, 491; Mathematics 282 or 283 or Plant Biology 360; any two-semester sequence of one of the following foreign languages: 200-level French, German, Japanese, Russian or Spanish.	
Requirements for Major in Microbiology .....	68
Biology 200a,b .....	6 <sup>2</sup>
Microbiology 301, 302, 403, 460, 480, 481 and 495 .....	22
Microbiology electives .....	12
Senior level work consisting of lecture courses selected from: 421, 425, 453, 454, 470	
Chemistry 200, 201, 210, 211, 340, 341 and 342 .....	16 <sup>2</sup>
Mathematics 141 or 150 .....	4 <sup>2</sup>
Physics 203a,b and 253a,b .....	8 <sup>2</sup>
Electives .....	5
Total .....	120

<sup>1</sup>The 41 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for University Core Curriculum requirements.

<sup>2</sup>These courses meet the College of Science requirements for biological sciences, physical sciences and mathematics.

**Microbiology Suggested Curricular Guide**

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
BIOL 200a,b .....	3		3	CHEM 340, 341 .....	5		-
CHEM 200, 201 .....	4		-	CHEM 342 .....	-		3
CHEM 210, 211 .....	-		4	CS 201 .....	-		3
ENGL 101, 102 .....	3		3	MATH 141 .....	4		-
Fine Arts .....	-		3	Humanities .....	-		3
MATH 108, 109 .....	3		3	MICR 301, 302 .....	4		3
				SPCM 101 .....	3		-
				Social Science .....	-		3
<i>Total</i> .....	13		16	<i>Total</i> .....	16		15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
Human Health .....	2		-	MICR 421 or 425 .....	3		-
Interdisciplinary .....	-		3	MICR 453 .....	-		3
Humanities .....	3		-	MICR 425 or 454 .....	3		-
MATH 282 .....	-		3	MICR 470 .....	-		3
MICR 460, 403 .....	3		3	MICR 480, 481 .....	4		4
PHYS 203a, 253a .....	4		-	MICR 495 .....	-		1
PHYS 203b, 253b .....	-		4	Multicultural .....	3		-
Social Science .....	3		-	Elective .....	2		-
Elective .....	-		3				
<i>Total</i> .....	15		16	<i>Total</i> .....	15		14

**Minor**

A minor in microbiology consists of 16 semester hours, to include 301, 302, and other courses determined by the student in consultation with the microbiology adviser.

**Microbiology Faculty**

**Achenbach, Laurie A.**, Assistant Professor, Ph.D., University of Illinois, 1988.

**Borgia, Peter**, Professor, Ph.D., University of Illinois, 1973.

**Brewer, Gregory**, Professor, Ph.D., University of California, 1972.

**Caster, John**, Assistant Professor, Ph.D., St. Louis University, 1968.

**Clark, David P.**, Professor, Ph.D., University of Bristol (England), 1976.

**Cooper, Morris D.**, Professor, Ph.D., University of Georgia at Athens, 1971.

**Fix, Douglas F.**, Associate Professor, Ph.D., Indiana University, 1983.

**Haddock, John D.**, Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1990.

**Jackson, Robert**, Professor, Ph.D., Purdue University, 1963.

**Madigan, Michael T.**, Professor, Ph.D., University of Wisconsin, 1976.

**Marcuzzi, Adriana B.**, Assistant Professor, Ph.D., University of Rosario (Argentina), 1979.

**Maroun, Leonard E.**, Professor, Ph.D., Catholic University, 1970.

**Martinko, John M.**, Associate Professor and Chair, Ph.D., State University of New York at Buffalo, 1978.

**Moticka, Edward A.**, Professor, Ph.D., University of Illinois at the Medical Center, 1970.

**Myers, Walter L.**, Professor, D.V.M., Ph.D., University of Wisconsin, 1961.

**Parker, Jack**, Professor and Dean, Ph.D., Purdue University, 1973.

**Rouhandeh, Hassan**, Professor, *Emeritus*, Ph.D., Kansas State University, 1959.

**Rowan, Dighton F.**, Professor, *Emeritus*, Ph.D., Stanford University, 1954.

**Shechmeister, Isaac L.**, Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1949.

**Tewari, Ram**, Professor, D.V.M., Agra University, India, 1960; Ph.D., Ohio State University, 1966.

**Watabe, Kounosuke**, Associate Professor, Ph.D., Kyoto University, Japan, 1981.

**Physics** (Department, Major, Courses)

The undergraduate major in physics leading to the Bachelor of Science degree provides for a mastery of basic principles and methods of classical and modern physics and prepares the student for a wide variety of career opportunities. A degree in physics can lead to a challenging and interesting career. Physics as a profession has always been at the center of exciting discoveries, and much of modern science is

originally based on the research done by physicists. The outlook for the future appears even more challenging.

The Physics Department at SIUC offers a first-rate undergraduate program in physics. Individual attention is provided to physics majors. We offer advanced laboratory courses in modern physics, digital and analog electronics, acoustics, and lasers and modern optics. Most importantly, the Department of Physics is research-oriented with all of its faculty active in research. Participation by advanced undergraduates in the research program of a faculty member is encouraged and can be very useful to students, providing them with technical skills not available through formal coursework and giving them a taste of *real* physics. The physics faculty at Southern Illinois University at Carbondale is engaged in a wide range of research activities in both experimental and theoretical physics. Our undergraduates can participate in experimental projects in such areas as nuclear magnetic resonance, low-temperature physics, laser-induced reactions, photo-acoustic microscopy, infrared spectroscopy and electron paramagnetic resonance. For those students who have an interest in theoretical physics, research projects are available in high-interest areas such as quantum physics, solid state physics, atomic and molecular physics, statistical mechanics and nuclear physics.

Employment opportunities in physics are varied and abundant, from industrial research and development to teaching. Physicists are employed in all sectors of society, including corporations, government research agencies and universities. Physicists are presently enjoying unusual opportunities in the development of new concepts that are expected to have far-reaching consequences in the high technology of the future. Totally new applications are arising from understanding basic physics principles. Some of these emerging concepts include laser communications, holography, synchrotron radiation light sources, opto-electronics, high-temperature superconductors and physics applications in medicine. At a time when technological developments and discoveries are creating a heavy demand for physicists, projections indicate the possibility of a critical shortage of trained physicists.

In summary, physics is an exciting field, its graduates are in demand and enjoy high salaries. At SIUC, you have the opportunity to achieve a well-rounded education in becoming a physicist. Students considering a major in physics are urged to consult with the undergraduate adviser of the physics department. An applied physics/experimental physics optional curriculum is provided by selecting from the courses marked with an asterisk in the list of courses required for a major in physics.

### Bachelor of Science Degree, College of Science

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Science Requirements</i> .....	(6) + 11-12 <sup>1</sup>
Biological Science (not University Core) .....	(3) + 3 <sup>1</sup>
Mathematics 108, 109 or 111 .....	(3) + 2-3 <sup>1</sup>
Supportive Skills .....	6
Choose six hours from the following:	
One to two semesters of any foreign language offered at Southern Illinois University at Carbondale	
English 291 or 491 or Management 202 (select only one)	
Computer Science 200 or 202 or 210 or Engineering 222 (select only one)	
Requirements for Major in Physics .....	(3) + 71 <sup>1</sup>
Chemistry 200, 201, 210, 211 .....	(3) + 5 <sup>1</sup>
Mathematics 150, 250, 251, 305 .....	14
Mathematics 306 or 406 or 407 or 409 .....	3
Physics 205a,b,c and 255a,b,c .....	12
Physics 301, 310, 320, 345, 410, 420, 430 .....	21

Physics electives chosen from: 324, 328, 424, 425, 428, 431, 432, 445, 450, 458, 470 .....	16
<b>Total</b> .....	<b>123-124</b>

<sup>1</sup>Number in parenthesis are hours which may be substituted into the University Core Curriculum.

### Physics Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	Core Social Science .....	3	3
PHYS 205a, 255a .....	-	4	Core Humanities .....	-	3
MATH 150, 250 .....	4	4	PHYS 205B, 255B.....	4	-
CHEM 200, 201.....	4	-	PHYS 205C, 255C.....	-	4
CHEM 210, 211.....	-	4	MATH 251, 305.....	3	3
Core Humanities.....	3	-	PHYS 301.....	-	3
Human Health .....	2	-	SPCM 101 .....	3	-
<b>Total</b> .....	<b>16</b>	<b>15</b>	Fine Arts .....	3	-
			<b>Total</b> .....	<b>16</b>	<b>16</b>
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
PHYS 345 .....	3	-	PHYS 430.....	3	-
PHYS 310, 410 .....	3	3	PHYS Elective .....	6	8-9
PHYS 320, 420 .....	3	3	Biological Science .....	3	-
PHYS Elective.....	-	2-3	Multicultural .....	3	-
Math Elective.....	3	-	Interdisciplinary .....	-	3
Biological Science.....	-	3	Free Elective.....	-	3
CS Tools .....	3	3	<b>Total</b> .....	<b>15</b>	<b>14-15</b>
<b>Total</b> .....	<b>15</b>	<b>14-15</b>			

### Minor

A minor in physics requires 17 hours and must include Physics 203a,b and 253a,b, or 205a,b and 255a,b as well as 205c and 255c and 5 hours from any 300- or 400-level physics course except Physics 470.

### Physics Faculty

**Ali, Naushad**, Professor, Ph.D., University of Alberta, 1984.

**Cutnell, John D.**, Professor, Ph.D., University of Wisconsin, 1967.

**Gruber, Bruno J.**, Professor, Ph.D., University of Vienna, Austria, 1962.

**Hart, Charles F.**, Associate Professor, Ph.D., University of Texas, 1981.

**Henneberger, Walter C.**, Professor, *Emeritus*, Ph.D., Gottingen University, Germany, 1959.

**Johnson, Kenneth W.**, Professor, Ph.D., Ohio State University, 1967.

**Malhotra, Vivak**, Professor, Ph.D., Indian Institute of Technology, Kanpur, 1978.

**Masden, J. Thomas**, Associate Professor, Ph.D., Purdue University, 1983.

**Malik, F. Bary**, Professor, Ph.D., Gottingen University, West Germany, 1958.

**Migone, Aldo**, Professor, Ph.D., Pennsylvania State University, 1984.

**Nickell, William E.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1954.

**Sanders, Frank C.**, Associate Professor, Ph.D., University of Texas, 1968.

**Saporoschenko, Mykola**, Professor, Ph.D., Washington University, 1958.

**Tao, Rongjia**, Professor, Ph.D., Columbia University, 1982.

**Watson, Richard E.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1938.

## Physiology (Department, Major, Courses)

The Department of Physiology offers training in mammalian, cellular and comparative physiology, pharmacology, biophysics, and human anatomy. Students majoring in physiology are encouraged to gain research experience under faculty supervision. The undergraduate major provides general rather than specialized training in physiology. To become a professional physiologist usually requires the completion of an advanced degree in the field. An undergraduate major in physiology would provide an excellent foundation for those planning a career in teaching or re-

search or a medical field such as medicine, dentistry, veterinary science, nursing or medical technology. Students considering a major in Physiology should discuss their program with the undergraduate adviser in the Department of Physiology.

**Bachelor of Arts Degree, College of Science**

University Core Curriculum Requirements .....	41
College of Science Requirements .....	6
Supportive Skills to include foreign language (200 level both semesters), or two from English 291 or 491, Plant Biology 360 or Mathematics 282, 283, Computer Science 201, 202, 212,	
Requirements for Major in Physiology .....	(11) + 58 <sup>1</sup>
Physiology 410a,b .....	10
Physiology electives (300 or 400-level) .....	(2) + 12
Biology 200a,b and two of 305, 307, 308, 309 .....	(3) + 9
Chemistry 200, 201, 210, 211, 340, 341, 350 (with lab) .....	(3) + 14
Physics 203a,b; 253a,b .....	8
Mathematics 150, 250 .....	(3) + 5
Electives .....	15
Total .....	120

<sup>1</sup>Numbers in parenthesis are hours which may be substituted into the University Core Curriculum. These courses also satisfy the College of Science requirements in Biological Sciences, Physical Sciences and Mathematics.

**Physiology Suggested Curricular Guide**

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
BIOL 200b .....	-	3	BIOL 200a, 300-level .....	3	3
CHEM 200, 201 .....	4	-	Humanities .....	-	3
CHEM 210, 211 .....	-	4	MATH 150, 250 .....	4	4
ENGL 101, 102 .....	3	3	PHSL 492 .....	1	1
MATH 108, 109 .....	3	3	PHYS 203a, 253a .....	4	-
Social Science .....	3	3	PHYS 203b, 253b .....	-	4
Elective .....	2	-	SPCM 101 .....	3	-
Total .....	15	16	Total .....	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
BIOL 300-level .....	-	3	Interdisciplinary .....	3	-
CHEM 340, 341 .....	5	-	PHSL 410a,b .....	5	5
CHEM 350 .....	-	4	PHSL Elective .....	3	2
Fine Arts .....	3	-	Supportive Skill .....	3	3
Humanities .....	3	-	Elective .....	-	5
Multicultural .....	-	3			
PHSL 310, 301 .....	5	4			
Total .....	16	14	Total .....	14	15

**Minor**

A minor in physiology requires completion, with at least a C grade, of Physiology 410 (10 hours) and six hours of 300 or 400-level courses offered by the department.

**Junior-Senior Honors Program**

Juniors who have shown outstanding ability in biology courses and related subjects in their freshman and sophomore years may apply for acceptance into the honors program. Honors students do independent study in the physiological sciences (Physiology 491) during their junior and senior years.

**Physiology Faculty**

- Banerjee, Chandra M., Professor, M.D., University of Calcutta, 1959; Ph.D., Medical School of Virginia, Richmond, 1967.
- Bartke, Andrzej, Professor and Chair, Ph.D., University of Kansas, 1965.

**Brown, Sara W.**, Instructor, M.S., Southern Illinois University at Carbondale, 1983.

**Browning, Ronald A.**, Professor, Ph.D., University of Illinois Medical Center, Chicago, 1971.

**Collard, Michael W.**, Assistant Professor, Ph.D., Washington State University, 1987.

**Coulson, Richard L.**, Professor, Ph.D., University of Toronto, 1971.

**Cox, Thomas C.**, Associate Professor, Ph.D., Arizona State University, 1979.

**Dunagan, Tommy T.**, Professor, Ph.D., Purdue University, 1960.

**Ellert, Martha S.**, Associate Professor, Ph.D., University of Miami, 1967.

**Falvo, Richard E.**, Professor, Ph.D., University of Wyoming, 1970.

**Ferraro, James S.**, Associate Professor, Ph.D., The Chicago Medical School, 1984.

**Huggenvik, Jodi I.**, Assistant Professor, Ph.D., Washington State University, 1985.

**Hunter, William S.**, Associate Professor, Ph.D., Michigan State University, 1971.

**Johnson, Anne K.**, Instructor, M.S., Ohio State University, 1962.

**Miller, Donald M.**, Professor, *Emeritus*, Ph.D., University of Illinois, Champaign-Urbana, 1965.

**Murphy, Laura L.**, Assistant Professor, Ph.D., Medical College of Georgia, 1983.

**Myers, J. Hurley**, Professor, Ph.D., University of Tennessee, Health Science Center at Memphis, 1969.

**Nequin, Lynn G.**, Associate Professor, Ph.D., University of Illinois, College of Medicine, Chicago, 1970.

**Russell, Lonnie D.**, Professor, Ph.D., University of Nebraska, 1974.

**Shanahan, Michael F.**, Professor, Ph.D., University of Michigan, 1976.

**Sollberger, Arne R.**, Professor, *Emeritus*, M.D., Karolinska Institute, Sweden, 1957.

**Steger, Richard W.**, Professor, Ph.D., University of Wyoming, 1974.

**Wade, David R.**, Associate Professor, Ph.D., Cambridge University, England, 1967.

**Yau, William M.**, Professor, Ph.D., Medical College of Virginia, 1971.

## Plant Biology (Department, Major, Courses)

Plant Biology is the science of plant life, which ranges from the microscopic to giant Sequoia trees. You should consider a major in plant biology if you are curious about any of these: the kinds of plants that inhabit the earth; how they grow; why they are found where they are; and how or what products they contribute to the lives of humans.

A career in plant biology offers a number of specialties from which one may choose. This diversity allows people with different backgrounds, aptitudes and interests to find careers to their liking. A person with mathematical background might find systems ecology or genetics exciting fields. Persons with an appetite for the out-of-doors might be happy as an ecologist, forester, plant explorer, or preservationist of rare and endangered species. Those who appreciate detail and beauty found in plant structure would find happiness in cell study, anatomy and morphology. Someone with an interest in chemistry could become a plant physiologist, plant biochemist or molecular plant biologist. Those who find an interest in aquatic microscopic forms will study algae. Those with an interest in fungi become mycologists. Those who enjoy mosses will study bryology. All of these fields offer great opportunities to interact with people and have a wide range of employment opportunities in teaching, research, and government service.

Students planning to major in plant biology should consult with the chair of the department for information concerning the programs in the department.

As a general rule, students who intend to apply for admission to a graduate school to study for an advanced degree in plant biology should include the following in their undergraduate program: inorganic and organic chemistry, mathematics through calculus, a modern European language, and as many plant biology and biology courses as time and scheduling will permit.

An honors program is available to those juniors and seniors in plant biology who have an overall grade point average of 3.00 or better and an average in plant biology courses of 3.25 or better. Honors students should enroll in Plant Biology 492 during some semester in both junior and senior years.

The department specifies that the College of Science six hour supportive skills requirement is to be met by completing two designated courses or a foreign language sequence. The two designated courses are to be selected from the following: English 291, Computer Science 200, 201, 202, 212. The foreign language requirement can be met by one of the following: (a) passing an eight-hour 100-level sequence in any one foreign language offered at Southern Illinois University at Carbondale; (b) by earning eight hours of 100-level credit in any one foreign language offered at Southern Illinois University at Carbondale by proficiency examination; or (c) completing three years of one foreign language in high school with no grade lower than C.

A student whose native language is not English may use the native language to satisfy part or all of the plant biology foreign language requirement at the University. If the language is presently taught at Southern Illinois University, academic credit may be earned. If the language is not presently taught at the University, no credit is given, but partial or full satisfaction of the plant biology foreign language requirement may be granted if the plant biology department so recommends. A student whose native language is English but who has learned another language not taught at the University may qualify without credit for partial or full satisfaction of the plant biology foreign language requirement under certain circumstances, including formal recommendation by the plant biology department and availability of an examiner and examination materials within the Department of Foreign Languages and Literature. For information, the student should consult the department undergraduate advisor and/or the College of Science advisement center.

**Bachelor of Arts Degree, College of Science**

University Core Curriculum Requirements .....	41 <sup>1</sup>
College of Science Academic Requirements .....	7-11
Supportive Skills, .....	6-8
Mathematics 108 and 109 or 111 (or its equivalent) or 141 .....	(3) + 1-3
Requirements for Major in Plant Biology .....	48 <sup>2</sup>
Biology 200a, 200b, 305, 306, 307 .....	15 <sup>3</sup>
Plant Biology 204, 304, 320 .....	12
Plant Biology Electives .....	16
Sixteen hours selected from the following with at least one course from each group:	
A. 356, 400, 404, 405, 406, 414, 415, 421	
B. 409, 410, 430, 439, 449, 450, 451, 485	
C. 337, 440, 443, 444, 445, 447, 448	
D. 360, 425a, 425b, 475, 476	
Chemistry 200, 201, 210, 211 .....	(3) + 5 <sup>4</sup>
Electives .....	20-24
Electives planned to include courses in computer science, microbiology, physics, statistics and zoology	
Total .....	120

<sup>1</sup>The 41-hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for University Core Curriculum courses.

<sup>2</sup>Plant Biology requirements satisfy the biological and physical sciences requirements for the College of Science and may be substituted for a maximum of 12 hours in University Core Curriculum courses.

<sup>3</sup>Plant Biology 200 is recommended for those who want to improve their background in Plant Biology prior to enrolling in Biology 200a, b and for those who wish to earn 3 hours credit toward University Core Curriculum Requirements.

<sup>4</sup>Organic Chemistry is recommended for those interested in plant physiology or graduate study.

Plant Biology Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
BIOL 200b .....	-	3	BIOL 200a, 306.....	3	3
CHEM 200, 201.....	-	4	BIOL 307.....	3	-
ENGL 101, 102.....	3	3	CHEM 210, 211.....	4	-
Human Health .....	-	2	Fine Arts .....	-	3
MATH 108, 109 .....	3	3	PLB 304.....	-	4
PLB 200.....	4	-	Social Science.....	-	3
Social Science.....	3	-	SPCM 101 .....	3	-
General Elective .....	2	-	General Elective .....	-	3
Total .....	15	15	Total .....	13	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
BIOL 305 .....	3	-	Interdisciplinary .....	-	3
Humanities .....	3	3	Multicultural.....	3	-
PLB 320, 204.....	4	4	PLB Electives .....	6	6
PLB Elective.....	-	4	General Electives.....	7	6
Supportive Skill.....	3	3			
General Elective .....	3	-			
Total .....	16	14	Total .....	16	15

Minor

A minor in plant biology consists of a minimum of 16 semester hours, selected from any plant biology offerings except 390, 391, 490, 491, or 492.

Plant Biology Faculty

- Ashby, William C., Professor, *Emeritus*, Ph.D., University of Chicago, 1950.

Bozzola, John J., Professor, Ph.D., Southern Illinois University, 1975.

Crandall-Stotler, Barbara C., Professor, Ph.D., University of Cincinnati, 1968.

Gibson, David J., Associate Professor, Ph.D., University of Wales -Bangor, 1984.

Matten, Lawrence C., Professor and *Chair*, Ph.D., Cornell University, 1965.

Middleton, Beth, Associate Professor, Ph.D., Iowa State University, 1989.

Mohlenbrock, Robert H., Distinguished Professor, *Emeritus*, Ph.D., Washington University, 1957.

Nickrent, Daniel L., Associate Professor, Ph.D., Miami University, Ohio, 1984.

Olah, Ladislao V., Professor, *Emeritus*, Ph.D., Stephen Tisza University, Hungary, 1934.

Pappelis, Aristotel J., Professor, Ph.D., Iowa State University, 1957.
- Richardson, John A., Associate Professor, M.F.A., Ohio University, 1969.

Robertson, Philip A., Professor, Ph.D., Colorado State University, 1968.

Schmid, Walter E., Professor, Ph.D., University of Wisconsin, 1961.

Stotler, Raymond E., Professor, Ph.D., University of Cincinnati, 1968.

Sundberg, Walter J., Professor, Ph.D., University of California, 1971.

Tindall, Donald R., Professor, Ph.D., University of Louisville, 1966.

Ugent, Donald, Professor, Ph.D., University of Wisconsin, 1966.

Verduin, Jacob, Professor, *Emeritus*, Ph.D., Iowa State University, 1947.

Wood, Andrew J., Assistant Professor, Ph.D., Purdue University, 1994.

Yopp, John H., Professor, Ph.D., University of Louisville, 1969.

Zoology (Department, Major, Minor, Courses)

A major in zoology is an appropriate beginning for those planning a career that includes teaching and research in zoology, conservation, fisheries management and wildlife management, environmental sciences, or the practice of medicine, dentistry, and veterinary science.

Students majoring in zoology are required to develop an individualized curriculum by consulting with the director of undergraduate studies in zoology and an appropriate faculty member of the department.

In the field of zoology, a student may work toward either a Bachelor of Arts or Bachelor of Science degree. The Bachelor of Arts degree with a major in zoology

permits a student to take 21-24 semester hours of courses in other areas of interest. Having obtained a Bachelor of Arts degree, students may continue their education toward a graduate degree in zoology or related field, although it may be necessary to absolve deficiencies in physics, organic chemistry and mathematics.

The Bachelor of Science degree with a major in zoology permits a student to take 8-13 semester hours of courses in other areas of interest. This degree requires additional courses in chemistry and/or physics and quantitative science (mathematics, statistics, or computer programming) and will normally be pursued by students desiring to do graduate work in zoology or other specialized training such as medicine, dentistry, or veterinary science.

The individualized curriculum for the Bachelor of Arts degree in zoology must include: (1) a year of chemistry with laboratory or a year of physics with laboratory (this requirement may be satisfied with Chemistry 200, 201, 210, 211 or Chemistry 200, 201, 340, 341 or Chemistry 140a,b or Physics 203a,b, 253a,b); (2) one course in mathematics beyond Mathematics 108 and 109 or 111 (this requirement may be satisfied with Mathematics 141, 150, 282, 283, Plant Biology 360, Computer Science 200, 202 or 210); (3) Biology 200a,b, 305 and 307; (4) Zoology 220a, 220b, 300 (or Biology 309), Zoology 482 and at least 18 (19 if Biology 309 is used) additional semester hours of electives in zoology. A minimum of 41 semester hours of biology and zoology must be completed for the major, and no more than 11 semester hours of courses (biology or zoology) which are used to satisfy degree requirements of another major may be used to meet the zoology requirements.

Bachelor of Science degree requirements include all requirements for a Bachelor of Arts degree in zoology, plus two additional courses selected from chemistry with laboratory and/or physics with laboratory, and one additional course in mathematics selected from either calculus, computer programming or statistics.

**Bachelor of Arts Degree, College of Science**

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Science Academic Requirements</i> .....	7-11
Mathematics 108 and 109 or 111 or 141 .....	(3) + 1-3 <sup>1</sup>
Supportive Skills: at least six credit hours chosen from Mathematics 282 or 283 or Plant Biology 360; Computer Science 200, 201, 202, 212; English 291 or 491 or Applied Sciences and Arts 102; any two-semester sequence of a foreign language (Chinese, French, German, Japanese, Russian, Spanish) <sup>2</sup> .....	6-8
<i>Requirements for Major in Zoology</i> .....	46-47
Biology 200a,b .....	(3) + 3 <sup>1</sup>
Biology 305, 307 .....	6
Zoology 220a,b, and 482 .....	7
Zoology 300 or Biology 309 .....	3-4
Zoology electives from Individualized Curriculum .....	18-19
Chemistry and/or Physics (one year sequence with laboratory) .....	(3) + 5 <sup>1</sup>
A course in mathematics (beyond Mathematics 108 and 109 or 111), statistics and/or computer programming in FORTRAN, Pascal or C language <sup>3</sup> .....	3-4
<i>Electives</i> .....	<u>23-24</u>
<i>Total</i> .....	120

**Bachelor of Science Degree, College of Science**

<i>University Core Curriculum Requirements</i> .....	41
<i>College of Science Academic Requirements</i> .....	7-11
Mathematics 108 and 109 or 111 or 141 .....	(3) + 1-3 <sup>1</sup>

Supportive Skills: at least six credit hours from Mathematics 282 or 283 or Plant Biology 360; Computer Science 200, 201, 202, 212; English 291 or 491 or Applied Sciences and Arts 102; any two-semester sequence of a modern foreign language (Chinese, French German, Japanese, Russian, Spanish)<sup>2</sup> ..... 6-8

Requirements for Major in Zoology .....	57-60
Biology 200a,b .....	(3) + 3 <sup>1</sup>
Biology 305, 307 .....	6
Zoology 220a,b, and 482 .....	7
Zoology 300 or Biology 309 .....	3-4
Zoology electives from Individualized Curriculum .....	18-19
Chemistry and/or Physics (two years with laboratory) .....	(3) + 13-15 <sup>1</sup>
Two courses in mathematics (beyond Mathematics 108 and 109 or 111), statistics and/or computer programming in FORTRAN, Pascal or C language. ....	6-7
Electives .....	10-13
Total .....	120

<sup>1</sup>Numbers in parenthesis are hours which may be substituted for the University Core Curriculum requirement  
<sup>2</sup> The foreign language requirement can also be met by one of the following: (a) by earning eight hours of 100-level credit in one language by proficiency examination; or, (b) completing three years of one language in high school with no grade lower than C.  
<sup>3</sup>Courses used to satisfy the supportive skills requirement may not be used to satisfy the mathematics requirement. Only one of Mathematics 282, 283 and Plant Biology 360 may be counted towards the supportive skills or mathematics requirements.

**Bachelor of Science Degree, College of Education**

The degree is taken in the College of Education and must satisfy all requirements of that college for the Bachelor of Science degree. The requirements for the major in zoology are the same as those for either the Bachelor of Arts or Bachelor of Science in the College of Science, except that to meet teacher certification requirements a minor in plant biology is required. Curriculum and Instruction 468 is also required. College of Education professional education and other certification requirements may be found in the section of this catalog titled Curriculum and Instruction. See Teacher Education Program.

**Zoology Suggested Curricular Guide**

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102.....	3	3	BIOL 200a,b.....	3	3
Human Health .....	2	-	CHEM 200, 201.....	4	-
Fine Arts.....	-	3	CHEM 210, 211.....	-	4
MATH 108, 109 .....	3	3	ENGL 291.....	-	3
Social Science.....	3	3	MATH 141.....	4	-
ZOOL 118 .....	4	-	Humanities .....	-	3
ZOOL 220b .....	-	3	SPCM 101 .....	3	-
			Elective .....	-	2
Total .....	15	15	Total .....	14	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
BIOL 307 .....	-	3	BIOL 305.....	3	-
CHEM 340, 341.....	5	-	CS 201 .....	-	3
CHEM 350.....	-	4	Interdisciplinary .....	3	-
Humanities .....	3	-	ZOOL 482.....	-	1
Multicultural .....	-	3	ZOOL 300-level .....	4	-
PLB 360.....	-	3	ZOOL 400-level .....	6	6
ZOOL 220a .....	3	-	Electives.....	-	5
ZOOL 400-level.....	3	3			
Total .....	14	16	Total .....	16	15

## Minor

A minor in zoology consists of 16 hours, including 220a,b, and 482. Zoology courses acceptable for majors as well as Biology 305, 306, 307, 308, and 309 may be used to complete the 16-hour minimum requirement; no University Core Curriculum courses can be included. Courses used to satisfy degree requirements for a major or another minor cannot be used for the minor in zoology.

## Honors Program

An honors program is available to those juniors and seniors in zoology who maintain a grade point average of 3.25 or better, overall and in the major. To enroll in Zoology 493, the student must complete a departmental form that requires the project title; a description of the proposed project; and the signatures of the student, the faculty adviser, and the chair of the department. The student must complete six hours of 493 with a grade of *B* or better, file with the department a final report on the research, and present the results at a public seminar in order to graduate with departmental honors in zoology. At the time of graduation, an indication of participation in the program is made on the diploma and transcript for students who complete the requirements. Concurrent participation in the University Honors Program is encouraged. Students receiving credit for Zoology 493 may not apply Zoology 393 hours toward the major.

## Zoology Faculty

**Anthony, Terence R.**, Associate Professor, M.D., Ph.D., University of Chicago, 1968, 1975.

**Beatty, Joseph A.**, Associate Professor, Ph.D., Harvard University, 1969.

**Billington, Neil**, Assistant Professor, Ph.D., Loughborough University of Technology, England, 1985.

**Blackwelder, Richard E.**, Professor, *Emeritus*, Ph.D., Stanford University, 1934.

**Brandon, Ronald A.**, Professor, Ph.D., University of Illinois, 1962.

**Breen, Thomas R.**, Assistant Professor, Ph.D., University of North Carolina, 1985.

**Burr, Brooks M.**, Professor, Ph.D., University of Illinois, 1977.

**Drickamer, Lee C.**, Professor, Ph.D., Michigan State University, 1970.

**Dyer, William G.**, Professor, Ph.D., Colorado State University, 1965.

**Englert, DuWayne C.**, Professor, Ph.D., Purdue University, 1964.

**Feldhamer, George A.**, Associate Professor, Oregon State University, 1977.

**Garoian, George**, Professor, *Emeritus*, Ph.D., University of Illinois, 1956.

**Gates, Robert J.**, Associate Professor, Ph.D., Southern Illinois University, 1989.

**Halbrook, Richard S.**, Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1990.

**Heidinger, Roy C.**, Professor, Ph.D., Southern Illinois University, 1970.

**King, David**, Associate Professor, Ph.D., University of California at San Diego, 1975.

**Kohler, Christopher C.**, Professor, Ph.D., Virginia Polytechnic Institute and State University, 1980.

**Krajewski, Carey**, Associate Professor, Ph.D., University of Wisconsin, 1988.

**LeFebvre, Eugene A.**, Associate Professor, *Emeritus*, Ph.D., University of Minnesota, 1962.

**Lewis, William M.**, Professor, *Emeritus*, Ph.D., Iowa State University, 1949.

**Martan, Jan**, Professor, *Emeritus*, Ph.D., University of Oregon, 1963.

**McPherson, John E., Jr.**, Professor, Ph.D., Michigan State University, 1968.

**Muhlach, William L.**, Associate Professor and *Chair*, Ph.D., University of Illinois at Chicago, 1986.

**Newman, Jonathan A.**, Assistant Professor, Ph.D., State University of New York at Albany, 1990.

**Sheehan, Robert J.**, Associate Professor, Ph.D., Southern Illinois University, 1984.

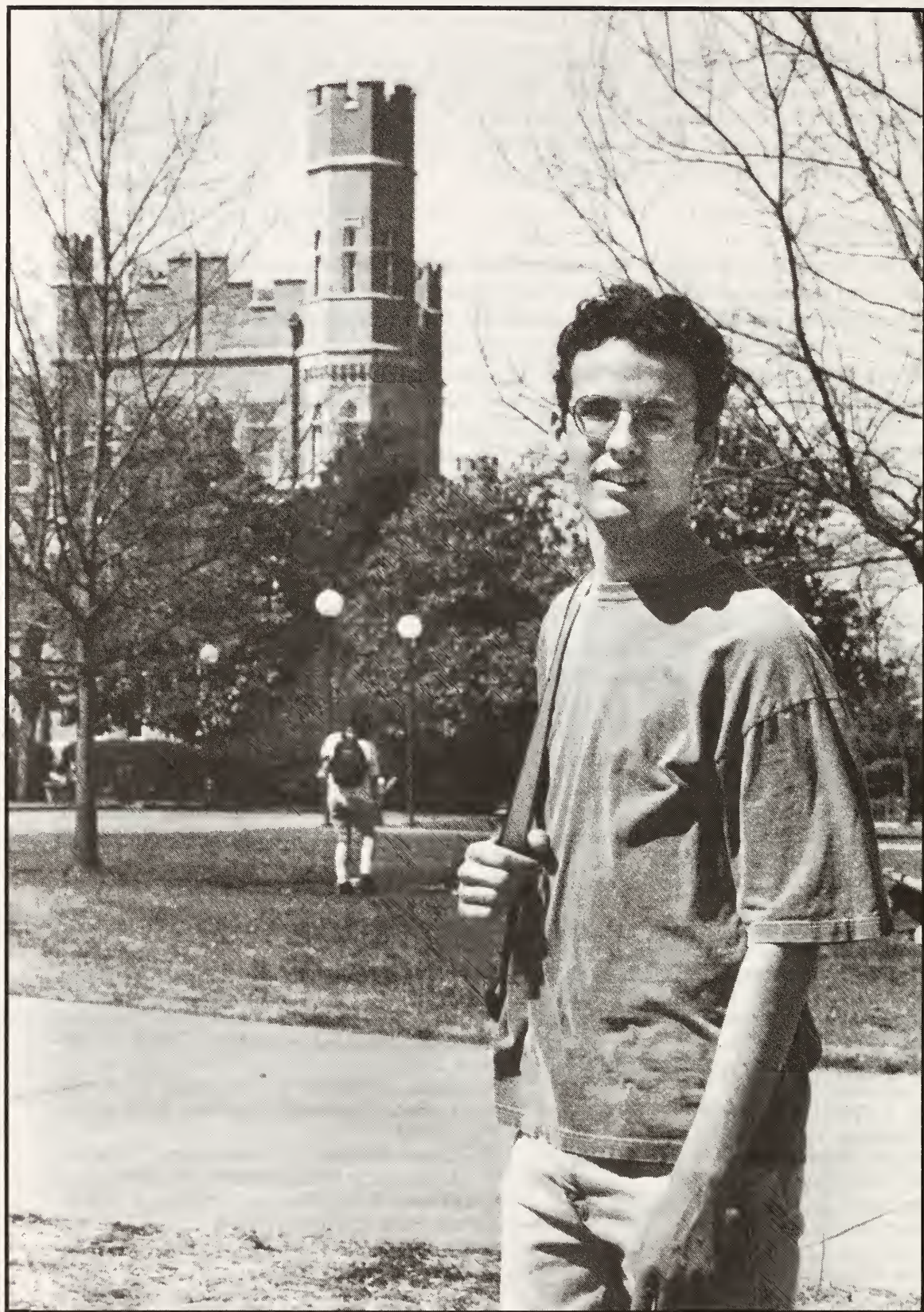
**Shepherd, Benjamin A.**, Professor, Ph.D., Kansas State University, 1970.

**Stahl, John B.**, Associate Professor, Ph.D., Indiana University, 1958.

**Stains, Howard J.**, Professor, *Emeritus*, Ph.D., University of Kansas, 1955.

**Waring, George H.**, Professor, Ph.D., Colorado State University, 1966.

**Woolf, Alan**, Professor, Ph.D., Cornell University, 1972.



## School of Social Work

Martin B. Tracy, *Director*

The undergraduate social work program offers a professional social work curriculum designed to prepare students for beginning social work practice. The program focuses on direct services and leads to a Bachelor of Science degree with a major in social work.

Social work offers stimulating and challenging career opportunities that are expected to increase into the next century; this reflects public and private response to the social service needs of a growing and aging population and to stresses caused by social change. Social workers hold jobs in state or local government agencies, children and family services, mental health, medical care, housing, education and corrections. Those in the private sector work primarily for voluntary nonprofit agencies, community and religious organizations, hospitals, nursing homes and health agencies. The social work profession is committed to maximizing opportunities for minority and disadvantaged populations and this commitment is reflected throughout the social work program.

The undergraduate curriculum provides an interdisciplinary approach (grounded in the liberal arts) to understanding the relationship of people with their social and community environments. The practice courses provide basic social work skills for prevention and treatment of a variety of human problems. Course content integrates human behavior with the social environment and focuses on ethnic and minority issues, service delivery issues in rural areas, and the effects of discrimination and poverty on populations-at-risk. Experiential learning (simulations, role playing, volunteer experience) is an integral part of the curriculum.

A unique aspect of social work education is an intensive field practicum. The practicum will guide students from the classroom into the settings and situations they will encounter as professionals. During the practicum, which will occupy one semester full-time, students will work in an approved agency chosen from among private or public agencies in settings such as mental health and developmental disabilities, child welfare, public health, hospitals, corrections, youth services, group services, crisis intervention, and social planning. Agencies may be located in rural areas, small towns, or cities, and their clients may be infants, children, adolescents, adults or the aged. During the practicum students will participate in a required seminar in which they will discuss their work, share their experiences, examine issues of ethics and professionalism, and develop intervention strategies. The remainder of time in the social work program can be devoted to a minor in a related field or to courses selected to meet individual interests or career goals.

*Accreditation.* The undergraduate Social Work Program is fully accredited by the Council of Social Work Education, the nationally recognized accrediting agency for social work. Graduation from an accredited program gives students an advantage both in the job market and in pursuit of graduate education. Many graduate programs in social work will give advanced standing to students who have completed an accredited bachelor's degree in social work. For requirements for the graduate degree in social work, see the Graduate Catalog.

*Admissions.* To be accepted into the pre-social work program beginning freshmen and sophomores must meet the university requirements for admission. In calculating a student's grade point average for admission purposes for new, continuing and re-entering students, the admission office will follow the SIUC grading policy and procedures for all collegiate work attempted at SIUC and other collegiate institutions.

Beginning freshmen and sophomores who qualify for admission to the University and the School of Social Work are granted admission with a pre-social work classification. Pre-social work students must have a cumulative grade point average and a transfer grade point average (if applicable) of 2.25 (on a 4.0 scale). Pre-social work students are advised by a social work academic adviser for the purpose of completing the courses required to become a social work major. To be considered for a social work major, students must complete 56 semester hours with an overall grade point average of 2.5 (on a 4.0 scale). In addition, students must complete satisfactorily the following University Core Curriculum courses: Plant Biology 115 or Zoology 115, Sociology 108, Psychology 102, Political Science 114 and Economics 113. Students must also achieve a grade of C or higher in social work courses 275 and 383. Social Work 275 and 383 may not be repeated for eligibility to the major.

Transfer students who have completed fewer than 26 hours must meet the admission requirements of beginning freshman as well as have an overall 2.25 grade point average (on a 4.0 scale) from all post-secondary institutions attended. Students who have completed more than 26 semester hours must have an overall transfer grade point average of 2.25 to be admitted with a pre-social work classification. Students will be considered for the social work major when they have completed 56 semester hours and earned an overall grade point average of 2.5; completed the following University Core Curriculum courses or their substitutes: Plant Biology 115 or Zoology 115, Sociology 108, Psychology 102, Political Science 114 and Economics 113; and complete social work courses 275 and 383 with a grade of C or higher. Social Work 275 and 383 may not be repeated for eligibility to the social work major.

Students who are currently enrolled or previous SIUC students in a major other than social work, may request admission to the School of Social Work with a pre-social work classification, provided they have an overall SIUC grade point average of 2.25. To be considered for admission as a social work major, re-entering and currently enrolled students must have completed 56 semester hours with a grade point average of 2.5; completed social work courses 275 and 383 with a grade of C or higher; and completed the following University Core Curriculum courses or their substitutes; Plant Biology 115 or Zoology 115, Sociology 108, Psychology 102, Political Science 114 and Economics 113.

*Student Advisement.* Students in social work have access both to the academic adviser and to a faculty adviser. Help is offered in course selection and registration, in long range planning for the degree program and career information. Students are encouraged to meet with their adviser on a regular basis.

*Requirements for the Degree.* The program leads to the Bachelor of Science degree with a major in social work. In addition to 41 semester hours of University Core Curriculum courses, majors must also complete a minimum of 60 hours of undergraduate social work requirements. Students are also required to take 19 semester hours of general university electives for a total of 120 semester hours for the Bachelor of Science in Social Work degree.

*Class Availability for Non-Social Work Students.* Non-social work students may register for the following social work courses: 275, 383, 291, 400a, 421, 350a, 350b, 350c, 361, 363 and 366.

*Course Sequencing.* It is of the utmost importance that required social work courses be sequenced properly. Therefore, all courses must be approved by the student's academic and professional advisers. Courses on the 400 level are reserved for juniors and seniors.

**Retention Policy.** Students admitted to the School of Social Work will be required to fulfill the School’s scholastic standards . All students with a pre-social work classification must achieve a cumulative SIUC grade point average of 2.25 in every semester to remain in the program. Social work courses 275 and 383 must be completed with a grade of C or higher. Social work 275 and 383 may not be repeated for the eligibility to the major.

Students admitted to the social work major must maintain a 2.5 SIUC cumulative grade point average in every semester to remain in the social work program. In addition, social work majors must maintain at least a 2.5 grade point average in the core social work curriculum to qualify for field practicum. No more than two social work core courses may be taken. Students who fail to meet these retention requirements will be subject to collegiate dismissal from the School of Social Work. A student who has been placed on collegiate dismissal will be transferred to Pre-Major Advisement or may seek transfer to another university program if the student has a cumulative SIUC grade point average of 2.0.

Social Work (Major, Courses)

The course of study consists of three major components: (1) required University Core curriculum course work; (2) required social work major; (3) general university electives. The University’s core curriculum program, required of all students pursuing a bachelor’s degree, is a carefully balanced series of courses in the sciences, social sciences, humanities, fine arts, English and communication skills, mathematics, health, and integrative studies. The university core curriculum courses in sociology and psychology are particularly relevant to the social work major.

The social work requirements in the curriculum include courses that define the role of the profession as it relates to society, politics, and the economy; that provide the conceptual framework to address problems and changed circumstances for individuals, families, groups, and communities; and that examine the structure, functions, policies, programs, and strategies of the social welfare system. Methods courses cover interviewing and interpersonal helping skills, problem solving, group theory, community organization, community development, and social research. This core of courses is designed to give students a solid foundation in understanding, creating and applying research that will help the students become effective professionals; and to give the students the potential to add to the body of knowledge that will guide their daily decisions and behavior. The field practicum provides an opportunity to integrate theoretical knowledge and helping skills learned in the classroom with the *real world* settings of Southern Illinois social service agencies. A concurrent weekly seminar supports this integration of theory and practice. The practicum is taken in the second semester of the senior year. Block placements are not offered during the summer.

General university electives may be chosen from any university courses which are relevant to your personal interests, and/or social work major.

Social work majors must maintain a minimum overall grade point average of 2.5 (on a 4.0 scale) and a 2.5 (on a 4.0 scale) in social work courses.

Bachelor of Science Degree

University Core Curriculum Requirements .....	41
Requirements for Major in Social Work .....	60
Plant Biology 115 or Zoology 115, Sociology 108, Political Science 114, Psychology 102 and Economics 113 .....	(9) + 6
Foundations of Social Work: Social Work 275, 400a, 400b, 411, 421 .....	15
Social Work Practice: Social Work 383, 401, 402, 441, and 442 .....	21

Social Work Policy, Practice, and Issues: A total of 6 hours selected from Social Work 350, 361, 363, 366 or other university electives .....	6
Social Work 291 .....	3
At least two Liberal Arts electives at the 300- or 400-level selected from: anthropology, economics, history, political science, psychology, sociology .....	6
An introduction to statistics course .....	3
<i>Electives</i> .....	<u>19</u>
<i>Total</i> .....	<u>120</u>

### Social Work Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
SOC 108 <sup>1</sup> .....	3	-	PLB 115, ZOOL 115 <sup>1</sup> .....	3	-
Core Humanities <sup>2</sup> .....	3	3	POLS 114 .....	3	-
ENGL 101, 102 .....	3	3	Core Multicultural .....	3	-
MATH 113 .....	3	-	Core Fine Arts .....	3	-
Core Health .....	2	-	Elective .....	3	10
Core Science .....	-	3	Core Interdisciplinary .....	-	3
PSYC 102 <sup>1</sup> .....	-	3	ECON 113 .....	-	<u>3</u>
SPCM 101 .....	-	<u>3</u>			
<i>Total</i> .....	<u>14</u>	<u>15</u>	<i>Total</i> .....	<u>15</u>	<u>16</u>
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
SOCW 275 .....	3	-	SOCW 400b .....	3	-
SOCW 291 .....	3	-	SOCW 402 .....	3	-
SOCW 383 .....	3	-	SOCW 411 .....	3	-
SOCW Elective .....	3	-	SOCW Elective .....	3	-
LA Elective .....	3	-	Elective .....	3	3
SOCW 400a .....	-	3	SOCW 441 <sup>4</sup> .....	-	9
SOCW 401 .....	-	3	SOCW 442 .....	-	<u>3</u>
SOCW 421 .....	-	3			
Statistics <sup>3</sup> .....	-	3			
LA Elective .....	-	<u>3</u>			
<i>Total</i> .....	<u>15</u>	<u>15</u>	<i>Total</i> .....	<u>15</u>	<u>15</u>

<sup>1</sup>Required for Social Work major

<sup>2</sup>The school recommends that electives in the core curriculum include Philosophy 104 or 105.

<sup>3</sup>Required to enroll in Social Work 411

<sup>4</sup>Students must have a gpa of 2.5 (on a 4.0 scale) in Core Social Work Courses (Social Work 275, 291, 383, 400a,b, 401, 402, 411 and 421) to enroll in Advanced Field Practicum.

### Social Work Faculty

**Allen, Robin W.**, Assistant Professor, Ph.D., University of Illinois at Urbana-Champaign, 1996.

**Auerbach, Arnold J.**, Professor, Emeritus, Ph.D., University of Pittsburgh, 1961.

**Baker, Connie J.**, Instructor, M.S.W., Southern Illinois University at Carbondale, 1987.

**Bratton, Letitia B.**, Assistant Professor, D.S.W., The Catholic University of America, 1992.

**Edwards, Dennis R.**, Lecture, M.S.W., University of Illinois at Urbana-Champaign, 1975.

**Evans, Wayne C.**, Assistant Professor, Ph.D., University of Iowa, 1995

**Gammon, Anne E.**, Assistant Professor, Ph.D., University of Wisconsin-Madison, 1989.

**Kawewe, Saliwe**, Associate Professor, Ph.D., St. Louis University, 1985.

**McFadden, Judith V.**, Instructor, M.S.W., University of Illinois at Urbana-Champaign, 1983.

**Miah, Mizanur R.**, Associate Professor, Ph.D., Southern Illinois University, 1985.

**Raske, Martha**, Assistant Professor, Ph.D., University of Illinois-Chicago, 1986.

**Reichert, Elisabeth**, Assistant Professor, Ph.D., University Tennessee at Knoxville, 1989.

**Tracy, Martin B.**, Professor and Director, Ph.D., University of Illinois at Urbana-Champaign, 1982.

**Tracy, Patsy D.**, Visiting Assistant Professor, Ph.D., University of Iowa, 1995.

## Other Academic Programs

### **Aerospace Studies** (Air Force ROTC) (Department, Minor, Courses)

Aerospace Studies offers two-year and four-year programs which are open to both men and women, leading to a commission in the United States Air Force. The four-year program is divided into the General Military Course (GMC), covering the freshman and sophomore years, and the Professional Officer Course (POC), covering the last two years for which cadets are competitively selected. Students in the four-year program attend a four-week field training course in the summer between their sophomore and junior year. Students can qualify to enter the two-year program at the POC level by attending a six-week field training course during the preceding summer.

The GMC prepares students for the POC and provides them with an education for space age citizenship of long range value whether they remain civilians or become officers in the U.S. Air Force. The courses of the POC are designed to provide the basic knowledge, understanding, and experiences which are required to become an effective junior officer in the modern air force. The student learns about the wide range of USAF career specialties open and has an opportunity to request duty in those fields where qualified. Students contracted into the POC and federal scholarship recipients receive a \$150 per month subsistence allowance during the school year.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for full scholarships for their remaining years at the University. In addition to full tuition and fees, the scholarship provides a monthly tax-free subsistence allowance. Also, two-year AFROTC scholarships and State of Illinois tuition waivers are available on a competitive basis.

In addition to the courses offered for academic credit, Aerospace Studies sponsors related extracurricular activities. The Aerospace Club is open to all members of the student body. The Arnold Air Society, a national honorary service organization, is open to selected AFROTC cadets. The Saluki AFROTC Drill Team is open to selected AFROTC cadets on a competitive basis. Members participate in local community events and in selected drill competition meets throughout the region.

Aerospace Studies is a voluntary course sequence leading to a commission as an officer in the United States Air Force. When commissioned, all officers must have at least a baccalaureate degree; hence completion of the program is contingent upon maintaining satisfactory progress toward graduation. Enrollment in the first two years (general military course) is unrestricted, and no military obligation is incurred. Special students who do not intend to obtain a commission are welcome.

Acceptance into the last two years (professional officer course — POC level) is competitive and requires qualification on the Air Force Officer Qualifying Test and a physical examination. For some officer candidates, the field of concentration must be related to an officer career specialty in the Air Force. Students in the professional officer courses do incur a military obligation. They are paid a monthly tax-free subsistence allowance. Graduate students who have two years remaining at the University, not counting summers, are eligible.

Qualified students may enter directly at the POC level without completing the general military courses by attending a six-week field training course during the summer prior to entrance. Four-year students attend a four-week field training course. Field training is conducted at Air Force bases and students are paid while attending.

Leadership laboratory is a supervised laboratory taken concurrently with the aerospace studies courses. In the first two years, students develop leadership potential by participating in practical leadership situations, participating in and leading drill and ceremonies, learning customs and courtesies, and preparing for field training. In the final two years of AFROTC, students develop leadership potential by assuming command and staff responsibilities, supervising the GMC cadets, and implementing the goals and objectives of the leadership laboratory.

Further information may be obtained from the Department of Aerospace Studies (Air Force ROTC), 807 South University Avenue, 618-453-2481.

### Minor

A minor in aerospace studies consists of a minimum of 26 semester hours, including 301, 302, 401, and 402 plus any combination of designated courses in history, political science, management, computer science, foreign languages, geography, communications, aviation, or professional studies. This minor is structured to broaden the background of future Air Force officers by recognizing efforts in a discipline other than the student's major area of study. Students must discuss their minor program with an aerospace studies adviser to design a coherent program to meet their individual needs.

### Aerospace Studies Faculty

Dondi, Paul F., Adjunct Instructor.

Dunn, Michael J., Adjunct Assistant Professor, M.A.S., University of Montana, 1995.

Eller, Jon A., Adjunct Assistant Professor, M.S., Central Missouri State University, 1985.

Magnuson, Larry D., Adjunct Professor, M.S., Pacific Lutheran University, 1979.

Stewart, Katherine A., Adjunct Instructor.

## Army Military Science (Department, Minor, Courses)

Army Military Science studies is a voluntary course sequence which leads to a commission as an officer in the United States Army (Active Army, Army Reserves, or Army National Guard). The basic course, consisting of four 100 and 200 level courses is open to all students and carries no military obligation. Students may take one or all the basic courses offered, receiving credit hours for each course, without incurring a commitment to further study in Army Military Science or any branch of the armed forces. If a student continues into the advanced course, the student will then incur a military obligation. The obligation may be served in the Active Army, Army Reserves, or Army National Guard after the student is commissioned an officer, upon completion of the Army Military Science program. Students who wish to complete the program must complete a bachelor's degree, although the field of study is unrestricted. History 393 and courses in communication skills, human behavior, computer literacy, and math reasoning are also required.

Veterans of any service, students who are currently members of the armed forces (Reserve or National Guard), and students who have successfully completed three or four years of Junior Reserve Officer Training Corps instruction, may be eligible to enroll into the advanced course once they have obtained junior academic status at the University. Students who have no prior military service may attend a six week basic camp at Fort Knox, Kentucky, which will qualify them for entrance into the advanced course of Army Military Science. This six week camp incurs no obligation on the part of the student.

All students enrolled in the advanced course must attend a six week advanced camp at Fort Lewis, Washington between the first and second years of the advance course (normally the summer between the junior and senior school year). Both the

basic and advanced camp pay the student for travel and attendance at camp, plus provide free room, board, and uniforms.

Financial assistance is available in the form of Illinois State ROTC scholarships, national ROTC scholarships, and a tax free \$150 per month (for ten months) subsistence pay for all students in the advanced course.

Army ROTC classes are open to all University students with the permission of the director of Army Military Science. Non-contracted students participating in the advanced course are not eligible for Army scholarships or financial aid, and will not be commissioned as Army officers.

The senior Army Military Science program offers a progressive adventure-filled two-year and four-year program, designed to teach students the leadership and management skills needed to pursue an exciting career in the United States Army. The student who successfully completes the program will normally receive a commission either in the Regular Army, the Army Reserves, or the Army National Guard. Students may request and be guaranteed reserve forces duty, which allows the student to pursue parallel dual careers in the reserve components of the Army and civilian economy. The four-year program is divided into the basic course, covering freshman and sophomore years, and the advanced course covering the junior and senior years. Students qualify for direct entry into the advanced course level (two-year program), by completing a six-week basic leadership course during the summer at Fort Knox, Kentucky.

Veterans, National Guardsmen, Army Reserve personnel, students who have completed the basic course, and students who have completed three or more years of junior ROTC may also qualify for entry into the ROTC advanced course.

The basic course prepares students for the advanced course and provides them with an education in national defense, basic leadership, and management skills. The advanced course is designed to provide training and instruction encompassing a wide range of subjects from organizational and managerial leadership, ethics and professionalism, and military justice, to the United States military history. The understandings and experiences derived from these courses and adventure training exercises are required to enable a student to grow into an effective junior officer in the U.S. Army.

The student additionally learns about the wide range of Army career specialties available and has the opportunity to request duty in those fields where qualified. Those students currently in the Guard or Army Reserves may continue to participate in their Guard/Reserve unit and pursue a commission through the Army's Simultaneous Membership Program. Those students who qualify and are contracted for the advanced ROTC program will receive \$150 per month subsistence allowance during the school year.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for Army Military Science scholarships for two or three years. These scholarships pay full tuition, fees, books and a \$150 per month subsistence allowance. Illinois residents, who are enrolled in ROTC, can compete for state Army ROTC scholarships, which pay tuition and other selected fees.

In addition to courses offered for academic credit, the Department of Army Military Science sponsors extracurricular activities. The Ranger Company, Pershing Rifles Drill and Color Guard Teams, and AUSA Company are open to all ROTC students. Adventure training takes shape in the form of rappelling clinics conducted at Giant City State Park, field training exercises, survival training conducted at Touch of Nature Environmental Center, Shawnee National Forest, and Civil War Battlefield terrain walks. The department also sponsors numerous formal social functions throughout the year.

Further information may be obtained from the Department of Army Military Science, telephone 618-453-5786.

## Minor

A minor in Military Science consists of at least 25 semester hours, including course work in AMS courses 301, 302, 358, 401 and 402 plus designated courses in written communication, military history, human behavior, computer literacy and mathematics reasoning. Courses in national security affairs and management are also highly encouraged. With its emphasis on leadership and small unit tactics, this minor is structured to develop the attributes required of successful officers in today's United States Army. This minor also recognizes sustained course work in a discipline other than the student's major area of study. Students must discuss their minor program with the director, Army Military Science, to design a coherent program to meet their individual needs.

### Army Military Science Faculty

**Cagle, Jon R.**, SFC, Adjunct Instructor.

**Castin, Patrick J.**, SFC, Adjunct Instructor.

**Malone, Mitchell G.**, CPT, Adjunct Assistant Professor, B.S., Illinois State University, 1983.

**Meneghetti, Michael P.**, CPT, Adjunct Assistant Professor, B.S., Governors State University, 1985.

**Pietrowski, Douglas P.**, CPT, Adjunct Assistant Professor, B.S., College of Saint Benedict, Minnesota.

**Simpson, Glen E.**, SFC, Adjunct Instructor.

**Smith, Sharon J.**, SSG, Adjunct Assistant Instructor.

**Stroud, Timothy B.**, LTC, Adjunct Professor and *Director*, M.P.A., University of Missouri at Kansas City, 1992.

## Environmental Studies (Minor)

The Environmental Studies minor at Southern Illinois University allows students to concentrate core and elective courses from a variety of colleges in a focused, integrated, interdisciplinary study of the environment. The goals of the minor are: (1) to provide students with a basic understanding of the complex environmental issues and opportunities faced by society; (2) to develop and refine student's environmental values from an overview of these issues; and (3) prepare students to translate these values into practical actions in a broad spectrum of environmental or related career fields, or simply as better informed individuals. The Environmental Studies minor involves the cooperation and contribution of faculty members from a broad range of disciplines and departments.

Students may enroll in the Environmental Studies minor after entering a major program in any participating academic department at SIUC with the approval of their academic adviser and the Environmental Studies coordinator. A minor consists of three core courses and a minimum of six hours chosen from among five general groups. For further information contact the Environmental Studies coordinator at 453-4143, 453-4115 or visit the office in Life Science II, Room 354A.

## Graduate School

John H. Yopp, *Dean*

Southern Illinois University at Carbondale is a comprehensive university with an extensive offering of graduate programs and an equally strong commitment to research.

More than 4,000 graduate students pursue advanced study and research under the leadership and direction of some 900 graduate faculty members. The Graduate School offers master's degrees through fifty-nine programs, and the doctoral degree

through twenty-eight programs. The doctoral program in education has concentrations in six areas.

The highest degrees awarded are the Doctor of Philosophy, the Doctor of Business Administration, and the Doctor of Rehabilitation.

In addition to the Master of Arts and the Master of Science degrees, the master's degrees awarded are Master of Accountancy, Master of Business Administration, Master of Fine Arts, Master of Music, Master of Public Administration, Master of Science in Education, and Master of Social Work.

The Graduate School is fully accredited by the North Central Association of Colleges and Secondary Schools, and specific programs have been accredited by appropriate state and national accrediting associations.

A separate catalog describing admission, courses and graduation requirements for the various programs in the Graduate School may be obtained by writing to the Graduate School, Southern Illinois University at Carbondale, Carbondale, Illinois 62901-4716.

## Library Affairs

Carolyn A. Snyder, *Dean*

Morris Library, named after the late Delyte W. Morris, University president from 1948 to 1970, features LINKS, a remotely accessible information network providing entry to library catalogs, abstract and index services, full-text databases, and local and national technological resources. The Library contains over two million volumes, some 13,000 current periodicals and serials, and two and a half million microforms. Collections of government documents, maps, films, and sound recordings are prominent as well. With the exception of materials in Special Collections, most items are arranged on open shelves and are available for browsing.

The online bibliographic search services provide access to over 800 Illinois libraries through Illinet Online (IO) plus numerous academic libraries nationwide. CD-ROM (compact disk) stations located throughout the Library provide access to recent information in thousands of periodical titles as well as abstracts and indexes for many specialized areas of study. Many of these resources as well as the Internet can be accessed from personal computers located on each floor of the library, and, also in dormitories, offices, and homes by direct connection with the University computer network or via modem. Illinet Online also provides an online circulation system to participating libraries and supports computerized interlibrary loan activity, promoting and enhancing resource sharing on a statewide basis.

Morris Library houses four subject divisions in Humanities, Social Studies, Education and Psychology, and Science; Special Collections; a combined Reserved Reading and Self-Instruction Center; and an Undergraduate Library. The Library also provides instructional design and instructional technologies in its Instructional Support Services unit. In the basement is a state of the art classroom for Distant Learning and a center for multi-media training and development.

The Undergraduate Library, located on the first floor, maintains a core collection of electronic data bases and print volumes that are considered basic to the undergraduate curriculum. The combined reserved-reading and self-instruction services are located within the Undergraduate Library, as well. Course-related materials in various media are made available to all class participants for limited-time usage. The central circulation desk, a part of Access Services, where all books are checked out, also is on the first floor. Books recalled from the Library's off-site storage facility are picked up at the circulation desk. The Browsing Room, containing recent books of a popular nature to provide recreational and avocational reading, also is found on the first floor.

Special Collections, on the second floor of Morris Library, maintains the rare books and manuscript collections, and the University archives. It contains important research collections in American Philosophy, First Amendment Freedoms, American and British expatriate literature, the Irish literary renaissance, proletariat theater, and the history of southern Illinois. Special Collections has numerous interesting exhibits of materials from its collections.

The Humanities division, which includes sound recordings and a listening area, also is on the second floor. The Social Studies division is on the third floor, and it includes Government Documents. The Social Studies division also maintains special computer equipment capable of combining statistical, governmental and geographical data. This currently is housed on the second floor.

The Education and Psychology division is on the fourth floor. It also includes a center for curriculum materials. The Science division on the fifth and sixth floors also houses an extensive map collection.

The Ulysses S. Grant Association, which is another unit of Library Affairs, collects, edits and publishes the entire correspondence of President Ulysses S. Grant. It has its editorial office on the third floor of Morris Library.

The Library faculty and staff recognize the complexity involved in using a research library and are eager to help students, faculty, staff and others in satisfying their research needs. Seminars and tutorials and printed handouts for computer indices, the Internet, bibliographic instruction, library use and information retrieval are provided on a continuing basis by Library faculty and staff. Reference librarians in the Undergraduate Library and each of the subject divisions are available to help researchers with their search strategies and to acquaint them with the ever-expanding range of electronic finding aids.

### Library Affairs Faculty

**Bauner, Ruth E.**, Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1978.

**Black, George W., Jr.**, Professor, *Emeritus*, M.S.L.S., Columbia University, 1966.

**Brown, F. Dale**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1978.

**Butler, Kathleen J.**, Assistant Professor M.S.L.S., University of Pittsburgh, 1992.

**Callahan, Daren**, Associate Professor, M.S.L.S., University of North Carolina at Chapel Hill, 1989.

**Chervinko, James S.**, Assistant Professor, M.S.L.S., University of Illinois, 1973.

**Cox, Shelley M.**, Associate Professor, M.A., Southern Illinois University at Carbondale, 1981.

**Crane, Lilly E.**, Assistant Professor, *Emerita*, M.A.L.S., University of Michigan, 1967.

**Davis, Harry**, Assistant Professor, M.A.L.S., University of Denver, 1969.

**Davis, Marta A.**, Assistant Professor, M.A.L.S., University of Denver, 1969.

**Drickamer, Karen D.**, Assistant Professor, M.L.S., State University of New York at Albany, 1987.

**Elmore, Rheena**, Assistant Professor, M.S.L.S., University of Alabama, 1993.

**Fahey, Kathleen G.**, Assistant Professor, M.S., University of Michigan, 1971.

**Foote, Jody B.**, Assistant Professor, M.L.S., University of Texas, 1979.

**Fox, James W.**, Assistant Professor, M.S.L.S., University of North Carolina, 1975.

**Fox, Mary Anne**, Associate Professor, M.A., Southern Illinois University at Carbondale, 1979.

**Harrison, Mary**, Assistant Professor, M.L.S., University of Alabama, 1974.

**Harwood, Judith Ann**, Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1981.

**Hostetler, Jerry**, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1977.

**Hunter, Tracey Joel**, Assistant Professor, M.S.L.S., University of Pittsburgh, 1989.

**Hutton, Betty Jean**, Assistant Professor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1968.

**Isbell, Mary K.**, Assistant Professor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1971.

**Jenkins, Darrell L.**, Associate Professor, M.A., New Mexico State University, 1976.

**Keel, Robert L.**, Assistant Professor, *Emeritus*, M.A.L.S., George Peabody College for Teachers, 1961.

**Kilpatrick, Thomas L.**, Professor, M.S.L.S., University of Illinois, 1963, Ph.D., George Peabody College for Teachers of Vanderbilt University, 1982.

- Koch, David V.**, Associate Professor, M.A., Southern Illinois University at Carbondale, 1963.
- Koch, Loretta**, Associate Professor, M.S.L.S., University of Illinois, 1974.
- Lampman, Wilma L.**, Assistant Professor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1978.
- Logue, Susan**, Assistant Professor, M.S.L.S., University of Illinois, 1994.
- MacLeod, Judith M.**, Associate Professor, M.S.L.S., University of Illinois, 1990.
- Marrero, Carlos E.**, Assistant Professor, *Emeritus*, M.A.L.S., University of Denver, 1961.
- Matson, Susan A.**, Assistant Professor, Ph.D., University of Wisconsin, 1972, M.A.L.S., University of Wisconsin-Madison, 1977.
- McCoy, Ralph E.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1956.
- Matthews, Elizabeth W.**, Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1972.
- Person, Roland C.**, Professor, M.L.S., University of Wisconsin-Madison, 1970, Ph.D., Southern Illinois University at Carbondale 1982.
- Peterson, Kenneth G.**, Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1968.
- Pixley, Lorene**, Assistant Professor, *Emerita*, M.S.L.S., University of Illinois, 1960.
- Preece, Barbara G.**, Associate Professor, M.A.L.S., University of Minnesota, 1979.
- Rubin, Angela**, Assistant Professor, *Emerita*, M.S.L.S., University of Illinois, 1956.
- Russell, Thyra K.**, Assistant Professor, M.A.L.S., Northern Illinois University, 1972, Ph.D., Southern Illinois University at Carbondale 1987.
- Scott, W. Willie**, Assistant Professor, *Emeritus*, M.M., Southern Illinois University at Carbondale, 1981.
- Simon, John Y.**, Professor, Ph.D., Harvard University, 1961.
- Snyder, Carolyn A.**, Professor and Dean, M.A.L.S., University of Denver, 1965.
- Stubbs, Walter R.**, Associate Professor, M.A.L.S., Northern Illinois University, 1968, Ph.D., Southern Illinois University at Carbondale, 1983.
- Tax, Andrew T.**, Assistant Professor, *Emeritus*, M.L.S., Charles University, Prague, 1962.
- Taylor, Mary**, Assistant Professor, M.A.L.S., University of Wisconsin-Madison, 1993.
- Watson, John Mark**, Assistant Professor, M.L.S., Indiana University, 1989.
- Wen, Shixing**, Assistant Professor, M.L.S., Indiana University, 1993.
- Wilson, Betty Ruth**, Associate Professor, *Emerita*, M.A., George Peabody College for Teachers, 1957.
- Wood, Don E.**, Assistant Professor, M.S.L.S., University of Illinois, 1965.

## Nursing (Preprofessional Program)

The School of Nursing of Southern Illinois University at Edwardsville offers a program of study leading to a Bachelor of Science degree in nursing. The program is accredited by the National League of Nursing. The curriculum is designed to prepare qualified individuals to function competently as beginning professional nurse practitioners; to participate in providing a broad scope of health care in a variety of settings and to obtain a foundation for continued professional growth and graduate education. Professional nursing practice is broad in scope and serves individuals in a multiplicity of settings; thus the professional nurse functions in both traditional and non-traditional situations which may require innovative as well as conventional patterns of practice.

The following curriculum is based on the requirements of SIUE's School of Nursing. The Pre-Nursing program can be accelerated to a three-semester sequence of prerequisite courses by students who have a strong academic preparation in appropriate subject areas. Students interested in other nursing schools are encouraged to meet with the nursing advisor as soon as they come to campus.

**Nursing Specialization Suggested Curriculum Guide**

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102* .....	3	3	PHIL 201, 208* .....	4	-
CHEM 140a,b* .....	4	4	MICR 301* .....	4	-
Select <sup>1</sup> * .....	3	3	PHSL 301* .....	-	4
SPCM 101* .....	3	-	Select <sup>3</sup> .....	3	-
Select <sup>2</sup> .....	3	-	Select <sup>4</sup> .....	-	3
PHIL 104 .....	-	3	Select <sup>5</sup> .....	3	-
HED 311* .....	-	3	PHIL 105 .....	-	3
			Select .....	-	3-6
<i>Total</i> .....	16	16	<i>Total</i> .....	14	13-16

<sup>1</sup>Choose two introductory Social Science courses from: Anthropology 104, Economics 241, Geography 103, History 101a, Psychology 102, Sociology 108.

<sup>2</sup>Choose one introductory Humanities course from: Art and Design 101, English 205, Music 103, Philosophy 102, Theater 101.

<sup>3</sup>Choose one advanced Social Science course from: Anthropology 202, Black American Studies 215, History 202, Sociology 215, Women's Studies 201.

<sup>4</sup>Choose one advanced Social Science course from: History 101b, 110, 300, 301, Political Science 114, Sociology 304i, or a 300-level Psychology course.

<sup>5</sup>Choose one advanced Humanities course from: Cinema and Photography 101, English 121, 203, Foreign Language and Literature 230, Philosophy 211.

Courses identified as Prerequisite (\*) must each be completed with a grade of C or above. All prerequisite courses must be completed with an average of 2.7 in these courses to be considered for admission to SIUE School of Nursing. (Admission to SIUE does not guarantee acceptance to the School of Nursing.) Other courses listed here represent degree requirements for the SIUE Bachelor of Science in Nursing. Students should contact Mr. Oakey, the nursing advisor, in the Pre-Major Advisement Center in Woody Hall C-117 for further curricular information and for information concerning application to SIUE School of Nursing. SIUE School of Nursing admits qualified applicants to both Fall and Spring semesters. At least five semesters at SIUE are required for completing the bachelor's degree in Nursing.

**School of Law**

Thomas Guernsey, *Dean*

The Southern Illinois University School of Law, established in 1973, is a small law school with roughly 350 students—approximately 125 students enter the school each fall. The student/faculty ratio of 15:1 ranks among the best in the United States. The school is housed in a spacious, modern building that contains classrooms, a law library, a legal clinic, faculty offices, an auditorium and student lounges. The school is fully accredited by the American Bar Association and is a member of the Association of American Law Schools.

The School of Law offers an extensive curriculum, emphasizing skills in courses such as legal writing and research, transactional drafting, legal argumentation and trial advocacy. The school has an active moot court program and a unique legal clinic in which upper-class students gain practical experience in civil cases under the supervision of the clinic faculty. The school is a leader in the fields of environmental law, health law and international law. The school's moot court teams have won the national championships in several different areas. In competition among Illinois schools (the all-Illinois competition), Southern Illinois University at Carbondale has earned the reputation as the "team to beat".

In cooperation with the Graduate School, the School of Law offers concurrent juris doctor and master's degrees in business administration, public affairs and accountancy. It is one of a handful of schools to offer a joint J.D./M.D. degree, which it does in conjunction with the SIU School of Medicine. The law library contains over 300,000 volumes — more than are in over 50 percent of academic law libraries in the country.

— as well as two computer-assisted research systems (LEXIS and Westlaw). It also features a computer lab. All law students have keys to building, which gives them 24-hour access to the law library.

Information on admission to SIUC School of Law can be obtained by writing to:

Assistant Dean for Admissions and Student Affairs

School of Law

Southern Illinois University at Carbondale

Carbondale, Illinois 62901-6804

Note: Information on undergraduate preparation necessary for schools of law is given under Pre-Law below.

## School of Medicine

Carl J. Getto, *Dean*

Southern Illinois University School of Medicine was established in 1970 after the Illinois General Assembly passed a bill calling for a second state medical school to be established in downstate Illinois. The school graduated an advanced standing class in 1975 and its charter class of all Illinois students in 1976. Currently, 72 students are admitted each year. Today, the school encompasses a complete sequence of medical education beginning with the M.D. degree and progressing through residency training and on to continuing medical education for practicing physicians.

The school's competency-based curriculum has brought the school national attention. Since students are not evaluated in competition with their peers, they are stimulated to cooperate with one another, a situation which more closely resembles what takes place in the actual practice of medicine. Problem-based learning concepts, including active learning situations with paper and simulated patients, are used to help students work toward competency throughout the curriculum. The four-year M.D. degree begins the first year in Carbondale where students concentrate on the basic sciences. The remaining three years are spent in Springfield where students study clinical medicine along with medical humanities and various electives.

The instructional program in Carbondale is based in Lindegren Hall and Memorial Hospital. In Springfield, it is based in the Medical Instructional Facility, the SIU Clinics, Memorial Medical Center and St. John's Hospital.

The school has one of the highest percentages of minority students enrolled of any Illinois medical school. Its Medical Education Preparatory Program (MEDPREP) in Carbondale is designed to assist minority and other students with educationally disadvantaged backgrounds to prepare for success in medical and dental schools.

The University residency programs include dermatology, family practice, internal medicine, medicine/pediatrics, medicine/psychiatry, neurology, obstetrics and gynecology, pediatrics, psychiatry, radiology and six surgical specialties. There are twelve fellowships for advanced clinical work.

The school's continuing medical education program provides an extensive accredited schedule of conferences and symposia for physicians and other health care professionals in central and southern Illinois. Springfield is the location for about three-fourths of the programs; the rest are held throughout the lower half of the state, including the school's Family Practice Centers.

The faculty in Carbondale's four basic science departments as well as Springfield's two medical sciences departments divide their time between teaching responsibilities and independent and collaborative research projects and regional support services. Both clinical investigators and the basic scientists collaborate on a wide-range of medical and scientific projects; they work in the various basic science laboratories on both campuses and in the clinical facilities located in the affiliated hospitals in Springfield. The faculty's commitment to research is further characterized by the of-

fering of graduate programs leading to master's and doctoral degrees in physiology, in pharmacology and in medical microbiology and immunology.

Interfaced with all of its various educational and research programs is the provision of patient care through the various clinical departments and specialized clinics of the school and the practice of its physician faculty.

Preference is given to applicants from central and southern Illinois intending to practice medicine in the state. Inquiries regarding admissions and requests for a School of Medicine catalog should be addressed to the director of admissions, Southern Illinois University School of Medicine, P.O. Box 19230, Mail Code 1226, Springfield, Illinois 62794-1226.

## **MEDPREP** (Medical/Dental Education Preparatory Program)

MEDPREP is a postbaccalaureate program within the Southern Illinois University School of Medicine. MEDPREP is a certificate granting program. Courses are restricted to MEDPREP students only. Admission to MEDPREP is by direct application to the program. See the MEDPREP admissions coordinator for further information.

### **Medical Education Preparation Faculty**

**Bardo, Harold R.**, Assistant Dean for Minority Affairs and Counseling, Educational Psychology, Ph.D., Southern Illinois University, 1972.

**Chaklos, Mary S.**, Visiting Instructor, Chemistry and Biochemistry, Ph.D., Southern Illinois University, 1979.

**Henry, Paul**, Associate Professor, Counselor Education/Education Psychology, Southern Illinois University, 1982.

**Herrold, Linda K.**, Visiting Instructor, Mathematics, M.S., Southern Illinois University, 1990.

**Jackson, Evelyn W.**, Associate Professor, Education/Reading, Ph.D., Southern Illinois University, 1975.

**Jones, Kathleen A.**, Visiting Instructor, Biological Sciences, M.S., Southern Illinois University, 1990.

**Kaplan, Harold M.**, Visiting Professor, Physiology, Ph.D., Harvard University, 1933.

**McGlinn, Shirley**, Instructor, Zoology, M.S., Southern Illinois University, 1975.

**Szary, Barbara**, Instructor, Immunology, Ph.D., Institute of Immunology and Experimental Therapy, 1977.

## **University Honors Program** (Program, Courses)

The University Honors Program is a university-wide undergraduate program designed to reward SIUC's best students for their high academic achievement. The heart of the program is the Honors curriculum: small classes, called seminars, unique in character and specially designed for University Honors students by outstanding SIUC faculty. Each Honors seminar is limited in size to 15 students, and restricted in enrollment to honors students only. The University allows Honors students to substitute Honors seminars for any or all of their 29 semester hours of Core Curriculum requirements in Disciplinary and Integrative Studies (see University Core Curriculum - approved substitutes, Chapter 3).

Membership in the University Honors Program brings additional advantages including extended check-out privileges at Morris Library, early academic advisement and registration, publication in *Papyrus* (the journal of the Honors Program), and others.

Continuing SIUC students and transfer students with at least 12 semester hours of college credit qualify for admission to the University Honors Program on the basis of a cumulative grade-point average of 3.25 or higher. Entering freshmen qualify for admission to the program on the basis of an ACT composite score in the 95th percentile or higher.

The University Honors Program is designed to offer unique educational experiences to participating students. The program includes seminars, special sections of

certain classes and independent study. Some scholarships and internships are available to University Honors Students.

Members of the Program are designated as University Honors Students. Retention in the University Honors Program depends upon maintaining a 3.25 cumulative grade point average in all course work and no failing grades in honors courses.

Baccalaureate degrees for University Honors Students are awarded through the regular degree-granting units. Those who successfully complete the University Honors Program graduation option receive recognition on the academic record and on the diploma at the time the degree is recorded.

The Honors graduation option for continuing SIUC students, transfer students without Associate degrees, and entering freshmen is a minimum of 15 semester hours of Honors course work, including a senior Honors thesis or project, approved in advance by the director. The Honors graduation option for transfer students who enter SIUC with an Associate of Arts or an Associate of Science degree (including Capstone students) and two-year degree candidates at SIUC is a minimum of 9 semester hours of Honors course work, including a senior Honors thesis or project, approved in advance by the director. Substitution for this option may be arranged for a student in a major which does not allow curricular flexibility.

University Honors Students may substitute a University Honors seminar for any or all of their University Core Curriculum requirements in Disciplinary Studies (Fine Arts, Human Health, Humanities, Science and Social Science) and Integrative Studies (Multicultural Diversity in the U.S., and Interdisciplinary). No Honors substitutions are allowed for Foundation Skills requirements in composition, mathematics or speech.

University Honors Students may be exempted from all University Core Curriculum requirements if they (1) pass all five CLEP General Examinations before entering the University with these minimum scores: natural sciences, social sciences, and humanities, 520; English composition with essay, 565; and mathematics, 580; and (2) complete the University Honors Program graduation option. No retroactive extension of the CLEP privilege will be allowed.

Fuller information and application forms are available at the University Honors Program office, Faner Hall 3341.

## Women's Studies (Minor)

A women's studies minor is interdisciplinary and designed to enrich and extend a student's major field of sharing insights gained from the study of women including issues of gender, race and class. Course work can be selected to reflect individual student interests and enhance the major by contributing knowledge, understanding, and sensitivities helpful to students in both the university and work settings.

Women's studies is an appropriate minor for many undergraduate majors as well as for students planning graduate or professional studies. For example, people's orientation toward their work may be affected by an historical understanding of the significant roles women have played in various disciplines, and the ways women have been treated by the courts, the health care professions, the educational system, employment, religion, literature, or the arts.

Because it is interdisciplinary, inclusive of race and class scholarship, the women's studies minor should reflect academic work in the arts and humanities, the natural and social sciences and race and cross-cultural issues.

### Minor

Minors must be approved by the coordinator of women's studies in order to assist students in developing a coherent program that meets their individual interests. The

minor requires 18 semester hours of credit, 15 of which must be in women's studies courses, while the remaining 3 hours may be selected from a special interest or related course for example, in Black American Studies. Schedules of classes contain listings of relevant courses. The minor must include 201 and 492. Students are urged to discuss and plan their minors with the coordinator of women's studies or with a faculty member who teaches women's studies courses.

## **Other Academic Activities**

### **Pre-Major Advisement Center**

The Pre-Major Advisement Center is the academic home of students who have not declared a major. The advisers have knowledge of the many programs offered by the University and will help students explore and select majors in relation to their interests and abilities. Advisers are available for academic advisement by appointment throughout each semester. There is also an adviser available at specified times each day for problem solving on a walk-in basis. The Pre-Major Advisement Center is located in Woody Hall, C-117. Call 618-453-4351 for more information.

### **Center for Basic Skills**

The Center for Basic Skills offers special academic assistance for a select group of entering freshmen through laboratory instruction, small group sessions, workshops, seminars, and tutorials in study/learning skills, speech communication, selected University Core Curriculum courses, and personal and career counseling and guidance. For additional information, contact the director of the Center for Basic Skills.

### **Individualized Two Plus Two Program**

The Individualized Two Plus Two program allows baccalaureate oriented freshman students at community colleges to benefit from "pre-advisement" for a chosen major at Southern Illinois University at Carbondale. The Individualized Two Plus Two program addresses specific departmental requirements that a student may not fulfill simply by completing their A.A. or A.S. at their community college. Students who apply for the Individualized Two Plus Two program are provided with a plan that will guide them to the most direct route to their Bachelor's degree. The plan includes major gpa requirements and a listing of all required major and University Core Curriculum coursework. Participation in the Individualized Two Plus Two program also allows students to receive notification of deadlines for financial aid and housing. Students are encouraged to visit the campus and meet with their prospective collegiate unit advisers.

### **Upward Bound**

This is a pre-college support program funded by the federal government which identifies and recruits ninth to twelfth grade students in specific areas of southern Illinois who have the potential for serious academic work. The program provides developmental, personal, and academic opportunities for underprivileged students who might not otherwise see themselves as future college students. Persons interested should direct inquiries to the director, Upward Bound.

### **Southern Illinois Regional Career Preparation Program**

The Southern Illinois Regional Career Preparation Program is sponsored by Southern Illinois University at Carbondale. The program is designed to increase motivation, to provide academic enrichment, to encourage career exploration and continued enrollment in school for promising southern Illinois minority students who are 7th, 8th,

or 9th graders. Instruction in critical thinking, computer science, mathematics and career development is provided in the academic year and summer programs. Parents are given information about financial aid and specific guidance in assisting their children in academic and career pursuits. For additional information contact the project director.

### **Future Scholars Program**

The Future Scholars Program at Southern Illinois University at Carbondale is a program designed especially for high school minority students who have a true desire not only to attend college but also to excel in college.

Forty carefully selected students, twenty in an advanced group and twenty in an intermediate group, will have the opportunity to experience the University environment first-hand. The Future Scholars Program occurs during four weeks in July, and the selected students live in campus residence halls, eat with their peers in residence cafeterias and study college courses.

### **Division of Continuing Education**

The Division of Continuing Education extends the University's educational mission beyond regular course offerings and campus boundaries. The division's off-campus credit programs, the Evening/Weekend Program, credit free classes, workshops and conferences, the Individualized Learning program, and the contractual services program offer the University's resources to a variety of groups and individuals both on and off campus.

*Off-Campus Credit.* Off-Campus credit programs are designed to meet the educational needs of adults wishing to pursue a degree but who are unable to travel to the Carbondale campus. Faculty teaching off-campus courses are approved by the appropriate department. Graduate courses in agriculture, education, and rehabilitation administration, as well as a variety of upper division undergraduate courses are offered at various locations throughout Illinois. An undergraduate degree program in University Studies is available to students at selected, off-campus sites.

*Evening and Weekend Program.* The Evening and Weekend Program provides individuals within commuting distance of the campus the opportunity to take up to 26 undergraduate hours of college work on a special admission basis. Tuition is the same as for all other undergraduate courses, but students in the program pay reduced fees.

Individuals who possess a high school diploma or GED certificate and who have not been academically suspended from Southern Illinois University at Carbondale or any other institution of higher education during the twelve months prior to application for the Evening and Weekend Program are eligible for admission. Students may take course loads not to exceed eight semester hours during fall and spring semesters and up to five hours during summer session. Registration may be completed by telephone and mail.

*Individualized Learning.* Individuals who cannot attend classes at scheduled times may wish to enroll in an individualized learning course. Such courses are designed to be completed by the students at their own pace and time and, in many instances, in their own home. All courses in the Individualized Learning program are developed by University faculty and approved for academic credit.

*Contractual Services.* The contractual services office provides specialized educational services to groups, organizations, governmental agencies, and businesses on a cost-

recovery basis. These services are provided regionally, nationally, and internationally.

*Credit-Free Activities.* Conferences, workshops, seminars, short courses, institutes and teleconference are offered both on and off campus. The division assists with the development, implementation, evaluation and financial accounting for these programs. Major emphasis is on extending the educational, cultural and physical resources of the University to the local, state, national and international community.

The Professional Development Series is offered through short term formats. This series features instruction by University faculty and carefully selected specialists from business and industry. Continuing Education Units (CEU) are available for many of these offerings and many meet mandated professional education requirements. Participants in this program often include professionals from outside the University community.

An award winning Community Listener's Permit Program opens classrooms of SIUC to the people of Southern Illinois. It is a special program that provides people of all ages and walks of life the opportunity to access the college classrooms without enrolling for credit. For a modest fee and the permission of the instructors, participants can sample subjects that interest them the most from "art history" to "zoology".

### **Military Programs**

The Office of Military Programs is the central administrative unit for the University's various programs for military personnel. Currently, baccalaureate programs are offered through the College of Education, the College of Applied Sciences and Arts, and the College of Engineering. The office serves as the principal point of contact and represents the University with external agencies in matters pertaining to educational programs at military bases. For additional information refer to the section on the Financial Aid Office in Chapter 1, to the Capstone Option in Chapter 3, and credit granted for military experiences in Chapter 2. Students interested in admission should consult the Southern Illinois University at Carbondale base representative on the appropriate military base.

### **Southern Illinois University at Carbondale in Niigata, Japan**

In May, 1988, Southern Illinois University at Carbondale initiated an Off-Campus Academic Program in Nakajo, Niigata, Japan, underwritten and in cooperation with the Municipality of Nakajo. The program offers an intensive English program and two years of pre-major University Core Curriculum courses to Japanese students. The courses are taught by SIUC faculty or by faculty approved by SIUC's respective academic departments. It is expected that students will matriculate to SIUC or other U.S. universities at the junior level. Transcripts and credits for the students are generated by SIUC.

A semester or academic year of study abroad in Nakajo, Japan emphasizing Japanese language, culture, and intercultural competence is offered to SIUC and other U.S. students in conjunction with this program. See the following "Opportunities for Study Abroad" for details.

### **Opportunities for Study Abroad**

International Programs and Services serves as an information, advising and referral center for study, work and travel abroad in addition to administering university study abroad programs and exchanges. Additional information for all programs may be obtained from the Study Abroad Programs division, International Programs and Services, 803 South Oakland Street.

## GROUP PROGRAMS

*International Studies in Austria.* One or two semesters of study in German, Austrian life and culture, political science, business, fine arts and communications at the SIUC program in Bregenz, Austria. All courses, except German, are taught in English and will vary from term to term. Bregenz is located on Lake Constance near the border with Germany and Switzerland. No prior German is required although it is recommended.

*International Studies in Japan.* One or two semesters of study in Japanese language, culture and society are offered at the University's off-campus program in Nakajo, Japan. This program features the opportunity to live with Japanese students and to interact with members of the local community. In addition to Japanese studies courses, students will have the opportunity to take University Core Curriculum courses offered in Japan.

*Year Abroad in Austria.* Two semesters are offered in Vienna at the Wirtschaftsuniversität (University of Economics) and other institutions. All courses are taught in German and require the student to have completed five semesters of college-level German or equivalent with a 3.0 grade point average. Students may earn 30 to 34 semester hours of undergraduate credit in German language, literature, and civilization and in certain other areas with prior approval. Additional information may be obtained from the Department of Foreign Languages and Literatures.

*International Student Exchange Program.* This exchange program is multilateral and involves one-year placements at 100 study sites worldwide. It is a one-for-one exchange plan under which students pay their normal tuition and fees, including room and board, and apply credit earned toward their degrees. There are study sites in Africa, Asia, Australia, the British Isles, Canada, Europe, and Latin America. Applicants must be mature, have a minimum grade point average of 3.25, and possess the appropriate foreign language skills. Acceptance into the program is considered an honor bestowed in lieu of a scholarship. Most forms of financial aid can be used for this program.

*Travel/Study Program.* Travel/Study courses are offered during intersessions as well as during the summer months. Students must register four to six months prior to the start of the course and may earn graduate or undergraduate credit depending upon the nature of the course. Approximately ten offerings are available during each academic year, ranging in length from one week to two months. Courses are taught by full-time faculty of Southern Illinois University and most do not require a specialized foreign language background.

*Utrecht Network.* The University participates in an exchange program with a consortium of European Community universities coordinated by Utrecht University in the Netherlands. There are currently possible exchange sites in Austria, Belgium, Denmark, France, Germany, Great Britain, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain and Sweden.

*Council on International Educational Exchange.* The University is an institutional member of this organization which sponsors study abroad programs around the world, the International Student ID Card and various work abroad programs. Students may participate in the Council's study abroad programs while maintaining their enrollment through the University.

## EXCHANGE PROGRAMS

*Australia:* Curtin University of Technology, Perth (International Programs and Services).

*France:* University of Caen (Foreign Languages and Literatures).

*Germany:* University of Hamburg, Hamburg (Foreign Languages and Literatures); University of Mainz, (English/Foreign Languages and Literatures), University of Regensburg, Regensburg (English).

*Great Britain:* Victoria University of Manchester (International Programs and Services); West Surrey College of Art and Design, Surrey (School of Art and Design).

*Japan:* Kansai University of Foreign Studies, Hirakata; Meiji University, Tokyo (International Programs and Services).

*Switzerland:* Dolmetscherschule, Zurich Interpreters School, Zurich (Foreign Languages and Literatures).

Information concerning eligibility, requirements, program offerings, and application deadlines may be obtained from the International Programs and Services or the department listed.

## INDIVIDUAL OPPORTUNITIES

Credit might be earned through (a) a department's independent study courses such as readings, individual research, practicum or related types of courses with prior departmental approval; or (b) a department or college's travel/study course where offered.

## OTHER PROGRAMS

Southern Illinois University at Carbondale may also grant credit for programs not sponsored by the University. A student may enroll in a study/travel program conducted by a regionally accredited United States institution and transfer the credit to this university. Credits earned in this manner will be evaluated as electives unless a department, program, or the Office of Admissions and Records approved the courses in advance to apply toward specific requirements. Additional information may be obtained from International Programs and Services.

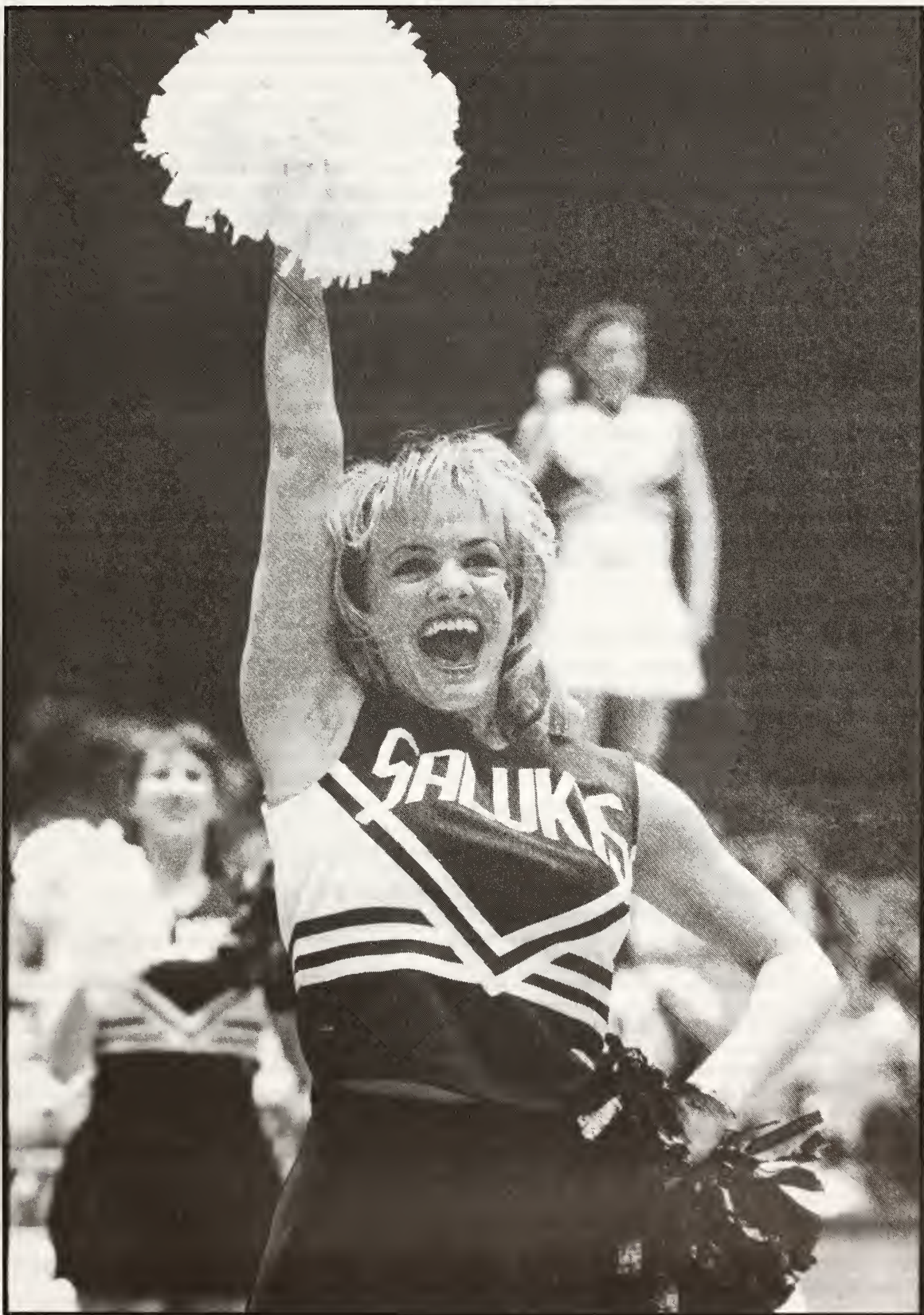
A student may enroll in either a foreign institution or an independent location of a foreign institution. It is important that the student check with the Office of Admissions and Records before registering since many foreign institutions are not accredited. Graduate students should check with the Graduate School. Credits earned in this manner will count as electives only unless a department or program approves them to apply toward specific requirements.

**Internships in Washington**

Eligible students from Southern Illinois University at Carbondale can combine a work and learning experience for credit through the Washington Center. Participants can intern in congressional offices, executive agencies, and with groups in many other areas such as the environment, consumer affairs, journalism, communications, legal affairs, labor relations, health policy, arts, education, science, public relations, urban affairs, and women's issues. Interns also attend seminars taught by representatives of major governmental agencies, interest groups, and corporations.

The Washington Center internships at the University are coordinated through the office of the University Honors Program.

# 5 / University Courses



## University Courses

### How to Read Course Numbers

The first entry for each course is a three digit numeral plus, in some cases, a single letter which together with the subject area, serves to identify the course. The first digit indicates that the course is for freshmen, sophomores, juniors, or seniors, depending on whether the digit is 1, 2, 3, or 4. If the digit is 0, the course is not properly in the above categories with the exception of Music courses. A letter following the three numerals may indicate a *part* of a course (where *a* means first part, *b* means second part, etc.) or may identify the topics or subject areas specified in courses such as readings or special problems. A numeral or numerals separated from the identification number by a dash indicates the number of hours of credit received in the course. For example, Physics 203-6 (3,3) indicates a sophomore-level, two-part course of 6 hours in the Department of Physics. The two parts of the course may be referred to as Physics 203a,b. The credit may also be variable, such as Accounting 491-1 to 6. Variable credit courses which have a number of credit hours per semester or per topic which is limited, have those limits in parentheses following the total maximum hours of credit. An example of such a course is Administration of Justice 492-2 to 6 (2 to 3 per section).

Next is the title, followed by a description of the course. If certain requirements must be satisfied before enrollment in a course, they are listed as prerequisites. If a course is a part of the pass/fail system, it is so indicated.

Not all of the courses described here are offered every semester or even every year. To determine when and where a course is to be offered, consult the schedule of classes obtainable from your academic adviser.

### Course Fees

Some courses have fees attached to their registration. These fees cover such items as laboratory fees, field trips, printing of materials, and supplies. These fees are published in the class schedule but are subject to change. For the correct fee, contact the department that offers the class or Admissions and Records.

### Accounting (ACCT)

**208-3 Business Data Analysis.** (Same as Management 208). Uses of data in policy formulation are discussed. Emphasis is placed on the conversion of raw information into statistics which are useful to the decision-maker. Problems stress solution to questions typically raised in businesses. Prerequisite: Mathematics 139 or equivalent.

**210-3 Accounting Principles and Control.** Prevalent accounting principles and practices employed in business organizations. Accumulation of data and usefulness of reports are considered. Tax implications of business studied. Not open to students with a major in the College of Business and Administration. No credit given for 210 if credit is claimed for 220.

**220-1 to 3 (1,1,1) Accounting I.** Three sequential one credit courses which, in the aggregate, cover the basic concepts, principles and techniques used to generate accounting data and financial statements and to interpret and use the financial data to enhance decision making. Students must initially enroll in all three courses and must successfully complete 220a prior to beginning 220b and 220b before beginning 220c. Students who do not successfully complete all three course in the semester in which they initially enroll in the courses will receive a grade of *PR* for any of the courses not completed. Those students who receive a grade of *PR* in one or more of the courses must re-enroll in all unsuccessfully completed courses in subsequent semesters. Prerequisite: Sophomore Standing.

**230-3 Accounting II.** A continuation of Accounting I with emphasis on the analysis and interpretation of accounting reports including ratios and funds flow analysis. The use of accounting information for managerial planning, control, and decision making through budgeting, cost and variance analyses, and responsibility accounting. Prerequisite: for accounting majors, pass 220 or equivalent, with a grade of *B* or better; sophomore standing.

**240-3 Individual Income Tax.** Preparation of income tax returns. Federal income tax as applied to individuals. No credit given for 240 if credit is claimed for 341. Not open to those with a major in accounting.

**321-3 Intermediate Accounting I.** Current accounting principles and procedures relating to elements of financial reporting. Particular emphasis on current and fixed asset valuation. Includes learning Lotus 1-2-3. Prerequisite: junior standing and limited to business majors (not pre-business) or consent of school; pass 220 and 230 or equivalent with a grade of B or better.

**322-3 Intermediate Accounting II.** Continuation of the study of accounting principles and procedures with emphasis on liabilities, corporate capital, and income determination. Preparation and use of special statements; analysis and interpretation of statements. Prerequisite: junior standing and limited to business majors (not pre-business) or consent of school; passed 321 with grade of C or better.

**331-3 Cost Accounting.** Interpretation and managerial implications of material, labor, and overhead for job order, process and standard cost systems, cost-volume-profit relationships, direct costing, and budgeting. Accounting for complex process production flows, joint and by-products, spoilage, and scrap. Responsibility accounting and reporting. Prerequisite: junior standing and limited to business majors (not pre-business) or consent of school; for accounting majors, pass 230 with a grade of B or better.

**341-3 Introduction to Taxation.** Background, principles, and procedures for the determination of taxable income as a basis for federal income tax. Particular attention is given those aspects which are at variance with usual accounting treatment in the determination of net income. Includes practice in the methodology of tax solutions. No credit given for 341 if credit is claimed for 240. Prerequisite: junior standing and limited to accounting majors or consent of school; for accounting majors, a grade of B or better in both 220, 230 or equivalent courses.

**361-3 Auditing.** Standards, objectives, and procedures involved in examining and reporting on financial statements of business organizations. Prerequisite: junior standing and limited to accounting majors or consent of school; a grade of C or better in 322.

**421-3 Advanced Accounting.** Accounting principles and procedures relating to specialized topics, including partnership equity, installment and consignment sales, fiduciaries, international operations, branches, and business combinations. Prerequisite: junior standing and limited to accounting majors or consent of school; a grade of C or better in 322.

**431-3 Advanced Cost Accounting.** Managerial decision making; profit planning and control through relevant costing, return on investment and transfer pricing, determination of cost behavior patterns, analysis of variances, capital budgeting, inventory models, probabilities, statistical methods, and operations research. Prerequisite: junior standing and limited to accounting majors or consent of school; 331 with grade of C or better.

**441-3 Advanced Tax.** Study of income tax problems which arise from sole proprietorship, partnership, corporation, estate, and trust of organization. Brief study of social security, federal and state estate tax and gift tax. Student does research in source materials in arriving at solutions of complicated problems. Prerequisite: junior standing and limited to accounting majors or consent of school; 341 with grade of C or better.

**451-3 Accounting Systems Operation.** The study of accounting information systems, their technology and the management decision process supported by those systems. Prerequisite: junior standing and limited to accounting majors or consent of school; a grade of C or better in both Accounting 322 and 331; Computer Science 212 or Information Management Systems 229.

**461-3 Advanced Auditing.** The study and application of selected auditing concepts and techniques. Hands-on application will be emphasized. Prerequisite: junior standing Accounting 361 with grade of C or better.

**471-3 Accounting for Public Organizations.** Financial and managerial accounting concepts peculiar to the planning and administration of public and quasi-public organizations, such as governmental units, institutions, and charitable organizations. Includes the conventional budgetary-appropriation process, as well as some of the more recent accounting developments related to public decision making. Prerequisite: for accounting majors, 230 with grade of B or better.

**491-1 to 6 Independent Study in Accountancy.** Independent study of specialized aspects of accountancy not available through regularly scheduled courses. Not for graduate credit. Prerequisite: a grade of C or better in each of 322, 331, 341, and consent of school.

**495-3 Internship.** Supervised work experience in professional accounting. Prerequisite: outstanding record in accounting and recommendation of the school committee on internship. Mandatory Pass/Fail only. Not for graduate credit.

## Administration of Justice (AJ)

**201-3 Introduction to Criminal Justice System.** Survey of the agencies and processes involved in the administration of criminal justice. The history of English law; the criminal justice process and system, including underlying ideologies, procedures, fundamental legal concepts, and the roles and functions of police, courts, and correctional services.

**203-3 Crime, Justice and Social Diversity.** (University Core Curriculum) This course examines how social heterogeneity and inequality influence the processes involved in the definition and regulation of behavior through law, particularly the criminal law. Factors such as race, ethnicity, gender and class are related to definitions of crime and justice, and to the likelihood of being the victim of crime. The differential influence of the operations and outcomes of the criminal justice system on diverse groups in U.S. society is emphasized.

**290-3 Introduction to Criminal Behavior.** Multidisciplinary study of the etiology and patterning of offender behavior.

**300-3 Assessment of Offenders.** Introduction to the procedures and issues of identifying and evaluating individual differences in offenders and among classes of offenders; analysis of typical diagnostic methods. Prerequisite: 201 and 290 or consent of instructor.

**301-3 Human Relations in Criminal Justice.** Delineation of major interactive patterns among staff members, between staff and clients, and among clients of probation and parole agencies and correctional agencies; introduction to problems of communication, bureaucracy, and leadership. Prerequisite: 201 and 290 or consent of instructor.

**302-3 Introduction to Criminal Justice Administration.** An introduction to the principles of administration and organization of criminal justice agencies. Prerequisite: 201 and 290 or consent of instructor.

**303-3 Behavioral Aspects of Investigation.** Principles of behavioral science are applied to the recurrent patterns of criminal investigation as a social and fact-finding process; survey of criminalistics. Prerequisite: 201, 290 or consent of instructor.

**306-3 Policing in America.** Examines police as part of society's official control apparatus. Major topics include historical development of the police, role of the police in the criminal justice system, functions and effectiveness of the police, and the relationship of the police to the communities they serve. Prerequisite: 201 and 290 or consent of instructor.

**310-3 Introduction to Criminal Law.** The nature and theories of law and social control; legal reasoning and case analysis; simple legal research; statutory construction; principles and history of punishment; constitutional, historical, and general legal principles applicable to the criminal law. Prerequisite: 201 and 290 or consent of instructor.

**316-3 Introduction to Criminal Justice Research.** A basic introduction to the scientific perspective, relationship of research and theory, research design, measurement issues, reporting of research and program evaluation. Emphasis on problems peculiar to criminological research. Prerequisite: 201 and 290 or consent of instructor.

**317-3 Data Analysis in Criminal Justice.** Covers basic statistical issues such as properties of single variables, association between pairs of variables, and statistical inference in relation to criminal justice data. Additional topics, such as analysis of aggregated data and prediction, address specific criminal justice concerns. Prerequisite: 201, 290, and 316 or consent of instructor.

**320-3 Prosecution and Adjudication.** Examination of the structure and process involved in the prosecution, adjudication, and sentencing of criminal defendants. The exercise of prosecutorial and judicial discretion is analyzed, with emphasis placed on understanding the influence of legal, organizational, and environmental contexts on decision-making. Prerequisite: 201 and 290 or consent of instructor.

**344-3 Drug Use.** Types of drugs, drug impact on the American culture, legal and illegal uses of drugs, offenses related to drug use, reaction of the criminal justice system to drugs and drug users, and the treatment and prevention programs coping with drug use. Prerequisite: 201 and 290 or consent of instructor.

**348-3 Treatment Modalities.** Various treatment methods used throughout the criminal justice system. Explanation and evaluation of various treatment techniques; e.g., behavior modification, transactional analysis and other individual and group therapies. Prerequisite: 201 and 290 or consent of instructor.

**350-3 Introduction to Private Security.** Examines the roles and functions of proprietary and contract security, loss prevention and asset protection measures in the private sphere. Emphasis is placed on examining contemporary events and factors which influence how, when and why security measures can be applied and measuring their contribution and effectiveness. Prerequisite: 201 and 290 or consent of instructor.

**384-3 Introduction to Corrections.** (Same as Sociology 384.) Examination of the historical context, philosophical concepts, and major developments which have shaped corrections in the United States. Various sentencing options, correctional approaches and programs, the role of corrections in the larger criminal justice system, and contemporary correctional issues are examined. Prerequisites: 201 and 290.

**390-1 to 4 Readings in the Administration of Justice.** In-depth, introductory and advanced readings in areas not covered in other Administration of Justice courses. The student must submit a statement describing the topic and relevant reading materials to the faculty member sponsoring the student's readings. Prerequisite: 201 and 290 and consent of instructor.

**395-3 to 15 Supervised Field Experiences in the Administration of Justice.** Familiarization and direct experience in applied settings. Under supervision of faculty and adjunct staff, the student assumes a student-participant role in the criminal justice agency. Student must submit internship application during the first thirty days of the preceding spring or fall semester. Prerequisite: 201, 290, 12 additional hours of administration of justice courses at SIUC; minimum gpa of 2.5 overall in Administration of Justice courses prior to the internship experience or consent of department. Mandatory Pass/Fail.

**402-3 Group and Family Treatment in Criminal Justice.** Presentation of theoretical knowledge and practical techniques utilized in major group and family treatment approaches for adults and juveniles in institutions, community-based correctional programs, and transitional living situations. Prerequisite: 201, 290, and 316 or consent of instructor.

**403-3 to 9 (3 per topic) Enforcement Operations.** (a) Advanced investigation; (b) Enforcement management; (c) Enforcement discretion. Each course topic focuses on a major theme in law enforcement. Prerequisite: (a), (b), and (c): 201, 290 306 and 316 or consent of instructor; additionally for (a) 303; and for (b) 302.

**408-3 Criminal Procedure.** An introduction to the procedural aspects of criminal law pertaining to police powers in connection with the laws of arrest, search and seizure, the exclusionary rule, civil liberties, eavesdropping, confessions, and related decision-making factors. Prerequisite: 201, 290, 310, and 316 or consent of instructor.

**415-3 Prevention of Crime and Delinquency.** Multidisciplinary analysis of the functions, goals, and effectiveness of measures to forestall delinquency and crime. Etiology of delinquent behaviors as related to community institutions such as police, courts, corrections, mental health clinics, schools, churches, and citizen groups. Prerequisite: 201, 290 and 316 or consent of instructor.

**418-3 Criminal Violence.** Examination of historical, comparative, cultural and social structural aspects of homicide, robbery, rape and assaults. Course focuses on trends and patterns in criminal violence, the role of firearms, victim/offender relationships and post-arrest processing of the offender in the criminal justice system. Prerequisite: 201, 290 and 316 or consent of instructor.

**450-3 Public and Private Security.** An overview of important issues related to security and loss prevention in the public and private sectors. Covers security's historical development, its current role, and the relationship between the public and private sectors. Prerequisite: 201, 290, 316 and 350 or consent of instructor.

**451-3 Forensic Interrogation.** Forum on forensic interrogation. Conceptual framework for understanding behavioral and psychological aspects of the process; discussion of historical and philosophical development, use in criminal and private security investigations, legal proceedings, and role in a democratic society. Provides both theoretical grounding and hands-on experience. Prerequisite: 201, 290, and 316 or consent of instructor.

**460-3 Women and the Criminal Justice System.** (Same as Women's Studies 476.) Addresses the topics of women as offenders, as victims and as workers in the criminal justice system. Prerequisite: 201, 290, and 316 or consent of instructor.

**473-4 Juvenile Delinquency.** (See Sociology 473.) Prerequisite: 201, 290, and 316 or consent of instructor.

**474-3 Juvenile Justice.** The evolving definition of juvenile misbehavior and the legal mechanisms that have emerged to control it. The problems and promise of juvenile justice in terms of the juvenile code and court, law enforcement, custodial and treatment institutions, and community treatment. Prerequisite: 201, 290, and 316 or consent of instructor; 473 or equivalent is recommended.

**476-3 Crime and Criminal Justice: International Dimensions.** Examination of sociocultural and political factors shaping criminality and responses to crime around the world. Similarities and differences in criminogenic conditions and practices of law enforcement and corrections are traced. Prerequisite: 201, 290, and 316 or consent of instructor.

**477-3 Theoretical Analysis of Crime.** Examination of theories of crime and criminality. Major topic areas include types of theories, the development and testing of theories, explanations of the kinds and degrees of crime observed in society, and explanations of processes involved in the development of criminal behavior. Emphasis is on current directions in theories of crime. Prerequisite: 201, 290, 316 or consent of instructor.

**484-3 Correctional Institutions.** (Same as Sociology 484.) Examination of the roles, purposes, structures and functioning of institutional corrections within the United States. Emphasis is placed on understanding the philosophies, elements, structures and programs that shape current institutional operations and their impact on offenders, staff and the community. Prerequisite: 201, 290, 316 or the consent of instructor.

**485-3 Corrections and the Community.** Traditional correctional functions are redefined to emphasize the development of resources in communities, diversion of convicted offenders from institutions, and direct involvement of correctional programs in community affairs. Prerequisite: 201, 290, and 316 or consent of instructor.

**490-1 to 3 Independent Study in the Administration of Justice.** Supervised readings or independent research projects in various aspects of crime control, treatment of offenders, and the management of criminal justice programs and agencies. May be repeated up to a maximum of three credit hours. Prerequisite: 201, 290, and 316 and consent of the instructor.

**492-3 Contemporary Issues in Administration of Justice.** A forum, geared toward seniors majoring in administration of justice, that focuses on criminal justice issues of concern to students and faculty. May re-enroll for a maximum of six credits. Satisfies the CoLA Writing-Across-the Curriculum requirement. Prerequisite: 201, 290, and 316 and consent of instructor.

## Advanced Technical Studies (ATS)

**258-1 to 30 Work Experience Credit.** Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by department evaluation.

**259-1 to 60 Occupational Education Credit.** A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**320-1 to 10 Work Study Internship.** Provides work-study students with an opportunity to participate in an on-campus work experience related to their academic program and career objectives. Hours and credits are to be individually arranged. Mandatory Pass/Fail.

**321-3 Seminar in Applied Sciences and Arts.** This course is designed to allow College of Applied Sciences and Arts' students to become knowledgeable of specific and current requirements in the profession to which they aspire. Subject matter will be determined by academic major.

**332-3 Labor-Management Problems.** Students will gain a general understanding of the economic situation of which labor-management problems represent a subset. They will develop a perspective on the evolution of labor relations in the United States economy and on how the interaction of labor and management differs throughout the world. The collective bargaining section introduces the student to the techniques of bargaining used by labor and management in their ongoing interactions. Lecture three hours.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations of-

ferred through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**361-3 Fiscal Aspects of Technical Management.** An introduction to fiscal structures and problems encountered in the technically oriented enterprise. Lecture three hours.

**362-3 Legal Aspects of Technical Management.** An introduction to the types of legal problems encountered in the technically oriented enterprise. Lecture three hours.

**363-3 to 15 (3,3,3,3,3) Special Topics in Technical Management.** Specialized study for the investigation of management problems relating to the student's career objective. (a) Management field experience. Structured practical experience in a controlled management environment. (b) Research management applications. Studies of management techniques as practiced in the profession. (c) Comparison analysis of organizational strategies in the professions. (d) Current trends. Readings regarding economic trends impacting upon the business or profession. (e) Employee relations. Study of the techniques of employee relationships to include the dynamics and procedures required for managing the work center. Need not be taken sequentially.

**364-3 Work Center Management.** A study of the problems of managing a small working unit (division, department, work center, section, etc.) within a larger unit (agency, company, regional office, etc.). Included items will be work center goals identification, staffing needs, monitoring of work process reporting, work center communications, and interpersonal relations within the work center. Lecture three hours.

**383-3 Data Interpretation.** A course designed for students beginning their major program of study to examine data use in their respective professions. Emphasis will be placed upon an understanding of the basic principles and techniques involved with analysis, synthesis, and utilization of data. Prerequisite: University Core Curriculum mathematics requirement or consent of major department.

**412-3 Grantsmanship.** Provides the student with an understanding of the availability of public and private funding in a specific technical area, how to apply for such funds, the process for approving such applications for funding, how the grants are administered once awarded, and who the funding agencies, companies, or foundations are. Each student will prepare a grant proposal including objective statements, study methodology, work program, work schedule, program budget, end products, and overall packaging. Not for graduate credit.

**416-3 Applications of Technical Information.** This course is designed to increase student competence in analyzing and utilizing various types of technical information encountered by managers in technical fields. Not for graduate credit. Prerequisite: English 101 or consent of department.

**421-3 Professional Development.** Introduces students to the various elements involved in obtaining a position in their chosen career field. Topics included are: personal inventories, placement services, employment agencies, interviewing techniques, resumes, letters of application, references, and employment tests. Each student will develop a portfolio including personal and professional information related to individual career goals. Not for graduate credit. Prerequisite: enrollment in the College of Applied Sciences and Arts baccalaureate program or consent of instructor.

**426-3 Technology and International Trade.** The international trade of products and services is studied by examining the technology development and transfer concerns of transnational corporations and national governments in industrialized, newly industrialized and developing countries.

**464-3 Managing For Quality.** The course focuses on management techniques used to upgrade the level of quality of products and services in organizations. Topics cover the process of continuous quality improvement: strategies and objectives, quality measures, participative management practices, worker empowerment, customer preferences and expectations, vendor/supplier inputs, process technology outputs, integrated feedback loops, and quality audits and review. Lecture three hours. Prerequisite: 364 or consent of instructor.

**483-3 Design of Process Control Systems.** Specialized study of the design of quality control for the improvement of processes and to enhance product or service outcomes. Instruction will focus on the construction of Statistical Process Control (SPC) diagrams and charts appropriate to the technologies found in various types of work environments. The major course project requires students to design aspects of an SPC program based on their specialty area. Lecture three hours. Prerequisite: 383 or consent of instructor.

## Aerospace Studies (AS)

**101-1 The Air Force Today.** Survey course briefly treating chief topics relating to the Air Force and defense. It focuses on the organizational structure and missions of Air Force organizations, officership and professionalism and includes an introduction to communicative skills. Prerequisite: concurrent enrollment in 101a, Leadership Laboratory.

**101A-1 Leadership Laboratory.** Weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies. Prerequisite: concurrent enrollment in 101.

**102-1 The Air Force Today.** Survey course briefly treating chief topics relating to the Air Force and defense. Focuses on the organizational structure and missions of Air Force organizations, officership and professionalism and includes an introduction to communicative skills. Prerequisite: concurrent enrollment in 102a, Leadership Laboratory.

**102A-1 Leadership Laboratory.** Weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies. Prerequisite: concurrent enrollment in 102.

**201-1 The Development of Air Power.** Focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine and an assessment of communicative skills. Prerequisite: concurrent enrollment in 201a, Leadership Laboratory.

**201A-1 Leadership Laboratory.** Weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness and field training orientation. Prerequisite: concurrent enrollment in 201.

**202-1 The Development of Air Power.** Focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine and an assessment of communicative skills. Prerequisite: concurrent enrollment in 202a, Leadership Laboratory.

**202A-1 Leadership Laboratory.** Weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness and field training orientation. Prerequisite: concurrent enrollment in 202.

**258-4 Field Training Equivalency.** Work experience credit for 101, 102, 201, and 202. This credit will be evaluated by the Department of Aerospace Studies. Prerequisite: satisfactory completion of either the four-week or six-week field training course for AFROTC POC applicants.

**301-3 Air Force Leadership and Management.** Study of leadership and quality management fundamentals, professional knowledge, leadership ethics and communicative skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Prerequisite: concurrent enrollment in 301a, Leadership Laboratory. Non-AFROTC members may enroll with instructor consent.

**301A-1 Leadership Laboratory.** Weekly laboratory consisting of advanced leadership experiences in officer-type activities, giving students the opportunity to apply the principles learned. Prerequisite: concurrent enrollment in 301.

**302-3 Air Force Leadership and Management.** Study of leadership and quality management fundamentals, professional knowledge, leadership ethics and communicative skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of concepts being studied. Prerequisite: concurrent enrollment in 302a, Leadership Laboratory. Non-AFROTC members may enroll with consent of instructor.

**302A-1 Leadership Laboratory.** Weekly laboratory consisting of advanced leadership skills in officer-type activities, giving students the opportunity to apply leadership and management principles. Prerequisite: concurrent enrollment in 302.

**351-2 Field Work Experience.** Approved field work experiences with an Air Force or Department of Defense-related installation gives students opportunities to apply classroom theory to an active duty environment. Prerequisite: 302 or consent of department chair.

**401-3 American Foreign Policy.** Examines the need for national security, analyzes the evolution and formulation of the American Defense policy, strategy and joint doctrine; investigates the methods for managing conflict; overviews regional security, arms control and terrorism. Within the structure, continued emphasis is given to the refinement of communicative skills. Not for graduate credit. Prerequisite: concurrent enrollment in 401a, Leadership Laboratory. Non-AFROTC members may enroll with consent of instructor.

**401A-1 Leadership Laboratory.** Weekly laboratory consisting of advanced leadership experiences in officer-type activities. Not for graduate credit. Prerequisite: concurrent enrollment in 401.

**402-3 Civil-Military Relations.** Examines the military as a profession, officership, the military justice system and current issues affecting military professionalism. Within this structure, continued emphasis is given to the refinement of communicative skills. Not for graduate credit. Prerequisite: concurrent enrollment in 402A, Leadership Laboratory. Non-AFROTC members may enroll with consent of instructor.

**402A-1 Leadership Laboratory.** Weekly laboratory consisting of advanced leadership experiences in officer-type activities. Not for graduate credit. Prerequisite: concurrent enrollment in 402.

**471-1 to 3 Independent Study.** Supervised study or project to improve skills or to explore interests related to professional development of an Air Force officer. Not for graduate credit. Pass/Fail only. Prerequisite: 301 or concurrent enrollment or consent of department chair.

**491-1 to 8 Advanced Leadership Skills.** Student applies special skills or interests to the professional environment of an Air Force officer. Original research or project to deal with current aspect of Air Force duty required. Amount of credit dependent on work involved. Not for graduate credit. Pass/Fail only. Aerospace Studies elective only. Prerequisite: 301 or concurrent enrollment and consent of department chair.

## Agribusiness Economics (ABE)

**204-3 Introduction to Agricultural Economics.** Agriculture in local and national economy; distribution; size and organization of the farm business units; policies affecting agriculture.

**257-1 to 10 Work Experience.** Credit for on-campus work experience through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Prerequisite: consent of chair. Mandatory Pass/Fail.

**258-1 to 30 Past Work Experience.** Credit for career related employment based on the evaluation of the documentation of this experience by the Department of Agribusiness Economics. No grade for past work experience. Prerequisite: consent of chair.

**302-2 Country Living Management and Information.** Managing a small acreage as an avocation. Types of decision problems and sources of information.

**318-3 Agribusiness Statistical Methods.** Statistical methods applied to agribusiness economics, including survey design, sampling, graphic presentation of data, index numbers, statistical inference, basic linear regression and correlation.

**333-3 Professional Agri-selling.** Focuses on professional Agri-selling and the sales process. Topics include different methods of selling, steps and techniques in the selling process, customer service, sales ethics, consumer behavior concepts and sales management. Critical skills of self-management, communication, and interpersonal values are examined. Opportunities of a career in Agri-selling are surveyed.

**340-3 Food and Agricultural Policy.** An economic analysis of the structure, problems, and alternative public policies of the food production industry. Emphasis on price, income, foreign trade, and development policies. Prerequisite: 204 or consent of instructor.

**350-3 Farm Management.** Efficient organization and management of a farming operation. Emphasis on crop and livestock selection, management of farm resources, farm budgets and records analysis, and farm leases. Student will incur field trip expenses not to exceed \$5. Prerequisite: 204 or one course in economics.

**351-3 Financial Management in Agriculture.** Analysis of the capital structure of agriculture and sources of capital. Credit analysis of agribusiness firms using financial statements, firm growth, capital budgeting, and tax considerations. Prerequisite: 204 or equivalent.

**359-1 to 6 Intern Program.** Supervised work experience program in either an agricultural agency of the government or agribusiness. Prerequisite: junior standing or consent of instructor. Mandatory Pass/Fail.

**360-3 Cooperatives and Agribusiness Management.** Problems and practices in agribusiness operations including forms of organization, alternative organization and structure impacts on decision making, tools of decision making, financial analysis and methods of improving the effectiveness of the marketing system. Prerequisite: 204 or equivalent.

**361-3 Agribusiness Marketing Management.** An overview of marketing practices and strategies employed by agribusiness product and service firms. Market research, market segmentation and product mix development are among the topics reviewed. Students participate in case analysis and marketing plan development projects. Prerequisite: 204 or equivalent.

**362-3 Marketing and Pricing Agricultural Products.** Institutional arrangements in marketing agricultural products. Market structure, marketing costs, and alternative methods of pricing agricultural products are also examined. Prerequisite: 204 or equivalent.

**363-3 Commodity Futures Market.** The mechanics of futures market trading, a description of institutions, technical and fundamental analysis, speculation, hedging, spreading, and market risk. Agricultural commodities, exchange rates, and financial instruments are considered.

**381-1 to 4 (1,1,1,1) Agricultural Seminar.** Discussion of special topics and/or problems in the field of agribusiness economics. Prerequisite: junior standing and consent of department.

**388-1 to 16 (1 to 8 per semester) International Studies.** Course work undertaken as a part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: major department or program approval.

**390-1 to 4 Special Studies in Agribusiness Economics.** Assignments involving research and individual problems. Field trips. Prerequisite: consent of chair.

**391-1 to 4 Honors in Agribusiness Economics.** Completion of honors paper or comparable project under the supervision of one or more faculty members. Subject matter depends upon the needs and interests of the student. Prerequisite: junior, gpa 3.0 with a 3.25 in major; approval of staff member, department chair.

**401-3 Agricultural Law.** Relations of common-law principles and statutory law to land tenure, farm tenancy, farm labor, farm management, taxation, and other problems involving agriculture. Prerequisite: junior standing or consent of instructor.

**402-1 to 6 Problems in Agribusiness Economics.** Designed to improve the techniques of agribusiness economics workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. Prerequisite: consent of chair.

**419-3 Agribusiness Economic Applications of Information Technology.** Students will gain experience in applying information technology to a range of agribusiness-economic applications in the subject areas of record keeping, management, finance and marketing. Students will gain additional experience by integrating these applications in the development of a business plan. Not for graduate credit. Prerequisite: 350 or 351 or 360 and Agricultural Education and Mechanization 318 or equivalent.

**440-3 Land Resource Economics.** The use of land as an economic variable in production of goods and services; land markets; public versus private land use conflicts; and land-use planning in an institutional setting. Prerequisite: 12 hours of agricultural economics or economics credit, or graduate status or consent of instructor.

**444-3 Agricultural Development.** Analysis of the economic, social, political, cultural, and institutional factors related to economic growth and development in agricultural sector. Framework for evaluating outcome of alternative strategies in agricultural production, marketing, and government policies that affect output, income distribution, and resource use in agriculture and the related agroindustrial complex. Prerequisite: 204.

**450-3 Advanced Farm Management.** Application of production economic principles and modern decision-making techniques to farm management problems. The importance of information, sources of agricultural risk and management of risk in farm planning will be integrated. Prerequisite: 350 or equivalent and University Core Curriculum mathematics required.

**451-2 Farm Real Estate Appraisal.** Principles and practices of farm real estate appraisal. Application of capitalization, market, and cost approaches for estimating market value. Understanding of special valuation methods used for buildings, insurance, assessments, loans, and condemnation. Field trips not to exceed \$10. Prerequisite: 350 or consent of instructor.

**453-3 Agribusiness Planning Techniques.** Application of mathematical programming to agribusiness and farm planning, including enterprise selection, resource allocation, least cost ration formulation, decision making under risk and uncertainty, transportation and location problems. Emphasis placed on modeling problems and interpretation of results. Prerequisite: junior standing or consent of instructor.

**460-3 Agricultural Prices.** Measurement and interpretation of factors affecting agricultural prices. Construction of index numbers, trend analysis, seasonal and cyclical price movements and the measurement of relationships between price and other variables. Prerequisite: 362 or equivalent.

**461-3 Agriculture Business Management.** Examination of agribusiness firm management with emphasis on the management and control of financial resources and the interrelationship between the agribusiness firm and human resource management. Other topics in agribusiness will include effective communication in the management process, business ethics, and workable credit programs for customers. Prerequisite: 351 and 360 or equivalent.

**462-3 Advanced Agricultural Marketing.** Advanced treatment of marketing issues from both theoretical and practical decision-making perspectives. Marketing margins, intertemporal, and spatial price relationships are reviewed in detail. Historical and current grain and livestock price series are utilized in decision-making exercises. Prerequisite: 362 or equivalent.

**470-3 Interdisciplinary Approaches to Environmental Issues.** Application of concepts from the biological, physical and social sciences, economics, humanities and law, used to understand the interdisciplinary complexities of environmental issues. Students will develop and demonstrate problem-solving skills as part of a team analyzing a regional environmental issue. Team-taught seminar style discussions. Not for graduate credit. Prerequisite: Plant Biology 301i and admission to Environmental Studies minor program.

## Agricultural Education and Mechanization (AGEM)

**170-4 Introduction to Physical Principles in Agriculture.** An analytical introduction to physical and mechanical principles related to agricultural land measurement, power and machinery, electricity and electronics, structures, environment and handling of agricultural materials.

**180-1 to 2 (1,1) Introduction to Agricultural Communications Experience.** Study, observation and participation in (a) agricultural news activities, (b) graphic/photographic activities of an agricultural extension communication office. Prerequisite: consent of instructor.

**257-1 to 10 Work Experience.** Credit for on-campus work experience through a cooperative program developed between the department and the Financial Aid Office. Prerequisite: consent of chair. Mandatory Pass/Fail.

**258-1 to 30 Past Work Experience.** Credit for career related employment based on the evaluation of the documentation of this experience by the Department of Agricultural Education and Mechanization. No grade for past work experience. Prerequisite: consent of chair.

**274-2 Skills in Home Maintenance and Repair.** Common home related maintenance and repair activities. Units include safety and developing the home shop; construction skills related to masonry, concrete, plumbing and painting; basic electricity and practical home wiring; and lawn, garden and recreational equipment maintenance and operation.

**311-6 (3,3) Agricultural Education Programs.** Nature and scope of the different programs involved in teaching agricultural occupations and methods of developing them.

**314-3 Agricultural Information Programs.** Preparation for an agricultural information internship; an in-depth study into the nature, scope, integral parts, and methods of a total agricultural information program.

**318-3 Introduction to Computers in Agriculture.** An introductory course about the use and role of computers in agriculture. The major thrust includes a basic understanding and application of micro-computers in agriculture with special emphasis on how to save time, money, and increase efficiency in agriculture.

**359-1 to 6 Intern Program.** Supervised work experience in either an agricultural agency of the government or agribusiness. Prerequisite: junior standing or consent of instructor. Mandatory Pass/Fail.

**362-3 Small Engines and Power Equipment.** A basic agricultural power course emphasizing engine principles, service and application of light power equipment such as lawn and garden, machines, power units, chain saws and small tractors.

**363-3 Applied Agricultural Electricity.** The course is intended to develop a working knowledge and basic skills in the application and use of the National Electric Code and Agricultural Wiring Handbook for electrical service systems. Both single and three phase electrical, service, circuits and automated systems will be planned and constructed. Safety is emphasized.

**364-3 Leadership of Youth and Peer Groups.** (See Workforce Education and Development 364.)

**371-2 Surveying and Planning.** Surveying, mapping, land measurement, contouring, planning waterways and terraces and other water control structures used in the development and conservation of forests and agricultural land.

**372-4 Agricultural Production Machinery Management.** A machinery management course related to capacities, application, operation, safety, performance, adjustments, calibration and maintenance. Problem solving is emphasized. Prerequisite: 170.

**374-2 Applied Graphics.** Fundamentals of interpreting graphic illustrations, sketching, drawing, and lettering in agriculture, forestry, and landscape design.

**380-1 to 2 (1,1) Agricultural Communications Seminar.** Readings, discussions, and activities related to (a) current problems, issues, and practices in agricultural communication, (b) career opportunities, professional development, and ethical standards in agricultural communication. Prerequisite: junior and senior standing and consent of instructor.

**381-1 to 4 (1,1,1,1) Agricultural Seminar.** Discussion of special topics and/or problems in the field of agricultural education and mechanization. Prerequisite: junior standing and consent of department.

**384-3 Agricultural Shop and Construction Processes.** Principles of shop organization and safety; tool and equipment utilization as related to hot and cold metals, woodworking, plumbing, and concrete construction. There is a \$15 additional charge for this course.

**388-1 to 16 (1 to 8 per semester) International Studies.** Course work undertaken as part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: major department or program approval.

**390-1 to 4 Special Studies in Agricultural Education and Mechanization.** Assignments involving research and individual problems. Field trips. Prerequisite: consent of chair.

**391-1 to 4 Honors in Agricultural Education and Mechanization.** Completion of honors paper and comparable project under the supervision of one or more faculty members. Subject matter depends upon the needs and interests of the student. Prerequisite: junior, gpa 3.0 with a 3.25 in major; approval of staff member, department chair.

**402-1 to 12 (1 to 6 per topic) Problems in Agricultural Education and Mechanization.** (a) Agriculture education, (b) agriculture mechanization. Designed to improve the techniques of agricultural education and mechanization workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. A limit of six hours will be counted toward graduation in master's degree program. Prerequisite: consent of chair.

**411-3 Program Development in Agricultural Extension.** Principles and procedures in developing extension programs with emphasis on program determination and methods. Prerequisite: junior standing.

**412-3 Methods of Agriculture Mechanization.** Theory and use of educational materials and devices adaptable to the needs and interests of educators involved in agricultural mechanization laboratories. There is a \$15 laboratory fee for this course.

**414-3 Adult Education Procedures, Methods, and Techniques.** Determining adult education needs and interests of the community. Securing and organizing the information needed for adult education programs and planning teaching activities.

**415-3 Beginning Teacher Seminar.** The application in the professional field setting, of principles and philosophies of the education system. Includes application of principles of curricula construction, programming student and community needs. Prerequisite: consent of instructor.

**418-3 Applications of Integrated Software/Agriculture.** Design of agricultural or educational applications of integrated software. Spreadsheet, database, word processing, graphic and communications software will be applied to the solution of agricultural problems. Individual student projects will be the focus of the applied nature of the class. Prerequisite: junior standing or consent of instructor.

**473-3 Planning Agricultural Electrical Systems.** Design and plan the efficient application of electrical service to agricultural buildings and operations. National electric and local code requirements and safety are emphasized. Prerequisite: 170 or equivalent.

**474-3 Advanced Agricultural Structures.** A study of design characteristics, construction, methods, and environmental control applicable to agricultural structures. Design construction and environment are considered from the standpoint of the function of the building of an agricultural enterprise. Prerequisite: 384 or equivalent.

**476-3 Agricultural Safety and Health.** Analysis of safety and health issues important to managers and supervisors in agricultural operations. Topics include agricultural accident data, causes and effects of accidents, hazard identification, strategies for accident prevention, response to accidents, and health risks and safeguards. Developments and documentation of accident and illness prevention activities in the workplace. Prerequisite: junior standing.

**483-3 Agricultural Materials Handling, Processing, and Storage.** Arrangement of systems for animal waste disposal, feed handling and processing, and storage of agricultural products. Prerequisite: 373 or 384 or 473 or 474.

**499-3 Agriculture Information for Elementary Teachers.** A general inquiry into the agriculture literacy appropriate for elementary students. A framework for evaluating content appropriate for elementary students in the pursuit of agriculture literacy will be developed. Prerequisite: consent of instructor.

## Agriculture (AGRI)

**110-3 Agriculture and Society.** An introductory and general inquiry about the role and characteristics of farm and off-farm agriculture in our non-agrarian society. To acquaint students with important aspects of the various fields of agriculture and agrarian relationships to our society.

**259-2 to 40 Technology in Agriculture.** For credit earned in technical or occupational proficiency above the high school level (by departmental evaluation).

**300I-3 Social Perspectives on Environmental Issues.** (Same as Liberal Arts 300i.) (University Core Curriculum) Case studies (e.g., rural village in developing nation; small town in the U.S.; city in developing nation) are used to learn how different societies and groups deal with their specific environmental issues, and how culture and economic factors affect their perspectives and actions.

**323-2 Career Development in Agriculture.** Explores the information necessary for a participant to enter into an agricultural career with government, business or industry. Participants will complete a personal skills assessment, a resume, research a prospective employer, complete a mock interview and negotiate employment.

**333-2 Agriculture and Forestry Environmental Problems.** An overview course directed at the environmental problems of food, fiber, and forest products, production and processing and their potential solutions. A team taught course within the College of Agriculture.

**388-1 to 16 (1 to 8 per semester) International Studies in Agriculture.** Course work undertaken as a part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: College of Agriculture or department within the college approval.

**401-3 Fundamentals of Environmental Education.** (Same as Forestry 401 and Recreation 401.) A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of biological science, or ten hours of recreation and/or education, or consent of instructor.

**423-3 Environmental Interpretation.** (Same as Forestry 423 and Recreation 423.) Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite: ten hours biological science or ten hours of recreation.

**450-2 Farming Systems Research and Development.** An introduction to farming systems, which is an interdisciplinary approach to agricultural research and development emphasizing small farms. The whole farm is viewed as a system of interdependent components controlled by the farm household. Focuses on analyzing interactions of these components as well as the physical, biological, and socioeconomic factors not controlled by the household. Techniques of analysis are applicable domestically and internationally.

**481-1 International Agricultural Seminar.** Discussion of special topics relating to worldwide agricultural development. Prerequisite: consent of instructor.

## Allied Health Careers Specialties (AHC)

**105-2 Medical Terminology.** Introduction to the study of medical language with a working knowledge of the most common word roots, prefixes, suffixes in medical terminology. Emphasis placed on spelling, pronunciation, use of the medical dictionary, vocabulary building, common abbreviations, and charting terms.

**124-2 Disease Conditions.** Introduction to the study of diseases and disorders of the various body systems. The disease processes as they relate to bodily functions, their signs, symptoms, and treatment will be covered within the scope of medical assisting. Prerequisite: 105.

**141-4 Introduction to Physiology and Human Anatomy.** The student will survey the functions and structures of the nine basic body systems: circulatory, digestive, endocrine, excretory, muscular, nervous, skeletal, reproductive, and respiratory.

**161-2 Infection Control.** It is the responsibility of all health care workers to prevent and to help control infection. This course introduces infection control practices that are important in the prevention and spread of disease. This course will assist the successful student in the development of knowledge needed to provide quality care for patients and to protect yourself from the spread of infection. Prerequisite: anatomy and physiology.

**299-1 to 16 Individual Study.** Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair is required.

**300-1 to 3 Seminar in Allied Health.** A topical seminar conducted by staff members or distinguished guest lecturers on pertinent areas of allied health. Prerequisite: consent of instructor and department.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credits to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**375-3 Advanced Modalities: Diagnostic, Therapeutic and Prosthetic.** A course designed to provide the student with a study of advanced instrumentation and techniques involved with the Allied Health Sciences. Topics will include an introduction to the modality, theoretical and physical principles, and hands-on instruction of each instrument/technique. Prerequisite: junior standing or licensure/certification.

## Animal Science (ANS)

**112-2-16 (2 per semester) Introduction to Riding.** For students with little or no riding experience. A combination of mounted and classroom work will introduce the rider to safe and responsible riding practices. Students will gain an understanding for the natural function of the horse under saddle and the influence of rider position and aids on horse and rider safety and comfort. Riding emphasis will involve work on basic position and aids. Classroom work will cover safety procedures, before and after riding care, and care and use of tack. Facilities/riding expenses are \$200-\$250 per class. Prerequisite: No prior riding experience required. Concurrent or prior enrollment in 219 or equivalent.

**121-3 Science of Animals that Serve Mankind.** A general overview of dairy, meat animals (swine, beef, sheep), poultry, and horse industries with emphasis on how meat, milk, and poultry products are produced and distributed. The general application of genetic, physiologic, and nutrition principles for the improvement of animal production to further serve people. Prerequisite: concurrent enrollment in 122.

**122-1 Production and Processing Practices of the Animal Industry.** Livestock facilities, demonstration of management practices of animals for human use and the processing of animal products. Can be taken without concurrent enrollment in 121.

**123-1 to 8 (1 to 2 per discipline) Animal Production.** (a) Beef; (b) Dairy; (c) Horse; (d) Swine. Provides students with limited previous livestock experience an opportunity to participate in the routine care and management procedures at one of the University's livestock centers.

**210-3 Livestock Products and Evaluation.** Processing and distribution of meat and dairy products. Consumption, nutritional value, cooking and serving of these products. Nomenclature and identification of meat cuts. Breeds, classes, and evaluation of meat and dairy animals.

**212-2 to 16 (2 per semester) Riding and Position Control.** Through the combination of mounted and classroom work, students will learn theory and implementation of the six rein aids and three leg aids used in riding. Students will be introduced to the principles and use of basic training aids. Mounted work will center on obtaining an independent seat and mastery of intermediate aids. Riders will begin to deal effectively with the common challenges that can arise during riding. Classroom work will cover gait recognition and control, principles and use of tack and mechanical aids. Facilities/riding expenses are \$200-\$250 per class. Prerequisite: 112 and/or permission of instructor (tryouts required); concurrent or prior enrollment in 219 or equivalent.

**215-2 Introduction to Nutrition.** (Same as Food and Nutrition 215.) An up-to-date study of basic principles of animal nutrition including classification of nutrients (physical and chemical properties) and their uses in order to provide the student a working knowledge of livestock nutrition in today's animal environment.

**219-4 Introductory Horse Management.** Designed for the beginning science student or non-science majors with an interest in horses. Information on topics related to horse selection and care coupled with laboratory experience provide essential information for the care of horses owned for pleasure.

**250-3 Livestock Production and Human Values.** Improvements in livestock production technology have resulted from research. These technologies contribute to the welfare of a growing population of humans. However, the application of new technologies often interact with a public perception of animals as exploited species in a manner conflicting with human values. These conflicts are discussed from a scientific and philosophical viewpoint.

**312-2 to 16 (2 per semester) Riding Form and Function.** Mounted and classroom work will explore principles and practices used to develop the competitive equine athlete. Advanced training aids will be presented and practiced. Goals of riding will be to develop an independent seat through knowledge of all aids, and to apply these to mounted problem solving in a variety of riding disciplines. Classroom work will emphasize the evaluation of equine form in determining ultimate athletic function and performance potential. Facilities/riding expenses are \$200-\$250 per class. Prerequisite: 212 and/or permission of instructor (tryouts required); concurrent or prior enrollment in 219 or equivalent.

**315-3 Feeds and Feeding.** Principles of applied animal nutrition. Ration formulation to meet specific nutrient needs of livestock. Feedstuff evaluation, including cost will be discussed. Prerequisite: University Core Curriculum mathematics.

**319 -1,1 Training, Fitting and Sales Preparation.** Students train and prepare yearling racehorses for sale at public auction. Students must complete both 319a and b in order to receive credit. Prerequisite: 219 and consent of instructor.

**331-4 Physiology, Growth, and Development of Farm Animals.** Physiology is presented using the organ system approach. Growth and development of meat animals with emphasis on bone, fat, and muscle tissue, and the factors which influence their relative rate of formation.

**332-3 Animal Breeding and Genetics.** The application of basic principles of genetics and breeding systems to the improvement of farm animals and poultry. Prerequisite: 121 or biology.

**337-3 Animal Hygiene.** Principles of prevention and control of infectious, nutritional, and parasitic disease of farm animals. Prerequisite: a course in chemistry.

**359-2 to 6 (2 to 3, 2 to 3) Intern Program.** Work experience program in animal production units and agricultural agencies of the government or agribusiness. Prerequisite: junior standing and consent of chair. Mandatory Pass/Fail.

**380-1 to 6 Field Studies in Foreign and Domestic Animal Agriculture.** A travel course to observe and study the operation and management of farms, ranches, and feedlots as well as agribusiness firms supporting animal production such as food processors, feed manufacturers, and housing or equipment companies in either the United States or foreign countries. A written report is required. The travel fee charged to the student will depend on the nature and the length of the course.

**381-1 Animal Science Seminar.** Discussion of problems and recent development in animal science. Prerequisite: junior-senior standing.

**390-1 to 4 Special Studies Animal Science.** Assignment involving research and individual problems. Prerequisite: juniors and seniors only and consent of chair.

**409-4 Equine Science.** Designed for students interested in the more scientific aspects of equine physiology and management. The class will take a more advanced look at anatomy and physiology of the systems of the equine and consider how they relate to selection, use, and management. Lecture and laboratory. Prerequisite: 219, 220, 331 or Physiology 310, or equivalent.

**412-2 to 16 (2, 2 per discipline) Horsemastership.** Designed to involve the advanced equestrian in evaluation and resolution of special problems in horse training involving one specific riding discipline: (a) Hunt seat, (b) Dressage, (c) Stock seat, (d) Saddle seat. Emphasis will be placed on the use of resistance-free training techniques. Not for graduate credit. Prerequisite: 312 or concurrent enrollment and permission of instructor. Special application. Facilities/riding expenses are \$200-\$250 per class.

**415-4 Advanced Animal Nutrition.** Advanced principles and practices associated with digestion, absorption, and metabolism of nutrients as related to domestic monogastrics, ruminants and horses. Prerequisite: 215 and 315.

**419-4 Stable Management.** Designed for the advanced equine science student planning a career in the horse field. Teaches in-depth management techniques on an applied basis. Students will have the opportunity to learn both theory and application of management in one course. One hour lecture, four hours laboratory. Laboratory fee: \$20. Prerequisite: 219, 409, and consent of department.

**421-2 International Animal Production.** A study of world animal production practices with emphasis on the developing countries. Adaptability of animals to environmental extremes and management practices employed to improve productivity. Prerequisite: junior standing plus 121 or one year of biological science.

**430-4 Dairy Cattle Management.** Application of the principles of breeding, physiology, and economics to management of a profitable dairy herd. Breeds of dairy cattle, housing, milking practices, and quality milk production. Field trip. Students enrolled will incur field trip expenses of approximately \$25. Prerequisite: 315, 332.

**431-4 Reproductive Physiology of Domestic Animals.** Comparative anatomy and physiology of the male and female reproductive system of domestic animals; hormones; reproductive cycles; mating behavior; gestation and parturition; sperm physiology; collection and processing of semen; artificial insemination, pregnancy tests; diseases. Prerequisite: 121 or a course in physiology.

**433-4 Introduction to Agricultural Biotechnology.** (Same as Plant and Soil Science 433.) This course will cover the basic principles of plant and animal biotechnology using current examples; gene mapping in breeding, transgenic approaches to improve crop plants and transgenic approaches to improve animals will be considered. Technology transfer from laboratory to marketplace will be considered. An understanding of gene mapping, cloning, transfer and expression will be derived. Prerequisite: senior standing or consent of instructor.

**434-2 Physiology of Lactation.** Anatomy and physiology of milk secretion; endocrine control; milk precursors and synthesis; milk composition; physiology and mechanics of milking, mastitis. Offered only fall semester of odd numbered years. Prerequisite: course in physiology.

**435-1 to 4 Agricultural Molecular Biotechnology Seminar.** (Same as Plant and Soil Science 435) Molecular biology is rapidly making important contributions to agricultural science through biotechnology. An appreciation of the techniques of molecular biology and their application to plant improvement is important to all in agriculture and biology. The relationships between plant molecular biology and the biotechnology industry will be discussed. Presentations on particular research problems will be made. Graded S/U only

**455-2 Animal Waste Management.** Acquaints the student with the scope and problems involved with animal waste management, current regulations and laws on environmental protection. Principles covering waste management technology and current livestock waste management systems are presented. Field trips will be scheduled. Prerequisite: junior standing.

**465-4 Swine Production.** Swine production systems and management techniques including breeding and selection, reproduction, nutrition, herd health and disease prevention, housing and waste management, marketing, production costs, and enterprise analysis. Field trip. Prerequisite: 315 and 332 or consent of instructor.

**485-4 Beef Production.** Beef cattle production systems and management, breeding and selection, reproduction, nutrition, and herd health with emphasis on the most economical and efficient systems. Field trip. Students enrolled will incur field trip expenses of approximately \$5. Prerequisite: 315 and 332 or consent of instructor.

**490-8 Horse Industry Internship.** Provides the equine science students with the opportunity for diversified, practical experience in their area of career-goal interest. One semester will be spent working in a commercial horse-related industry. Not for graduate credit. Prerequisite: 409, 419, senior standing, and consent of instructor.

## Anthropology (ANTH)

**104-3 The Human Experience-Anthropology.** (University Core Curriculum) This course explores different human lifeways around the world, past and present. It investigates the question of what is universal to all humans and the myriad ways they differ, through studying modern people, the remains of past cultures through archaeology, and human origins and physical variation.

**201-3 Archaeology of Illinois.** A survey of prehistoric cultural development, its causes and consequences, as seen through the archaeology of Native American cultural development in the Illinois region, from the earliest foragers to European contact.

**202-3 American Cultures.** (University Core Curriculum) Through studying a variety of topics, such as family, education, health care and popular culture, this course surveys the wide variety of cultures that make up the United States.

**205-3 Latin American Civilizations.** Introduction to three civilizations of Latin America: Mexica Aztec; Inka; and Maya. Prehispanic culture history in the lower Amazon River basin and the impact of Spanish contact and conquest on these native Latin American populations will also be discussed.

**210-3 Survey of the Primates.** Our closest cousins, the primates, display a remarkable diversity of social behavior, reproductive behavior, positional behaviors and diets, and live in a wide variety of environments and ecosystems. This diversity will be reviewed, with an eye to understanding its origin in the past and its anatomical basis.

**221-3 The Anthropology of Sexual Behavior.** Current issues of sexism and gender roles are brought into focus by a study of patterns of primate and human sexuality. Attitudinal and cultural distinctions between men and women are related to need and pressures on a cross-culture basis.

**225-3 Separate Realities.** Anthropological approaches to altered states of consciousness. A survey of popular and scholarly works on altered states and the functions of these states in societies, including our own.

**231-3 Folklore and Modern Life.** The folklore of a culture influences both the unconscious and conscious actions of people in subtle ways and each study helps to account for both the good and the bad which we see in ourselves and in others. The course introduces the student to the study of folklore and serves to emphasize the importance of the study of folk beliefs and their role in understanding our and other contemporary societies.

**251-3 Anthropology Through Science Fiction.** Basic concepts of anthropology are used to interpret the imaginary worlds of science fiction. Fictional alien cultures are examined to see how features of human biology, language, social organization, technology, etc. are patterned after or are different from known human cultures.

**261-3 Issues in Popular Anthropology.** A presentation of issues of popular interest which can be clarified through anthropological examination. Among these are the issues of creationism versus evolution, ancient astronauts, the Abominable Snowman, the lost civilization of Atlantis, primitive languages and peoples, and the diversity of sexual practices. The course traces the origins of these issues and beliefs as aspects of American popular culture.

**298-1 Multicultural Applied Experience.** An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision.

**300A-3 Introduction to Biological Anthropology.** An overview of human biology, including genetics and evolutionary theory, the fossil record, non-human primate behavior and evolution, and the concept of race and biological differences in modern humans. Satisfies CoLA science requirement when taken in conjunction with 300e.

**300B-3 Introduction to Anthropological Linguistics.** Presents language as a facet of cultural anthropology with emphasis on the methods of linguistic analysis, language history, the functions of language in social and cultural behavior, and the variety of ways different languages classify and organize reality. Open to both majors and non-majors.

**300C-3 Introduction to Archaeology.** Covers basic theories and methods used in archaeology to study lifestyles of past cultures through an examination of their tools, house and community remains, and art works. Includes methods of excavation, dating techniques, and other methods of analysis. Open to both majors and non-majors.

**300D-3 Introduction to Social-Cultural Anthropology.** An exploration of current anthropological theories and methods for understanding human cultures from a comparative perspective; also examines human institutions such as religion, politics, and family cross-culturally. Although non-Western societies are emphasized, comparisons with our own are treated as well.

**300E-1 Bioanthropology Laboratory.** Applied exposure to basic concepts and issues addressed in 300a. Includes genetic inheritance, population genetics, evolutionary models, modern human variation, osteology, forensics, primate anatomy and behavior, and human evolution. May use combination of laboratory work, computer modeling and field study. One two-hour laboratory per week. Prerequisite: must be taken concurrently with 300a. Satisfies CoLA science requirement when taken in conjunction with 300a.

**301-3 Language in Culture and Society.** The problem of the uniqueness of human language and how it fits into culture and society. The origin and development of language. Topics covered include animal and human communication, language and world view, and the meaning of meaning.

**302-3 Indians of the Americas.** A region by region survey of the native Americans of North, Middle, and South America. Emphasis is on lifeways: ecology and environment, subsistence, economy, social organization, religion, art, music, and other aspects of culture. A brief introduction to pre-history and language is included.

**303-2 Native American Art and Culture.** A survey of native American art from traditional through contemporary forms, with a focus on the changing role that art has played in native American culture.

**304-3 Origins of Civilization.** This course is a survey of development of those ancient complex societies known as civilizations around the world. The emphasis is on the use of archaeological data to understand the interplay of environmental and cultural factors that led to the beginnings of agriculture, population growth, and the origins of cities. Among the early societies that may be analyzed are Mesopotamia, Egypt, China, Europe, Maya, Aztec, and Inca.

**310-3 to 24 (3,3,3,3,3,3,3,3) Introduction to Peoples and Cultures.** An introduction to the prehistory, cultural history, and modern cultures of peoples in the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) South America, (f) Near East and North Africa, (g) North America, (h) Oceania.

**330-3 Biological Foundations of Human Behavior.** Discussion of human sexual behavior, the opposition of violence and aggression with cooperative behavior, and the anthropological background of facts concerning whether these behaviors are driven by biological (instinctual) or purely cultural factors.

**340-3 Coping in Other Cultures.** Applications of anthropology to practical, daily problems faced by professionals working in other cultures. General exploration of the common misconception that one's own culture is

the best and only way to get things done, and that one's own language is the best means of communication. Case studies of professionals coping in other cultures.

**341-3 Slavery and the Black Diaspora.** Focuses on slavery in the Americas and the early phases of the Black Diaspora from a comparative historical and anthropological perspective; the Caribbean, Brazil, and the southern United States will be treated as well as the transatlantic slave trade.

**360-3 American Culture.** A study of the United States and its subcultures, using anthropological concepts and description to provide a focus for American students on their own culture and an understanding for foreign students of the complexities of American behavior, values, and social structure. Examines subcultures defined by race and ethnicity, immigrant assimilation and culture contact, and experiments in alternative living.

**370-3 Anthropology and Contemporary Human Problems.** The contribution of anthropology to an understanding of contemporary human problems of environmental crisis, world hunger and overpopulation, social stratification and internal order, war and international order. The approach is cross-cultural drawing on knowledge of all societies and cultures in space and time. Anthropological fundamentals are introduced at the beginning.

**376-2 to 8 Independent Study in Classics Program.**

**402-3 People and Culture.** Offered primarily for non-anthropology majors. Focuses on the nature of culture, cultural processes, and cultural change with emphasis on social, political, economic, artistic, religious, and linguistic behavior of humans as individuals and in social groups.

**404-3 Art and Technology in Anthropology.** An introduction to the basic ways in which people utilize the natural resources of their habitat to meet various needs, such as food, shelter, transportation, and artistic expression. The nature of art, its locus in culture, and its integration into technical society will be considered.

**406-3 Conservation Archaeology.** The method and theory of archaeology in relationship to local, state, and federal laws regarding the protection and excavation of antiquities. Emphasis is on problem oriented survey and excavation, as well as the preparation of archaeological contracts and the writing of reports to satisfy statutes involving environmental concerns. Prerequisite: 300c or consent of instructor.

**410A-3 Applied Anthropology.** The practical applications of theoretical social anthropology. Problems of directed culture change are examined from an anthropological perspective as they apply to the work of the educator, social worker, extension agent, administrator, and others who are attempting to guide change in the life ways of others in Western culture and the third world. Prerequisite: none. 300d recommended for undergraduates.

**410B-3 Educational Anthropology.** An examination of the cultural processes of formal and informal education, the use of anthropological premises in educational program design, bicultural-bilingual education programs, comparative American-non-American systems, and the teaching of anthropology. Prerequisite: none. 300d recommended for undergraduates.

**410C-3 Economic Anthropology.** The study of non-Western economic systems. Prerequisite: none. 300d recommended for undergraduates.

**410D-3 Anthropology of Folklore.** A comparative study of the role of folklore in various cultures of the world, with emphasis upon non-literate societies. Analysis of motifs, taletypes, themes and other elements; comparisons between non-literate and literate groups. Prerequisite: none. 300d recommended for undergraduates.

**410E-3 Anthropology of Law.** Anthropological thought on imperative norms, morality, social control, conflict resolution and justice in the context of particular societies, preliterate and civilized. Law of selected societies is compared to illustrate important varieties. Prerequisite: none. 300d recommended for undergraduates.

**410F-3 Anthropology of Religion.** A comparative study of (religious) belief systems, with emphasis upon those of non-literate societies. Examination of basic premises and elements of these belief systems, normally excluded from discussions of Great Religions. Prerequisite: none. 300d recommended for undergraduates.

**410G-3 Psychological Anthropology.** Similarities and differences in personality structures cross-culturally including the historical development of this as an anthropological subdiscipline. Prerequisite: none. 300d recommended for undergraduates.

**410H-3 Ethnomusicology of Oceania, Asia and Africa.** A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Oceania, Asia, and Africa.

**410I-3 Ethnomusicology of Middle East, Europe and the New World.** A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Europe and the New World.

**410J-3 Kinship and Social Organization.** Universal features of non-Western systems of kinship terminology and social organization. Topics include the structure and functioning of kinship systems, lineages, clans, sibs, phratries, moieties, and tribal units. Prerequisite: none. 300d recommended for undergraduates.

**410K-3 Ecological Anthropology.** An examination of the relationship of past and present human populations in the context of their natural and social environments. Prerequisite: 300c and 300d or equivalent.

**410M-3 Healing and Culture.** This course examines systems of healing and medicine from an anthropological perspective. The theory and practice of medicine in different cultures, including Western biomedicine, are considered. Particular attention is given to the ways in which medical knowledge gains legitimacy in different social contexts and the problems which arise in culturally heterogeneous arenas when different medical paradigms contend for legitimization. Prerequisite: 300d or consent of instructor.

**425-3 Cognitive Anthropology.** The theory of culture as cognitive organization is explored. Among the topics are: Formal analysis of lexical domains, folk classifications and strategies, the problem of psychological validity, linguistic determinism and relativity, biogenetic and psycholinguistic bases of cognition, and the new ethnography.

**430A-3 Archaeology of North America.** Detailed study of the early cultures of North America. Emphasis on the evolutionary cultural development of North America. Prerequisite: 300c or consent of instructor.

**430B-3 Archaeology of Meso-America.** Detailed study of the early cultures of Meso-America with emphasis on the evolutionary cultural development of Meso-America. Prerequisite: 300c or consent of instructor.

**430E-3 Archaeology of the Eastern Woodlands.** Detailed study of the early cultures of the North American Eastern Woodlands with emphasis on the evolutionary development of cultures. Prerequisite: 300c, 302, or 430a or consent of instructor.

**430F-3 Archaeology of South America.** Survey of the prehistory and ethnohistory of South America, including the peopling of the South American continent, the development of early cultures, the rise and fall of Andean and empires, and the impact of Spanish contact and conquest. Prerequisite: 300c or consent of the instructor.

**440A-3 The Fossil Evidence for Human Evolution.** An advanced consideration of the fossil evidence for human evolution and evaluation of the various theories regarding the course of human evolution. Prerequisite: 300a or consent of instructor.

**440B-3 Race and Human Variation.** A consideration of the range, meaning and significance of contemporary human biological variation, including evolutionary and adaptive implications and the utility of the race concept. Prerequisite: 300a or consent of instructor.

**440C-3 Context of Human Evolution.** This course will provide an ecological, behavioral, geological, geographic, and theoretical context from which to understand the evolutionary history of modern humans. The course is designed to complement 440a. Prerequisite: 300a or consent of instructor.

**441-6 (3,3) Laboratory Analysis in Archaeology.** (a) Emphasizes methods of analysis in archaeology as part of a larger research design created by the student. May be taken independently or as a follow-up to 496. (b) Emphasizes technical methods of the physical and natural sciences in archaeological analysis, as used in environmental reconstruction, dating, and for the investigation of production and exchange.

**442-1 to 12 Working with Anthropological Collections.** Management, curation, and analysis of anthropological collections as part of a research project created by the student. May be taken independently or as a follow-up to 450, 495, 496, or 597.

**444-3 Human Genetics and Demography.** A course in human genetics with an emphasis on population genetics and demography of modern and ancient human populations. Prerequisite: 300a, 400a or consent of instructor.

**450-3 Museum Studies.** A detailed study of museum operation to include methodology and display. Practical museum work will be stressed.

**455-3 to 27 (3 per topic) Topics in Bioanthropology.** Intensive study of one of the major subfields within biological anthropology. Topical areas include: (a) Dental Anthropology. (b) Laboratory Methods. (c) Primate Behavior and Ecology. (d) Quantitative Methods. (e) Biomedical Anthropology. (f) Human Growth, Development, and Adaptation. (g) Primate Biology and Evolution. (h) Osteology. (i) Comparative and Functional Primate Anatomy.

**460-1 to 12 Individual Study in Anthropology.** Guided research on anthropological problems. The academic work may be done on campus or in conjunction with approved off-campus (normally field research) activities.

**470-3 to 24 People and Cultures.** A survey of the prehistory, cultural history, and contemporary cultures of the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) Latin America, (f) Near East and North Africa, (g) North America, (h) Oceania. Prerequisite: a basic acquaintance with geography and history of the areas.

**480-3 Senior Seminar.** Readings and discussion concerning major issues in the study of humankind, with an emphasis on anthropological writing. Not open to graduate students or non-majors. Fulfills the CoLA Writing-Across-the-Curriculum requirement. Prerequisite: 300a,b,c,d.

**490-3 Field Methods and Analysis in Linguistic Anthropology.** Includes theoretical background and a project in the linguistic aspects of culture. Prerequisite: 300b, 301.

**495-3 to 8 Ethnographic Field School.** Apprentice training in the field in ethnographic theory and method. Students will be expected to devote full time to the field school. Prerequisite: consent of the instructor.

**496-1 to 8 Field School in Archaeology.** Apprentice training in the field in archaeological method and theory. Students will be expected to be in full-time residence at the field school headquarters off campus. Prerequisite: consent of instructor.

**499-3 Honors Thesis.** Directed reading and field or library research. The student will write a thesis paper based on original research. Not open to graduate students. Prerequisite: consent of department.

## Applied Sciences and Arts, College (ASA)

The College of Applied Sciences and Arts offers the following technically-related courses. These courses serve as common requirements for various majors. Select courses are available to students enrolled in other academic units.

**100-3 Introduction to Applied Sciences and Arts.** Designed to introduce prospective clientele to careers in technical fields and in specific to the College of Applied Sciences and Arts with a focus on career decision making, selective admission procedures, course and licensure requirements, and career placement and mobility.

**102-2 Technical Writing.** To successfully complete this course, the student should be proficient in particular writing techniques (technical description, definition, classification, abstracting, etc.) and follow through a library or field research project in their individual technical fields. Lecture and individualized instruction. Prerequisite: English 101.

**126-4 Technical Physics.** Introduces the basic laws and principles of physics with emphasis on technical applications and problem-solving. Includes topics in mechanics, structure of matter, thermodynamics and electricity. Lecture-discussion four hours per week. Prerequisite: 125 or equivalent.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair.

**299-1 to 16 Individual Study.** Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair is required.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

## Architectural Studies (ARC)

**111-5 Introduction to Architectural Drawing.** Basic principles in the geometry of architectural drawings to include orthographic projection and pictorial drawing. Lecture: three hours. Laboratory: four hours. Prerequisite: major in architectural studies or consent of instructor.

**112-3 Architectural Graphics.** Materials, methods and techniques in architectural graphics through sketching and drawing in various black and white media, theory and use of color, and delineation in various color media. Lecture: one hour. Laboratory: five hours. Prerequisite: major in architectural studies or consent of instructor.

**113-3 Architectural History.** The study of the influences and development of architectural from prehistoric through the contemporary period. In particular, the study of structure, aesthetics, and language of architecture. Lecture: three hours. Prerequisite: major in architectural studies or consent of department chair.

**115-4 Introduction to Design.** This course introduces the student to the basic principles and elements of design by means of practical and abstract applications. Development of two and three dimensional solutions to conceptual design problems. Instruction through presentation and critique in a design studio setting. Lecture: two hours. Laboratory: six hours. Prerequisite: 111, 112 and major in architectural studies or consent of instructor.

**118-3 Computer Applications in Architecture.** This course serves as an introduction to various electronics media employed within the practice of architecture. Creative and effective skills in the use of computers in architectural applications is consistently stressed. Lecture: three hours. Prerequisite: major in architectural studies or consent of instructor.

**124-5 Architectural Drawings I.** Introduction to basic materials and components used in contemporary construction. A survey of manufacturing methods, available sizes, performance characteristics, quality, finishes and applications. Usage of vendor's brochures and standard references. Preparation of working drawings in light wood frame construction to practice current procedures, dimensioning, notation and design correlation, with standard and creative detailing. Lecture: three hours. Laboratory: four hours. Prerequisite: 111, 118 and major in architectural studies or consent of instructor.

**125-4 Architectural Design I.** Problem solving in architectural design with emphasis on design elements and principles, human scale, methods and procedures, composition, and presentation. Architectural projects of relatively small scope and simple nature. Lecture: one hour. Laboratory: five hours. Prerequisite: 113, 115, 118 and major in architectural studies or consent of instructor.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

**214-5 Architectural Drawings II.** Continuing study of materials and practices in document preparation for non-complex buildings using masonry and reinforced concrete construction. Investigation and use of local, state, and federal codes regulating health and safety. Construction techniques relating to criteria of permanence, low maintenance and budget requirements. Working drawings for two-level, light commercial/industrial buildings. Lecture: three hours. Laboratory: four hours. Prerequisite: 124 and major in architectural studies or consent of instructor.

**215-4 Architectural Design II.** Continuing study of architectural design with application of principles and procedures for projects of increased scope and complexity, with attention to research, site planning, and comprehensive feasibility. Presentations in various media. Lecture: one hour. Laboratory: five hours. Prerequisite: 125 and major in architectural studies or consent of instructor.

**216-4 Architectural Structures I.** Elementary study of forces and force systems using graphic and analytic methods. Basic structural concepts: reactions, shear and moment diagrams, axial, eccentric and combined loading on beams and columns. Review of principles used in the design of floor and roof structural systems: load analysis, acting and resisting stresses. Analytic and graphic truss stress analysis. Lecture: four hours. Pre-

requisite: Mathematics 140, Applied Sciences and Arts 126 and major in architectural studies or consent of instructor.

**217-2 Architectural Systems.** Basic principles of mechanical and electrical equipment of buildings. Familiarization with water supply and sanitation systems. Fundamentals of properties of heat, air conditioning, and purification systems. Fundamentals of illumination and electrical systems. Fundamentals of acoustics and materials for reflection, attenuation, and isolation. Lecture: two hours. Prerequisite: Information Management Systems 125, Applied Sciences and Arts 126 and major in architectural studies or consent of department chair.

**219-2 Architectural Site Planning.** Fundamentals of topography, site planning, building location, preparation of detailed site drawing, introduction to use of surveying equipment. Lecture: two hours. Prerequisite: 124 and major in architectural studies or consent of instructor.

**220-2 Architectural Specifications.** Function of specifications as a contract document. The relationship of specifications to architectural drawings, organization and format. Content of various sections of the specifications document. Lecture: two hours. Prerequisite: 214 and major in architectural studies or consent of instructor.

**223-3 Architectural History II.** This course covers the development of modern architecture and urban planning from the nineteenth century to the present. This will include the development of American, British and Continental architecture and urban planning, including the influence of Japanese architecture and design. Lecture: three hours. Prerequisite: 113 and major in architectural studies or consent of instructor.

**226-4 Architectural Structures II.** Continued study of structural framing systems. Investigation of materials and design of structures through selection of the safest and most economical shapes to satisfy the requirements for structural members commonly used in building construction. Formulation and use of structural design procedures, with regard to material limitations and code requirements, and the selection of structural members. Lecture: four hours. Prerequisite: 216 and major in architectural studies or consent of instructor.

**229-2 Architectural Estimating.** Study of estimating methods including material lists and quantities, material and labor costs, and factors affecting construction costs. Lecture: two hours. Prerequisite: Information Management Systems 125, 214 and major in architectural studies or consent of department chair.

**299-1 to 16 Individual Study.** Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

**315-4 Architectural Design III.** Correlation of the schematic design and design development phases of the project from the initial program with appropriate drawings required for each phase. Lecture: two hours. Laboratory: four hours. Prerequisite: 215, 223 and major in architectural studies or consent of instructor.

**316-3 Architectural Structures III.** Continuing study of framing materials and systems for buildings using advanced concepts of structural analysis. Included are earthquake resistant structures, composite beams, plastic theory, statically indeterminate structures, long spans, moment distribution, multi-story structures, etc. Lecture: three hours. Prerequisite: 226, major in architectural studies or consent of instructor.

**318-3 Architectural CADD I.** Introduction to, and the development of the competencies and skills in the use of computer aided design and drafting in the architectural disciplines. Includes the development of two dimensional drawings using the C.A.D. system. Prerequisite: 111 and consent of department chair.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**320-1 to 12 Architectural Cooperative Education.** The student will participate in an Architectural Technology approved cooperative education program that includes formal instruction, training and/or career related work experiences. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluations, cooperative agency student performance evaluations and student reports are required. Cooperative experience may be in one or more of the following broad areas: (a) schematic design, (b) design development, (c) construction documents, (d) bidding or negotiations, (e) construction administration. Hours and credit to be individually arranged.

**324-4 Architectural Drawings III.** Correlation of the design development and construction documents phases of a building project. Development of the project from design development through construction drawing phases with appropriate drawings required for each phase. Lecture: two hours. Laboratory: four hours. Prerequisite: 214 and major in architectural studies or consent of instructor.

**328-3 Architectural CADD II.** Skill development of the computer aided drafting system in the preparation of contract documents in all architectural disciplines and specifically working drawings. Emphasis will be placed upon developing competencies in data and graphics repeatability. Prerequisite: 318 and consent of department chair.

**338-3 Architectural CADD III.** Skill development in the computer aided design system in the schematic and design development phases of all architectural disciplines. The use of the computer aided design system as a tool for three dimensional creative problem solving. Prerequisite: 328 and consent of department chair.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor and department chair.

**371-3 Lighting and Acoustical Systems.** The study of lighting and acoustics as major tools in designing interior spaces through actual problem solving. Emphasis is on task, ambient and specialty lighting as well as

sound control within and between spaces. Lecture. Prerequisite: Mathematics 140 or University Core Mathematics and Architectural Studies 324 or Interior Design 272 or concurrent enrollment in Interior Design 272.

**372-3 Mechanical and Plumbing Systems.** Study of interior architectural mechanical equipment as it relates to the proximate environment. Emphasis is on heating, cooling, ventilation, and plumbing systems with attendant building codes. Lecture. Prerequisite: Mathematics 140 or University Core Mathematics and Architectural Studies 324 or Interior Design 272 or concurrent enrollment in Interior Design 272.

**415-6 Architectural Design and Construction Documentation.** The student will complete schematic design, design development and construction documents for a minimum 2-story building, emphasizing the integration of the basic elements of building, structural and environmental technologies. Lecture: two hours. Laboratory: eight hours. Prerequisite: 226, 315, and 324 and major in architectural studies or consent of instructor.

**471-3 Professional Practice.** Introduction to the organization, management, and practice of architecture and interior design as a business and profession. Emphasis is placed on the range of services provided, professional ethics, business management, marketing, contracts and negotiations, design cost analysis/control, and other aspects of professional practice. Lecture: three hours.. Not for graduate credit. Prerequisite: 215 or Interior Design 392 or consent of department chair.

## Army Military Science (AMS)

**101-1 Introduction to Military Science.** An examination of the realities of conflict and the U.S. response to conflict. Particular emphasis is on the U.S. Army's role. Includes the history, organization, and mission of the U.S. military and explores the opportunities resulting from the individual's decision to exercise leadership within the military organization.

**102-1 or 2 Land Navigation and Traverse.** An introduction to land navigation involving the use of the compass, topographic maps, the sun, and prominent stars. Includes terrain traverse techniques such as free climbing and rappelling. Competitive compass exercises will also be presented as well as other outdoor practical exercises. Two credit hours will be given for those who attend the Leadership Laboratory.

**103-1 Basic Rifle Marksmanship.** A comprehensive study and practical handling of basic firearms. This course incorporates the Illinois Hunter's Safety Course and certification test, and fosters ability to accurately maneuver target acquisition through practical exercises with firearms.

**201-3 Basic Leadership Skills.** Applied leadership in a small group context. Exercises in self-confidence, group communications, and leadership evolved from situations where the group is required to function and survive on a self-sufficient basis. Principles of survival and cooperative effort will be explored in depth, with maximum involvement of the student in leadership and problem-solving roles. Includes Leadership Laboratory.

**202-2 Leadership and Management Techniques.** A study of the Military Management System, including the functional aspect of leadership within the military structure. Includes the presentation of military leadership traits, styles, approaches, managerial techniques, and communications.

**203-1 to 13 Basic Leadership Camp.** A special six-week training program designed to prepare students for the advanced course of ARMY ROTC. The course is conducted at Ft. Knox, Kentucky during the summer. Students are evaluated on their potential to become an Army Officer. Prerequisite: consent of the director of Army military science.

**301-4 A Study of Organizational Leadership.** A multi-faceted approach to the study of leadership in both a military and civilian setting. Emphasis is placed upon human behavior, communication, the individual as a leader, group dynamics, and the military's interface with society. An extensive block on ethics, morality and the Code of Conduct is also presented. Physical training techniques are taught with practical application. Includes Leadership Laboratory. Prerequisite: consent of the director of Army military science.

**302-3 Small Unit Tactics.** The student is introduced to small unit tactical operations at the platoon and company level. Offensive, defensive, and retrograde operations are covered in detail. Unit organization and patrolling are also stressed. Practical exercises are conducted in the classroom and in field environments. Physical training is also conducted. Prerequisite: consent of the director of Army military science.

**358-6 Advanced Leadership Camp.** A special six-week field study training program designed to further prepare Army ROTC advanced course students for the basic tasks that will be required of them as junior officers and leaders in the Army. The course is normally conducted at a major Army installation during the summer. Prerequisite: consent of the director of Army military science.

**401-4 Advanced Leadership and Management.** An analysis of selected leadership and management problems in the following military subjects: unit administration at company level emphasizing correspondence; fundamental concepts of military justice in the armed forces of the United States, including the procedures by which judicial and nonjudicial disciplinary measures are conducted; U.S. Army readiness program as it deals with unit maintenance; the position of the United States in the contemporary world scene discussed in light of its impact on leadership and management problems of the military service; and a fundamental knowledge of the logistical support available to the unit. Leadership development is continued by the application of leadership principles, stressing responsibilities of the leader, and increasing experience through practical exercises. Includes Leadership Laboratory. Not for graduate credit.

**402-3 Fundamentals and Dynamics of the Military Team.** This course is designed to give the students a working knowledge in the theory and dynamics of the military team. Generally this includes a study of combat operations by the various military teams, with emphasis on the planning and coordination necessary between the elements of the team. The subjects to be presented during this three-hour block of instruction include an understanding of command and staff organization at the battalion level, military intelligence methods and procedures used to obtain intelligence, and an analysis of the principles used in internal defense and

development, emphasizing tactical operations which include civil affairs. Since this course is presented just prior to the commissioning of the cadets, several hours of instruction are presented near the end of the school year on the obligations and responsibilities of an Army officer. Includes Leadership Laboratory. Not for graduate credit.

**403-1 to 3 Independent Study in Military Science.** Directed independent study in selected areas. Students may register for one hour per semester or may register for one hour for the first semester and two hours for the second. They may not register for three hours during one semester. Not for graduate credit. Prerequisite: consent of the director of Army military science.

## Art and Design (AD)

**100A-3 Two-Dimensional Design.** A fundamental design class dealing with two-dimensional concepts and materials. Emphasis will be placed on design problems which will develop perceptual skills and critical judgment. Studio fee \$3. Incidental expenses not to exceed \$50.

**100B-3 Three-Dimensional Design.** A fundamental design class dealing with three-dimensional design concepts and materials. Emphasis will be placed on design problems which will develop perceptual skills and critical judgment. Studio fee \$10. Incidental expenses not to exceed \$30.

**101-3 Introduction to Art.** (University Core Curriculum) A course in the comparative study of visual art in the history of civilizations. The course, using slide lectures, studio labs taught by graduate assistants, reading in textbooks, and examinations, raises the student's familiarity, and practical knowledge of formal, social and critical issues germane to the visual arts. The course's pedagogical method is inclusive of diverse cultures and traditions by means of comparative and thematic analysis.

**110-3 Introduction to Drawing I.** Designed to help the student experience the concepts and processes that constitute the language of graphic expression. The goal is a working understanding of the still life. Studio fee \$5. Incidental expenses not to exceed \$50.

**120-3 Introduction to Drawing II.** Designed to help the student experience the concepts and processes that constitute the language of graphic expression. The goal is a working understanding of inanimate and animate forms in space. Studio fee \$5. Incidental expenses not to exceed \$50. Prerequisite: C or better in 110.

**122-3 Drawing for Communication.** An introduction to graphic thinking and the visualization of ideas using the materials, tools and techniques employed in design. Students will develop skills and knowledge necessary to effectively think and communicate using pencils, markers and mixed media. Recommended prerequisite: C or better in 110.

**200-3 Introduction to Drawing III.** Concerned with the introduction to various media, compositional devices, spatial investigation, and the human figure. Studio fee \$30. Incidental expenses not to exceed \$75. Prerequisite: C or better in 120.

**201-3 Introduction to Painting.** Emphasizing material, techniques, processes, and ideas fundamental to the discipline of painting. Studio fee \$5. Incidental expenses not to exceed \$100. Prerequisite: C or better in 100a, b, 110, 120.

**202-3 Introduction to Printmaking.** Lectures and films on the basic printmaking processes: relief, intaglio, plano graphic, stencil, and cast paper. Emphasis on studio lab work in relief and intaglio, printmaking processes. Studio fee \$35. Incidental expenses not to exceed \$35. Prerequisite for art majors: C or better in 100a, b, 110, 120.

**203-3 Beginning Sculpture.** Emphasis experience in materials, techniques, processes, and ideas fundamental to the discipline of sculpture. Studio fee \$35. Incidental expenses not to exceed \$25. Prerequisite: C or better in 100a, b.

**204-3 Beginning Ceramics.** Introduction to ceramic forming techniques of hand building and throwing on the potter's wheel. Students will explore traditional methods of ceramic form construction and will develop fundamental building skills through dialogue, projects, and problem-solving experiences. Studio fee \$39. Incidental expenses not to exceed \$15. Prerequisite: C or better in 100a, b.

**205-3 Beginning Jewelry and Metalsmithing.** An introduction to the fundamental skills and technology of jewelry and metalsmithing through practical experience. The properties of the medium will be explored and a survey of the field will be made. Studio fee \$30. Incidental expenses not to exceed \$10. Prerequisite: C or better in 100a, b.

**206-3 Beginning Fibers.** A studio course providing experience in the material, techniques, processes, and ideas in basic dyed, printed, stitched, and non-loom fibers. Emphasis will be on the expressive use of the two- and three-dimensional qualities of fibers. Studio fee \$50. Incidental expenses not to exceed \$50. Prerequisite: C or better in 100a, b.

**207-6 (3,3) Introduction to Art History.** Introduction to the scope, methods, and subject matter of art history as a discipline. Emphasis in methodology and problem solving. (a) Covers ancient, medieval, Renaissance and non-European art. (b) Covers Baroque, Rococo, Nineteenth Century and modern art. Prerequisite: C or better in 207a or consent of instructor.

**209-3 Innovation for the Contemporary Environment.** A variety of factors affecting creative individual and small group problem solving and its relevance to the contemporary environment are explored in theory and in practice. Purchase of book \$4.50.

**212-3 Introduction to Type for Visual Communication.** An introduction to type and its technical aspects as it applies to design, art and computer-aided design. Emphasis will be on type indication, language, recognition, technique, style and problem-solving using type as a design tool in a variety of different types of design projects. Studio fee: \$20. Prerequisite: C or better in 100a and 100b.

**213-1 to 3 (2, 1) Basic Materials and Processes.** (A) An introduction to theory and practice of industrial design. Lectures on the fundamental techniques, tools and skills used to manipulate a wide range of materials in the fabrication of industrial design models. Must be taken concurrently with 213b. Prerequisite: C or better in 100a and 100b. (b) A laboratory for learning through demonstration and exercise in basic hand and power tool operation. Emphasis on developing safe work habits and crafting high quality objects. Mechanical drawing and model-making techniques are demonstrated and practiced. Must be taken concurrently with 213a. Laboratory fee: \$10. Prerequisite: C or better in 100a and 100b.

**214-3 Introduction to Stained Glass.** Practical application of basic techniques of stained glass design and construction to include cartoon making, leading, foiling, pattern cutting, and soldering. Studio fee: \$45. Prerequisite: 100a, 100b, 107, 110, and 120 or consent of instructor.

**219-2 to 18 Workshop.** Workshop experience in specific studio and academic disciplines: (a) drawing, (b) painting, (c) watercolor, (d) printmaking, (e) sculpture, (f) ceramics, (g) glass, (h) fibers, (i) metals, (j) art education, (k) art history, (l) papermaking. Studio fee \$3 to \$50, depending on course discipline. Each topic restricted to two hours per section.

**222-3 Type as Image.** An introduction to skills, techniques and design as it relates to typography. The skills and techniques include sketching and drawing letterforms, and preparing typographic, rough, and comprehensive layouts, as well as type specification. A general knowledge of type categories and visual techniques used to complement and enhance typographic messages is emphasized. Studio fee: \$20. Prerequisite: C or better in 100a and 100b.

**223-3 Rendering and Graphics.** An introduction to the techniques and materials used by industrial designers to two-dimensionally represent three-dimensional conceptual ideas. Students develop skills in drawing and rendering with pencils, markers, pastels, and airbrush. Emphasis is placed on understanding the significance of color and graphic applications for industrial design. Prerequisite: 213a,b.

**227-3 History of African American Art.** (University Core Curriculum) A history of African American visual arts, with a brief examination of the arts of various nations of Africa and how they affected art in America. Craft arts, architecture, painting and sculpture will be considered from the slave trade era to the Civil War era; the Harlem Renaissance and other 20th Century movements to the present day.

**232-3 Graphic Reproduction.** An introduction to the tools, skills, techniques and methods used by designers to insure proper preparation of image and text for reproduction. The course covers fundamentals of the printing production process; including mechanical preparation, sizing and scaling, paper and color specification, and the integration of typography into the process. Studio fee: \$20. Prerequisite: 100a, 100b and 222 with a grade of C or better.

**237-3 Meaning in the Visual Arts.** Designed to provide students with a broad understanding of the history and meaning of art and its relevance to contemporary culture. Emphasis is placed upon interdisciplinary concerns, the environment and contemporary social issues. More detailed in historical content than 227 and is an approved substitution for 101.

**242-3 Introduction to Computer Graphics.** Introduction to the use of the computer in the production of graphic images. Topics include the definition of two- and three-dimensional data, the generation of engineering and perspective images and animation.

**247-3 History of Latin American Art.** (University Core Curriculum) Latin American Arts from the Spanish Conquest to the present will be examined, including painting, sculpture, architecture, fibers, ceramics and metals. A few weeks will be spent on Pre-Columbian art. Considers the cultural exchanges between North America and Mexico, Central and South America.

**249-3 Two- and Three-Dimensional Presentation.** An introduction to the basic knowledge, skills, methods and materials utilized by the practicing designer to effectively present and communicate visually and verbally a design concept in two- and three-dimensional form. Development of traditional skills and knowledge. Emphasis on exposure to computer technology necessary to effectively plan, develop, and fabricate boards, models, and mockups in order to present concepts according to professional design standards. Prerequisite: C or better in 213 or 222.

**253-3 Human Factors.** An introduction to basic human-machine concepts specifically oriented to design students. Subjects include sensory and motor processes, space and arrangement, and environmental factors in design.

**257-1 to 30 Work Experience.** Credit for concurrent or non-structured work performed which is related to the student's educational objective. Credit to be granted by department evaluation. Mandatory Pass/Fail.

**258-1 to 30 Work Experience.** Credit for past work performed which is related to the student's educational objective. Credit to be granted by departmental evaluation. No grade for past work experience.

**263-3 Materials and Methods.** Exploration of methods, tools, and materials for developmental prototyping. Prerequisite: C or better in 213.

**300-9 (3, 3, 3) Intermediate Drawing.** Intermediate figure drawing, a studio orientation to drawing the figure. Included in the course are: materials and methods pertinent to drawing the figure; an historical perspective regarding the figure in art; and problems relative to human figuration in drawing. Studio fee: \$50. Incidental expenses not to exceed \$50 for each section. Prerequisite: C or better in 200.

**301-9 (3,3,3) Intermediate Painting.** (a) Oil painting emphasizing the figure. Studio fee: \$50. Prerequisite: C or better in 201. (b) aqueous medium emphasized. Studio fee: \$5. Prerequisite: C or better in 201. (c) beginning individual problem solving. Studio fee: \$5. Prerequisite: C or better in 301a,b. Incidental expenses not to exceed \$100 for each section.

**302A-3 Beginning Etching.** Introduction to the basic processes of intaglio printmaking, including etching, aquatint, engraving, and drypoint. Emphasis will be placed on black and white printing. Studio fee \$40. Incidental expenses not to exceed \$50.

**302B-3 Beginning Lithography.** Introduction to the history and basic processes of lithography, including use of stone and plate. Emphasis will be on black and white printing. Studio fee \$40. Incidental expenses not to exceed \$45.

**302C-3 Beginning Silkscreen.** Introduction to the basic processes and history of silkscreen; including construction of screen and hand and photographic stencil-making techniques. Studio fee \$45. Incidental expenses not to exceed \$45.

**303-9 (3,3,3) Intermediate Sculpture.** A studio orientation to tools, techniques, materials, and problems involved in historical and contemporary sculpture. Metal fabrication, figure, wood and stone carving, and plaster fabrication will be emphasized. Studio fee: contingent upon type of materials used by student. Incidental expenses not to exceed \$50. Prerequisite: C or better in 203.

**304-6 (3,3) Intermediate Ceramics.** (a) Focuses on structured problems designed to encourage the student to apply basic forming skills experienced at the introductory level. Pottery shapes requiring singular and multiple form components will be investigated and simple glazing techniques will be introduced. (b) Stresses studio problems of a group nature and introduces glaze calculation as both theory and a practical tool. Personal and creative interpretation of assignments; some problems requiring group effort. Must be taken in a, b sequence. Studio fee: \$50. Incidental expenses not to exceed \$10 for each section. Prerequisite: C or better in 204.

**305-6 (3,3) Intermediate Metalsmithing.** (a) Exploration of various processes emphasizing the diversity of the technical possibilities within the discipline of metalsmithing. (b) Emphasis placed on the use of these processes to develop individual styles. Studio fee \$30. Incidental expenses not to exceed \$25 for each section. Prerequisite: C or better in 205.

**306-6 (3,3) Intermediate Fibers.** (a) Introduction to weaving; simple and floor looms; work in spinning, dyeing, stitching, printing, and non-loom fibers is encouraged. Studio fee: \$50. (b) Continued work in weaving and dyeing with emphasis on double weave, sculptural fibers, and warp and weft ikat. Emphasis on personal expression, craftsmanship, and imagery. Studio fee \$50. Prerequisite: 206 with a grade of C or better.

**308-3 Theories and Philosophies of Art Education.** Students develop an understanding of the major art issues in art education through examining theories and philosophies of art education. Areas of focus include trends in art education, child development in art, perceptual and psychological development, learning theory, and teaching methods. Requirements include extensive reading and preparation of a major paper. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for art majors.

**309-1 to 12 Independent Study.** To be used by majors in the School of Art and Design to pursue independent research activities. Prerequisite: completion of all foundation courses, 3.0 grade point average, major in the School of Art and Design, and consent of instructor.

**310I-3 Mythology in Art.** (University Core Curriculum) Through multicultural examination of myth as manifested in the visual arts, in selected cultures from prehistoric to modern times. Both European and Tribal cultures will be examined. This course will explore the principal literary sources from myth as they relate to the visual tradition, with special attention to the representations; the relationships between preliterate oral traditions and visual traditions; the influence of visual mythmaking on the literary tradition.

**313-3 Computer-Aided Industrial Design.** A computer laboratory course focused on learning and utilizing two- and three-dimensional data, drawing and modeling software and applications in the industrial design process. Includes: programming theory, 3-D modeling, design for manufacturing assembly and disassembly, product planning, graphics, detailing, assembly drawings, and bill of materials. Prerequisite: C or better in 263. To be taken concurrently with 333.

**314-3 Intermediate Glass.** A course designed to introduce the student to alternative forming techniques using glass as an artistic medium. Class assignments will develop projects that will explore the use of fusing, slumping and casting, and their roles in helping to create two- and three-dimensional artistic expressions in glass. Prerequisite: 214 or consent of instructor.

**318-2 Curriculum Development in Art Education.** Prepares students to organize art resources, materials, and concepts into effective art learning experiences. The focus is on integrating art concepts from art history, aesthetics, criticism, etc., with studio methods and techniques. Requirements include extensive reading, the preparation of a position paper on teaching art, and developing a curriculum document. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for art majors.

**319-3 Art Studio for Non-Majors.** General studio for the non-art major. Studio fee \$15 to \$40. Incidental expenses will be at least \$10 per semester.

**322-3 Publication Design.** Introduction to real-world visual communication issues, needs and problems in the designing and sequencing of pages and publications requiring the configuring of text and image for multiple reproductions. Students are involved with exploration, experimentation and use of traditional and computer methods and technologies in the development of designed solutions for publication. Studio fee \$10. Prerequisite: C or better in 222, 232, 249.

**323-3 Product Design Analysis.** An introduction to product evaluation techniques, such as human engineering, consumer safety, environmental impact, design liability, and patent protection. Prerequisite: C or better in 253.

**327-3 Esthetics.** General survey of historical and contemporary philosophies of the beautiful with particular emphasis upon their relation to visual works of art and individual student research leading to the organization and presentation of a personal esthetic concept. Prerequisite: 207b or consent of instructor.

**328A-2 Art Education Methods: Elementary.** Lecture and studio. Prepares students to teach children the fundamentals of art production. Areas of focus include teaching strategies and methods, art processes and techniques, and the appropriate use of tools and materials. Studio fee \$10. Incidental expenses not to exceed \$15.

**328B-1 Internship Laboratory.** Observation and pre-teaching experiences in educational settings.

**332-3 Computer Graphics.** Advanced-level computer graphics in two-dimensional design and an introduction to three-dimensional design and animation. Oriented toward solving practical design problems using computers and graphical software. Prerequisite: 242 or consent of instructor.

**333-3 Advanced Technology in Industrial Design.** An examination of the technological concepts and innovations required by state-of-the-art automation, robotics, electronic media and smart appliances. Principles of measurement, electronics, mechanics, fluids, microprocessors, systems integration and human interfaces are examined through hands-on investigation and evaluation of products of the past and present with discussions of the future. Prerequisite: C or better in 263.

**337-3 History of Industrial Design.** Introduction to the history of industrial design, surveying significant trends and examining the variety of forces, social, economic and political, that have shaped its forms and characterized its human role. Prerequisite: 207a,b.

**338A-2 Art Education Methods: Secondary.** Lecture and studio. Prepares students to teach adolescents the fundamentals of art production. Areas of focus include teaching strategies and methods, art processes and techniques, and the appropriate use of tools and materials. Studio fee \$10. Incidental expenses not to exceed \$15.

**338B-1 Internship Laboratory.** Observation and pre-teaching experiences in educational settings.

**339-3 Survey of Design.** An examination of designing throughout the ages emphasizing the role of visual forms of public communication; such as, advertising, promotions, packaging publication, exhibition and informational graphics. A review of artifacts, systems, designers, process, materials and methodologies in relation to technological, scientific and cultural movements of the past and present. Implications for the future are included. Prerequisite: 207a,b.

**347-3 Survey of 20th Century Art.** A survey of the major developments in painting, sculpture, architecture, and other selected areas of the visual arts from the beginning of the 20th Century to the present. These developments are examined in relation to other significant cultural, scientific, and philosophical events of the 20th Century. Prerequisite: 207b or consent of instructor.

**348-3 Studio Art for Elementary Teachers.** Lecture and studio for non-art majors. Especially applicable to pre-school and K-6 grades. Introduction to uses and applications of art media, approaches to teaching and artistic awareness, concept development, creative expression, appreciation, art judgment, and knowledge of our art heritage. Studio fee \$10. Incidental expenses not to exceed \$15.

**357-3 19th Century Art.** Survey of painting, sculpture, and architecture in Europe from the French Revolution to the end of the century. Includes such major stylistic movements as Neoclassicism, Romanticism, Realism, Impressionism, Post-Impressionism, and the roots of modern art. Prerequisite: 207b or consent of instructor.

**363-3 Product Development.** Investigation and identification of significant product related human need areas. Application of development methodologies in selected product design projects. Studio fee: \$10. Prerequisite: C or better in 323 and to be taken concurrently with 383.

**372-3 Promotion and Data Design.** Students, with faculty, identify issues, needs and problems in the areas of promotions and quantitative and comparative data design. Students use the design process in conjunction with traditional materials and computer technology to develop viable visual communication solutions. They learn to conduct research and to use critical and creative thinking to develop an imaginative, appropriate, functional solution. Students also further develop their evaluation and assessment skills. Prerequisite: C or better in 322.

**383-3 Practicum in Product Design.** Advanced comprehensive product design projects developed into production prototypes. Prerequisite: C or better in 323 and to be taken concurrently with 363.

**388-1 to 36 Study Abroad.** Provides credit toward the undergraduate degree for study at an accredited foreign institution or approved overseas program. Final determination of credit is made on the student's completion of work. Prerequisite: one year of residence at this university, good academic standing, and prior approval of the department.

**400-3 to 30 (6,6,3, 3 to 15) Advanced Drawing I. (a)** Figure drawing. Not for graduate credit. Prerequisite: 9 hours of 300 with a grade of C or better. **(b)** Individual research. Not for graduate credit. Prerequisite: C or better in 400a. **(c)** Senior seminar and exhibition. Not for graduate credit. Prerequisite: C or better in 400b. **(d)** Independent study in drawing. Prerequisite: for undergraduates, C or better in 400b; for graduates, consent of major adviser. Studio fee: for a and b, \$70; for d, \$5. Incidental expenses may exceed \$100 for each section.

**401-3 to 30 (6,6,3, 3 to 15) Advanced Painting I. (a) and (b)** Individual problem solving with emphasis on technical and conceptual synthesis. Not for graduate credit. Prerequisite: for a, 301a, b, c with a grade of C or better; for b, 401a with a grade of C or better. **(c)** Senior seminar and exhibition. Not for graduate credit. Prerequisite: C or better in 401b. **(d)** Independent study in painting. Prerequisite: for undergraduates, C or better in 401b; for graduates, consent of major adviser. Studio fee for a, b, and d, \$5. Incidental expenses may exceed \$100 for each section.

**402-3 to 30 (6,6,3, 3 to 15) Advanced Printmaking I. (a)** Advanced techniques in printmaking to include intense work in color printing. Not for graduate credit. Prerequisite: C or better in 302-6 hours. **(b)** Individual research with emphasis on history, processes, and ideas which lead to the formation of personal content. Not for graduate credit. Prerequisite: C or better in 402a. **(c)** Senior seminar and exhibition. Not for graduate credit. Prerequisite: C or better in 402b. **(d)** Independent study in printmaking. Prerequisite: for undergraduates, C or better in 402b; for graduates, consent of major adviser. Studio fee: for a and b, \$60; for d, \$10 per credit hour enrolled. Incidental expenses may exceed \$50 for each section.

**403-3 to 30 (6,6,3, 3 to 15) Advanced Sculpture I. (a)** Foundry techniques and direct metal fabrication. Not for graduate credit. Studio fee: \$48. Prerequisite: C or better in 303-6 hours. **(b)** Individual research with emphasis on history, materials, processes, and ideas that form personal content. Not for graduate credit. Studio fee: \$48. Prerequisite: C or better in 403a. **(c)** Senior seminar and exhibition. Not for graduate credit. Prerequisite: C or

better in 403b. **(d)** Independent study in sculpture. Studio fee: contingent upon type of materials used by the student. Prerequisite: for undergraduates, C or better in 403b; for graduates, consent of major adviser. Incidental expenses may exceed \$75 for each section.

**404-3 to 27 (3,6,3, 3 to 15) Advanced Ceramics I.** **(a)** Assigned individual problems with emphasis on ceramic form and glazing. Not for graduate credit. Prerequisite: C or better in 304-6 hours. **(b)** Individual research with emphasis on kiln theory and design. Not for graduate credit. Prerequisite: C or better in 404a. **(c)** Senior seminar and exhibition. Not for graduate credit. Prerequisite: C or better in 404b. **(d)** Independent study in ceramics. Prerequisite: for undergraduates, C or better in 404b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$27 per credit hour enrolled. Incidental expenses may exceed \$20 for each section.

**405-3 to 27 (3,6,3, 3 to 15) Advanced Metalsmithing.** **(a)** Emphasis will be placed on advanced processes to develop individual expression. Not for graduate credit. Studio fee: \$30. Prerequisite: C or better in 305a, b. **(b)** Media exploration to develop individual styles. Not for graduate credit. Studio fee: \$60. Prerequisite: C or better in 405a. **(c)** Senior seminar and exhibition. Not for graduate credit. Prerequisite: C or better in 405b. **(d)** Independent study in metalsmithing. Studio fee: \$10 per credit hour enrolled. Prerequisite: for undergraduates, C or better in 405b; for graduates, consent of major adviser. Incidental expenses may exceed \$75 for each section.

**406-3 to 27 (3,6,3, 3 to 15) Advanced Fibers I.** **(a)** Individual design problems. Not for graduate credit. Studio fee: \$50. Prerequisite: C or better in 306b. **(b)** Individual research with emphasis on the intensive use of fibers as a creative medium. Not for graduate credit. Studio fee: \$100. Prerequisite: C or better in 406a. **(c)** Senior seminar and exhibition. Not for graduate credit. Prerequisite: C or better in 406b. **(d)** Independent study in fibers. Studio fee: \$17 per credit hour enrolled. Prerequisite: for undergraduates, C or better in 406b; for graduates, consent of major adviser. Incidental expenses may exceed \$75 for each section.

**407-3 Ancient Art.** Ancient art of the Mediterranean area from the Egyptians to the end of the Roman Empire. A survey of the major cultures, with emphasis upon visual analysis, media and techniques, function, and iconography. Field trip required. Documented research paper on an aspect of ancient art required for graduate credit. Prerequisite: 207a or consent of instructor.

**413-3 Professional Practice in Industrial Design.** The study of designer/client relationships, business practices, design office procedures, and professional ethics. Not for graduate credit. Prerequisite: C or better in 363, 383 and senior standing or consent of instructor. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for design majors.

**414-3 to 21 Glass I.** A studio course designed for the beginning glass student focusing initially upon basic flat glass and coil working techniques and processes. Coursework includes projects intended to familiarize the student with designing and executing products in stained glass. Student will be introduced to forming techniques in glassblowing. Studio fee \$20 per credit hour enrolled. Prerequisite: consent of instructor.

**415-4 A Creative Look at Reclamation Possibilities for Massively Disturbed Land.** Presents the possibility that massively disturbed areas can be aesthetic resources if potential inherent in these sites can be recognized and addressed. Seminar/lecture/studio format with selected lectures given by invited speakers. Discussions include recognition of massive land disturbance; reclamation as a concept; environmental art and design; the questions a potential developer or designer of disturbed land should ask and where they might look for expert advice; and group critiques on student studio projects. Studio projects will involve the visualization in two- and three-dimension formats of plans for the reclamation of the students' chosen site with accompanying documentation.

**417-3 Medieval Art.** Medieval art from the Fourth to the Fifteenth Century in Western Europe. Examination of selected art objects in terms of media and techniques, iconography, function, and cultural milieu. Field trip required. Documented research paper on an aspect of medieval art required for graduate credit. Prerequisite: 207a or consent of the instructor.

**422-3 Packaging Design.** An introduction to three-dimensional package design, using traditional and computer technologies. Course emphasis is on concept, layout, design and rendering of commercial packaging for products displayed and sold to the consuming public. Students as designers are introduced to real-world packaging and producing portfolio samples that will showcase their conceptual and design skills, expand their design expertise and make themselves more attractive in the job market. Studio fee: \$10. Not for graduate credit. Prerequisite: C or better in 372.

**423-3 Research in Product Design.** The objective of this studio course is to develop the student's ability to conduct in-depth product design research and to explore new needs and trends relating design to society. Focus is placed on raising the student's level of design skill and knowledge to the professional level. This senior studio places increasing responsibility on the student to think through their preparation and career direction. Prerequisite: C or better in 363 and 383.

**427-3 Renaissance Art.** An examination of various topics appropriate to a study of Renaissance art, both Northern and Italian, during the Fifteenth and Sixteenth Centuries in Europe. The emphasis is on a range of art history problems and methods of approach. Field trip required. Prerequisite: 207a or consent of instructor.

**429-3 Portfolio.** An introduction to all of the tricks, traps and topics an interviewer will pursue during the interview process. Prepares graduating seniors for the cold, hard facts of what is going to happen during the job search, after they get hired and when they get fired. Subjects to include: cover letters, resume, preparing a portfolio, interviewing, corporate structure, dress, money, politics, changing jobs, legal rights, sexual harassment, job leads and how to survive when-and-if you do get hired. Not for graduate credit. Prerequisite: senior standing.

**437-3 Baroque and Rococo Art.** An examination of various topics appropriate to a study of Baroque and Rococo art in Western Europe. Emphasis upon a range of art historical problems and methods of approach. Field trip required. Prerequisite: Art 207a or b or consent of instructor.

**443-3 Professional Practice II.** This course is a continuation of 413, Professional Practice I. Focus is placed on portfolio preparation, job search, interviewing techniques and preparation of all documentation required for senior degree project. Not for graduate credit. Prerequisite: C or better in 413. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for design majors.

**447-3 Introduction to Museology.** A survey of museum and gallery techniques (emphasis upon practical exhibit development) which will involve answering questions concerning contractual agreements, taxes, insurance, packing, shipping, exhibit design and installation, record systems, general handling, public relations, and sale of art works directed toward problems encountered by the artist outside the privacy of the studio. Prerequisite: art major or consent of instructor.

**448-3 Art of Tribal Cultures.** Covers a broad range of arts of Africa, Native North America, Pre-Columbian America and Oceania, primarily sculpture, textiles, masking and performance, body decoration and textiles, architecture, and ceramics of small-scale village societies.

**452-3 Environmental Graphic Design.** An introduction to the theory and practice of planning, designing and implementing visual communication in man-made and natural environments. Course involves spatial perception, color, imagery and typography as related to direction, information and decorative systems for the purpose of placemaking and wayfinding. Not for graduate credit. Prerequisite: C or better in 372.

**457-3 Women in the Visual Arts.** (Same as Women's Studies 427.) Consists of a survey of women's contributions and participation in the visual arts from the middle ages through the Twentieth Century. Through lecture, discussion and research, painting, sculpture, architecture, crafts, film, photography, and other forms of visual art will be covered. Screening fee: \$10.

**458-3 African Arts.** Covers a broad range of the arts primarily of west and central Africa, as well as north, south, and east Africa. Includes sculpture, masking and performance, body decoration and textiles, and architecture. Shows how arts are used in the daily life of traditional village societies in these areas.

**459-1 to 6 Internship.** Supervised work experience related to student's academic program and career objectives. Not repeatable for credit. Not for graduate credit. Prerequisite: consent of design area head. Mandatory Pass/Fail.

**463-4 Products for Special Populations.** Products for special subset groups within greater population norms. May be of cross-cultural and interdisciplinary implementation. Not for graduate credit.

**467-3 Critical Issues in Contemporary Art.** An examination of the style and meaning of contemporary art in relation to the current political, social, and cultural issues. Will include visual arts, architecture, and communications media. Prerequisite: 207a and b or consent of instructor.

**468-3 Pre-Columbian Art.** Covers architecture, textiles, pottery, metal, and 2-D arts of Meso-, Central, and South America during the Pre-Columbian era. Also includes hieroglyphic and calendrical systems and some Post-Columbian era arts as well.

**472-3 Advertising and Corporate Identification.** An introduction to advertising and corporate identity campaigns as they would be executed in a typical advertising agency creative department by art director/writer teams. The student designer will explore creative advertising campaign and corporate-identity projects in both the print and electronic media. Students will be expected to produce portfolio samples using traditional means and computer applications. Samples will showcase students' conceptual and design skills. These skills expand their design expertise and make them more attractive to the job market. Studio fee: \$10. Not for graduate credit. Prerequisite: C or better in 422; senior standing.

**477-3 American Art of the Thirties.** A socio-political and artistic study of American art during the decade of the Great Depression. Course material will be divided in three parts: (1) a survey of art trends during the Thirties concentrating on traditional art forms such as painting, sculpture, and architecture, (2) an investigation into government-subsidized art programs, and (3) recent governmental and corporate patronage of the arts through such programs as the National Endowment for the Arts. Prerequisite: 207a and b or consent of instructor.

**478-3 Topics In American Art.** An in-depth examination and discussion of the social, economic, political and cultural changes in American art focusing on such topics as the third millennium, outsider art, folk traditions, and utopian communities, law and the artist, gender, ethnic diversity, art and technology, and other current issues. Prerequisite: 207a,b.

**487-6 (3,3) American Art. (a)** U.S. Art to 1913. Study of American art from native Indian settlements through Colonial period to 20th Century. Attention to such art forms as painting, sculpture, and architecture, as well as the rich varied Indian folk and craft traditions. **(b)** U.S. Art Since 1876. Study of American art and design from Industrial Revolution to present. Attention to such traditional art forms as painting, sculpture, and architecture, as well as the many facets of modern design. Prerequisite: 207a,b or consent of instructor.

**489-3 to 6 (3, 3-6, 3-6, 3) Senior Thesis.** The culminating experience for majors. **(a)** Thesis for industrial design. Creative project development individualized by the student with faculty sponsor. **(b)** Art history thesis. A two-semester course designed to provide art history majors with a sustained experience to apply critical art historical methodology to a self-chosen topic. Not for graduate credit. Prerequisite: senior standing. Restricted to majors. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for art majors. **(c)** Thesis for general design. In-depth design project chosen by the student in consultation with a faculty member. **(d)** Thesis for visual communication. Individual design project chosen by the student in consultation with a faculty member. Not for graduate credit. Prerequisite: senior standing.

**497-3 to 6 (3 per topic) Problems in Art History.** A close examination of selected categories of works of art from various periods, media, and cultures as illustrative of particular art historical problems. Topics will vary and include **(a)** portraiture, **(b)** landscape and still life, **(c)** narrative, **(d)** other selected topics. Sections a through c may be taken only once each, section d may be repeated as topics vary. Art historical perspectives

to include formal analysis, iconography, art theory, social history, connoisseurship. Prerequisite: 300-level art history course or consent of instructor.

**499-1 to 21 Individual Problems.** Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Designed to adapt to students' individual needs in problem research. Prerequisite: senior standing in the School of Art and Design, a 3.0 average, and consent of instructor.

## Automotive Technology (AUT)

**120-3 Automotive Electronics.** A course of study in the design and theory of DC electrical circuits. Particular emphasis will be placed on the general application of these theories to automotive electrical systems and the proper use of typical electronic and electrical circuit diagnostic equipment.

**150-3 to 5 Engine Mechanical Systems.** Directed study of automotive internal combustion engine technology. Lectures will emphasize design factors affecting combustion, compression and induction systems, crankshaft and associated bearings, valve trains, lubrication systems and cooling systems. Particular emphasis will be placed on engine inspection and maintenance techniques. Laboratory experience will consist of disassembly of automotive engines, component design study and the inspection and measurement of components.

**160-3 to 5 Brake, Steering and Suspension Systems.** An introduction to automotive brake system, steering systems and suspension systems. Lectures will describe steering system geometry, brake system component interrelationships and suspension system designs. Special emphasis will be placed on component diagnosis and maintenance procedures. Laboratory experience will provide the opportunity to study the use of specialized tools, computerized wheel balancing machines and computer-based four-wheel alignment equipment.

**170-3 to 5 Engine Electrical Systems.** Design and operation of automotive storage batteries, starting systems, charging systems and ignition systems. Lectures will emphasize the operational characteristics of these systems and their individual components. Particular emphasis will be placed on battery, starting system, charging system and ignition system diagnosis. Laboratory experience will provide the opportunity to study the use of digital multimeters, automotive ignition system oscilloscopes, specialized starting/charging system test equipment and various electronic diagnostic equipment. Prerequisite: 120, or concurrent enrollment in 120.

**180-3 to 5 Drivetrains.** A detailed study of automotive manual transmission and transaxle assemblies, drive-shafts, clutch assemblies and four-wheel drive transfer cases, including an introduction to automatic transmission theory and service. Lectures will focus on the basic theory of operation and component design of the automotive drivetrain. Emphasis will be placed on system and component operation and maintenance. Laboratory experience will provide the opportunity to study approved inspection and maintenance procedures.

**220-1 to 24 Automotive Cooperative Education.** Students will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career related work experience. Students receive a salary or wages and engage in prearranged assignments related to their academic program and career objectives. Departmental faculty evaluations, cooperating agency students performance evaluations and student reports are required. Hours and credits to be individually arranged. Prerequisite: automotive technology major and consent of department.

**258-1 to 30 Automotive Work Experience.** A designation for credit granted for past documented automotive work experience related to the student's educational objectives. Credit will be established by departmental evaluation.

**259-1 to 60 Automotive Occupational Training.** A designation for credit granted for past documented automotive educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.

**275-3 to 5 Diesel Fuel and Electrical Systems.** Specialized study of automotive and light truck diesel fuel systems including mechanical and electronic fuel injection. Subject areas include principles of diesel combustion, diesel pump design, diagnosis and engine performance standards. Additional subject areas may include thermal-mechanical and electronically controlled glow plug systems and starting and charging systems. Prerequisite: 120, 150 and 170.

**280-3 to 5 Air Conditioning Systems.** A study of refrigeration systems, temperature controls and the vacuum and electrical circuits common to automotive air conditioning systems. Emphasis will be placed on the environmental impact of CFC-based refrigerants, CFC recovery and recycling and environmentally safe refrigerant technology. Laboratory experience will provide the opportunity to study the use of air conditioning system diagnostic tools and refrigerant recovery/recycling equipment. Prerequisite: 120, 170.

**285-3 to 5 Body and Chassis Electrical Systems.** Studies will focus on the theory of operation of body lighting circuits, instrumentation, wiper systems, cruise control systems, power windows, power seats, power door locks and supplemental inflatable restraints (air bags). Particular emphasis will be placed on electrical circuit diagrams and the development of accepted diagnostic techniques. Laboratory experience will provide the opportunity to study the use of electrical system diagnostic tools and techniques. Prerequisite: 120, 170.

**290-3 to 5 Antilock Brake and Suspension Systems.** Studies will focus on the theory of operation of brake and suspension systems and their diagnosis and maintenance. Includes the study of computerized antilock brake systems (ABS), including wheel speed sensors, hydraulic control valve operation and traction control. Emphasis will be placed on inspection and maintenance procedures. Laboratory experience will develop diagnostic and maintenance techniques using electronic scan tools, digital multimeters and computerized wheel alignment equipment. Prerequisite: 120, 160 and 170.

**295-3 to 5 Engine Service Procedures.** Course work designed to develop engine mechanical inspection, maintenance and diagnostic techniques. Emphasis will be placed on analysis of engine component failures and di-

agnosis of abnormal engine noises. Laboratory experience will consist of using specialized engine service equipment and diagnostic tools. Prerequisite: 120, 150 and 170.

**299-1 to 16 Individual Study.** Provides students with opportunity to develop a special program of study to fit a particular need not met by other offerings. Each student will work under the supervision of a sponsoring faculty. Prerequisite: approval of the sponsor and departmental chair.

**320-1 to 12 Automotive Cooperative Education.** Students will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career-related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluations, cooperating agency student performance evaluations and student reports are required. Cooperative experiences may be in one of the following areas: Automotive technical service; automotive management; automotive service training. Hours and credit to be individually arranged. Prerequisite: consent of department and employment at an approved work site.

**325-4 Automotive Service Operations.** This course will provide a study of the basic skills needed to manage an automotive service department. Methods to improve customer satisfaction, increase service market penetration and increase profits will be emphasized. Daily planning of work schedules, traffic flow and the efficient use of facilities will be included. Laboratory experience will include simulated retail service management situations. Prerequisite: English 102.

**360-3 to 5 Automotive Transmissions and Transaxles.** A detailed study of automatic transmissions and transaxles theory of operation, diagnosis and maintenance. Lecture will focus on the theory of operation and component design of the automotive automatic transmission. Emphasis will be placed on system and component diagnosis. Laboratory experience will consist of using specialized service equipment and diagnostic tools. Prerequisite: 120, 180.

**370-3 to 5 Electronic Engine Controls.** Specialized study of automotive electronics used for engine ignition, fuel and emission systems control. Lectures will focus on the operational characteristics of electronic ignition systems, computerized ignition timing control systems and fuel injection systems. Environmental legislation pertaining to automotive emissions will be examined and researched. Particular emphasis will be placed on electronic circuit operation and diagnosis. Laboratory experience will provide the opportunity to use standard electronic diagnostic tools, specialized equipment and computerized diagnostic systems used in emission failure diagnosis. Prerequisite: 120, 150 and 170.

**380-3 to 5 Electronic Fuel and Emission Control Systems.** Specialized study of automotive fuels, electronic fuel injection systems and emission control systems. Lectures will focus on the operational characteristics of electronic fuel injection systems and emission control systems. Alternative fuels and conventional fuels will be discussed and researched. Particular emphasis will be placed on emission control systems and their effect on failure diagnosis and repair. Laboratory experience will provide the opportunity to study the use of standard electronic diagnostic tools, specialized equipment and computerized diagnostic systems. Prerequisite: 120, 150, 170 and 370.

**390-3 to 5 Body and Chassis Electronics.** A study of computerized control of body and chassis electrical systems. Areas to be studied include comfort control systems, information display systems, safety/security systems and entertainment systems. Laboratory experience will emphasize the correct use of electronic diagnostic equipment and self-diagnostic software integral to on-board body computers. Prerequisite: 120, 170, 280 and 285.

**420-1 to 12 Automotive Service Operations Internship.** Each student will be assigned to a University approved work site to engage in work experience related to the Automotive Technology curriculum and the student's career objectives. The student will perform duties and services as assigned by the work site supervisor and internship coordinator. A written assignment is also required as determined by the department. One hundred hours of successfully completed work is required for each semester hour of credit. Not for graduate credit. Prerequisite: senior standing, consent of department, and employment at an approved work site.

**430-1 to 8 Technical Investigations in Automotive Technology.** Provides opportunities for students to conduct research in such areas as: federally mandated emission and clean air testing; federally mandated vehicle inspection and maintenance procedures; research in conjunction with industry in the area of computer-based diagnostic software debugging; development of computer data related to computer-based diagnostic systems and computer-based technical information databases; development of training information on federally mandated on-board diagnostic systems, phase II (OBDII); investigation of alternative fuel systems. Not for graduate credit. Prerequisite: junior standing, faculty sponsor and consent of department.

**435-3 Automotive Retail Operations.** This course will provide insight into automotive dealership business management with emphasis on application to daily work. Studies will focus on interpretations of financial statements and on business management techniques essential to successful dealership operations. Not for graduate credit. Prerequisite: 325 and English 102.

**475-1 to 8 Special Projects in Automotive Technology.** Investigation of contemporary problems and issues within the automotive service field. Example subjects include state and federally mandated vehicle emission laws; safety; required inspection and maintenance procedures; consumer protection legislation - lemon laws; on-board diagnostic systems; hazardous automotive waste materials regulations; automotive retail management systems and procedures. Independent study. Not for graduate credit. Prerequisite: junior standing, faculty sponsor and consent of department.

**485-3 Automotive Warranty Administration and Customer Relations.** This course investigates the warranty policies of the major automotive manufacturers. Emphasis will be placed on warranty decisions, federal and state laws covering warranties, and the legal aspects of product campaigns. There will be specific concentration on the psychology of customer relations and the development of methods to increase customer satisfaction throughout the warranty process. Not for graduate credit. Prerequisite: junior standing.

## Aviation Flight (AF)

**200-3 Primary Flight Theory.** Prepares the beginning aviation student for the FAA Private Pilot Written Examination. Consists of instruction in aerodynamics, FAA regulations, primary navigation, use of computer, weather, and radio navigation.

**201-5 Flight — Primary.** Provides flight instruction in preparation for the acquisition of the Private Pilot Certificate. Consists of dual flight instruction, solo and ground instruction in conjunction with each training flight and other flight-related topics.

**202-3 Flight — Basic and Intermediate Theory.** Instruction in Federal Aviation Administration regulations pertaining to commercial flight operations. Includes advanced instruction in aerodynamics, weather and safe operation of aircraft. Prerequisite: 200.

**203-5 Flight — Basic.** Beginning course in preparation for the Commercial Certificate. Major emphasis is upon solo and solo cross-country flight, with ground instruction in conjunction with each training flight and other flight related topics. Prerequisite: 201 and a valid Private Pilot Certificate.

**204-5 Flight — Intermediate.** Continuing preparation for the Commercial Certificate. Including dual, solo and night flight instruction and advanced maneuvers. Ground instruction is provided in conjunction with each training flight. Prerequisite: 203.

**205-3 Flight — Instrument Theory.** Course is directed to the theory of flight by instrument. Includes classroom instruction in Federal Aviation Administration regulations pertaining to instrument flight, navigation by radio aids, aviation weather, and function, use, and limitations of instruments required for instrument flight. Prerequisite: 202.

**206-2 Flight — Instrument.** This course continues preparation for the Commercial Certificate. Includes instrument flight instruction. Prerequisite: 203, 204.

**207a-2 Flight Advanced.** This course completes the requirements for the Commercial Certificate. Includes dual and solo flight maneuvers. Prerequisite: 206.

**207b-2 Flight Multi-Engine Operations.** Prepares the student for the FAA Multi-Engine rating (airplane). Includes multi-engine flight instruction and individual ground instruction. Prerequisite: 207a.

**210-4 Human Factors for Aviators.** Provide the student specialized instruction in the areas of: Physiological Aspects of Aviation, Psychological Aspects of Aviation, Aeronautical Decision Making and Crew Resource Management. Prerequisite: 202.

**260-4 Reciprocation and Jet Airplane Systems.** Students will have knowledge of construction, operation, and components of reciprocating and jet powerplants. They will understand the operation and components of cabin pressurization and air conditioning systems, flight control systems, landing gear systems, fuel systems, electrical systems, anti-icing systems, and fire detection systems.

**300-2 Flight-Instructor (Airplane).** Prepares the commercial pilot for an FAA Flight Instructor Certificate. Includes 20 hours of dual flight training and 40 hours of specialized ground instruction. Prerequisite: 206.

**301-1 Flight-Instructor (Airplane-Multi-Engine).** This course consists of five hours of dual flight instruction and 10 hours of classroom instruction. Prepares the holder of flight instructor certificate for the addition of the multi-engine flight instructor rating. Prerequisite: 300.

**302-1 Flight-Instructor (Airplane Instrument).** Designed to prepare the flight instructor to teach instrument flying, and to acquire the Instrumental Flight Rating. Course consists of ten hours of dual flight instruction and 15 hours of classroom instruction. Prerequisite: 300.

**303-3 Flight Instructor Ground School.** This course is designed to aid the student who is obtaining a flight instructor's rating. It will cover principles to teaching as well as practical aspects of teaching flight maneuvers necessary for instruction. Prerequisite: 205.

**304-2 Practicum in Air Carrier Operations.** Students gain practical experience and training by participating as flight officers on passenger aircraft flights. Enables students to practice, under close supervision, the role of first officer within a passenger carrier format. Course includes 20 hours of flight time and a minimum of 40 hours pre- and post-flight activities and instruction. Mandatory Pass/Fail. Prerequisite: 206, 207 and consent of department.

## Aviation Maintenance Technology (AMT)

**110-4 Aircraft Structure-Fabrication and Repair.** Students will be able to identify and select materials employed in aircraft construction. Using appropriate FAR's, they will demonstrate competence in repair of honeycomb, fiberglass, welded, wood, or fabric aircraft members. The student will inspect aircraft members for defects and, if necessary, inspect completed repairs for airworthy condition.

**111-4 Materials Processing.** Students will be able to identify, select, and inspect aircraft hardware and materials. They will be able to select and apply appropriate cleaning materials and to implement corrosion controls. They will become proficient in the use of precision measurement equipment and related inspection tools.

**112-4 Aircraft Electricity.** Students will have basic knowledge of electricity generation, AC and DC circuitries, and controls. They will be able to solve problems associated with electrical measurement (AC and DC), circuit interpretations and inspection, aircraft electrical load analysis, circuit malfunctions, and circuit or component servicing. They will have as an introduction, a basic knowledge of aircraft electronics.

**113-2 Federal Aviation Regulations.** Students will be able to select and use FAA technical and legal publications in order to perform the duties of an aircraft technician.

**114-2 Aircraft Weight and Balance.** Students will fully understand and solve problems of aircraft weight and balance. They will be able to perform weighing, computation of C.G., and establishing of equipment list.

**116-3 Aircraft Instruments.** Students will have a knowledge of operation, installation, marking, and interpretation of synchro and servo systems, aircraft and powerplant instruments. They will be able to install, adjust, and calibrate these instruments in accordance with FAA and manufacturers' recommendations.

**201-2 Applied Science.** The student will be able to understand and demonstrate the application of physical laws including pressure, force, motion, mechanical advantage, heat and sound. The student will interpret blueprints and schematic diagrams and be able to perform basic mechanical drawing using drawing instruments to accomplish orthographic projections, sections and dimensioning of working drawings. Hydraulic tubes, hoses and fittings will also be studied. Course material is directed toward aviation oriented subject matter.

**203-2 Aircraft Aerodynamics.** Students will have a knowledge of flight theory and factors affecting aircraft in flight. They will explain and compare aircraft design features in subsonic, transonic, and supersonic aircraft. They will be able to assemble and rig various aircraft control systems, analyzing and correcting faulty flight characteristics.

**204-4 Hydraulics (Aircraft).** Students will have a knowledge of fluid theory and applied physics which relates to aircraft hydraulics. They will know the theory of operation, maintenance requirements, and adjustments of various hydraulic components and systems. They will be able to test, inspect, troubleshoot, and service hydraulic systems and overhaul malfunctioning components in accordance with FAA and manufacturers specifications.

**205-6 Cabin Environment and Jet Transport Systems.** Students will understand the atmospheric variables at different altitudes and the basic equipment required to cope with malfunction in the cabin pressurization and air-conditioning systems. Using the available information, jet transport aircraft and simulated training panels, they will understand the operation of and be able to identify the components of flight control systems, landing gear, fuel, anti-icing, and fire detection systems. They will be able to compare and analyze aircraft systems of current jet transport aircraft and to diagnose and resolve malfunction problems. They will have knowledge of procedures for aircraft ground handling, APU operation, and system servicing.

**206-3 Metals Processing.** Students will be able to make appropriate sheet metal repairs using correct repair procedures, tools, and materials. They will be required to demonstrate correct use of and interpretation of structural repair diagrams and correct interpretation of charts and tables from AC 43.13-1A pertaining to materials and methods.

**210-2 Aircraft Electrical Systems.** The successful student should have a knowledge of the operation, repair, inspection, and service of small and large aircraft electrical systems, using schematic diagrams and training panels.

**211-5 Reciprocating Powerplant.** Students will have a knowledge of construction, operation, and timing mechanisms associated with aircraft reciprocating powerplants. They will be able to disassemble, clean, measure, inspect, and reassemble a powerplant to airworthy condition in accordance with appropriate FAA and manufacturers' regulations.

**212-5 Carburetion, Lubrication, and Fuel.** Students will be able to demonstrate their competence in identifying fuel and oil system components and carburetors, understanding the operating principles of each. They will be able to inspect, adjust, troubleshoot, and overhaul these components according to manufacturers and federal regulations. They will be able to identify the grades of aviation fuels and lubricants and understand the characteristics and uses of each.

**213-5 Ignition Systems.** Successful students should have a knowledge of the operation, repair, inspection, and service of reciprocation and jet powerplant ignition systems and reciprocating starting system. They will be able to time, overhaul, and troubleshoot the various components of each system.

**214-3 Propellers.** Students will have a knowledge of the physical laws and design characteristics governing propeller operation. They will be able to identify components, troubleshoot, and adjust fixed and variable pitch propellers. They will maintain fixed pitch propellers, and the governor system for variable pitch propellers in accordance with FAA and manufacturers' standards.

**215-5 Powerplant Testing.** Students will have an understanding of the correct procedures and precautions to be observed during engine installation, ground operation, and fuel and oil servicing. They will be required to inspect and troubleshoot reciprocating and jet engines for airworthy condition and interpret engine instrument readings to diagnose engine malfunctions.

**216-6 Jet Propulsion Powerplant.** Students will be able to apply and understand physics laws related to jet powerplants. They will be able to identify and understand the operation of jet engines and their components. They will be able to perform inspection, maintenance repair, troubleshooting, and adjustments of jet powerplants and accessories. They will be able to analyze engine performance and to interpret operational charts, graphs, and tables.

**225-6 Aircraft Inspection.** Students will be able to perform a 100-hour and an annual inspection of an aircraft. They will demonstrate knowledge of FAR's by checking appropriate AD's, classifying repairs, and pinpointing specific service problems. They will also complete the required maintenance forms, records, and inspection reports required by federal regulations. They will understand and be able to perform inspection under computerized aircraft maintenance programs.

**230-6 Powerplant Inspection.** Students will be able to perform periodic inspection of powerplants. They will demonstrate their knowledge of FAR and application of FAA ADs', Service Bulletins, and proper use of inspection equipment. They will use knowledge learned in the powerplant curriculum to perform malfunction analysis of powerplant and related systems. Live equipment is used on a return-to-service basis.

**301-3 Helicopter Theory and General Maintenance Practice.** The student will have in-depth knowledge of rotary wing aerodynamics, main and tail rotor systems, rotor blades, primary and secondary controls, and general maintenance practices to include inspection and nondestructive testing. Lecture three hours. Prerequisite:

Federal Aviation Administration Airframe and Powerplant Technician license or consent of program coordinator.

**302-6 Helicopter General Maintenance Laboratory.** The student will perform general maintenance on rotary wing main rotor systems, tail rotor systems, flight and powerplant control systems to include malfunction analysis, tracking, static and dynamic balancing, rigging, and repair. Laboratory six hours. Prerequisite: concurrent enrollment in 301 or consent of program coordinator.

**304-3 Helicopter Power Train and Inspection.** The student will have in-depth knowledge of the operation, function, and inspection of all rotational components of a rotary wing aircraft to include transmission, gear boxes, drive trains, and drive shafts. Lecture three hours. Prerequisite: 301 or consent of program coordinator.

**306-6 Helicopter Power Train Laboratory.** The student will perform all functions of overhaul concerned with rotary wing transmissions, gear boxes, and drive trains. The student will demonstrate skill in disassembly, inspection, discrepancy analysis, reassembly, and non-destructive testing. Laboratory six hours. Prerequisite: concurrent enrollment in 304.

**405-3 Flight Management Systems.** Using industry type computer instruction and flight simulation trainers, the course will develop the knowledge for operation and management of autopilots, auto throttles, inertial reference systems, electronic instrument systems, and flight management computers on advanced technology type aircraft, such as the Boeing 737-400, 747-400, Douglas MD-81 and MD-11. Lecture two hours, laboratory two hours. Prerequisite: 205 or AF 207a,b or consent of instructor.

## Aviation Management (AVM)

**258-1 to 30 Aviation Work Experience.** Credit granted for prior job skills, management-worker relations and supervisory experience while employed in the aviation industry. Credit will be established by departmental evaluation.

**259-1 to 60 Aviation Occupational Education Credit.** A designation for credit granted for past occupational education experiences related to the student's educational objectives in the aviation field. Credit will be established by departmental evaluation.

**298-1 Multicultural Applied Experience.** (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race, or class. The student can sign up for the one credit experience in the same semester he or she fulfills the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult the respective department for course specifications regarding grading, work requirements and supervision. Prerequisite: Approval of the site representative, faculty supervisor and department chair.

**319-1 to 15 Aviation Occupational Internship.** Each student will be assigned to a departmentally approved work site engaged in activities related to the student's academic program and career objectives. The student will be assigned to an unpaid, internship position and will perform duties and services in an instructional setting as previously arranged with the sponsoring work site supervisor. Prior departmental approval, supervisor evaluations and student reports are required. Internships may be performed in any of the following broad areas: (a) Airline; (b) Airport; (c) Corporate aviation; (d) Fixed base operation; (e) Flight instruction; (f) Air traffic control; (g) Government; (h) Consulting firm; (i) Other, as arranged. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**320-1 to 12 Aviation Cooperative Education.** Students will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Departmental faculty evaluations, cooperating agency student performance evaluations and student report are required. Cooperative experiences may be in any of the following broad areas: (a) Airlines; (b) Airport; (c) Corporate aviation; (d) Fixed base operations; (e) Flight instruction; (f) Air traffic control; (g) Government; (h) Consulting firm; (i) Other, as arranged. Hours and credits to be individually arranged.

**350-1 to 32 Aviation Career Subjects.** In-depth competency, skill development and exploration of innovative techniques and procedures used in aviation businesses, government operations related to aviation and other aviation related organizations. Subjects and topics may include present or planned future operations as well as domestic or international enterprises. Study of departmentally approved topics or projects may include workshops, special short courses, seminars, research or independent study. Prerequisite: consent of instructor.

**360-3 The Air Traffic Control System, Procedures and Rules.** This course introduces student pilots and prospective career air traffic controllers to the history, evolution and operation of the United States Air Traffic Control System. Air traffic control procedures and rules are emphasized with student pilots treated as users of the system and prospective career air traffic controllers treated as future air traffic service providers. Students will be able to apply air traffic control procedures and rules when operating aircraft or as air traffic specialists. Prerequisite: Instrument Flight Certificate or consent of department.

**370-3 Airport Planning.** To acquaint the student with the basic concepts of airport planning and construction, as well as an investigation of various community characteristics and resources.

**371-3 Aviation Industry Regulation.** A study of the various regulatory agencies of the industry and their functions.

**372-3 Airport Management.** A study of the operation of an airport devoted to the phases of lighting, fuel systems, field marking, field buildings, hangars, and surrounding community.

**373-3 Airline Management.** A study of the administrative aspects of airline operation and management including a detailed study of airline organizational structure.

**374-3 General Aviation Operations.** A study of general aviation operations including fixed base operations (fuel, sales, flight training, charter, etc.), corporate aviation (business aviation, corporate flight departments, executive air fleets, etc.) and the general aviation aircraft manufacturing industry.

**375-3 Legal Aspects of Aviation.** The student will develop an awareness of air transportation. The course will emphasize basic law as it relates to contracts, personnel, liabilities, and legal authority of governmental units and agencies. Lecture three hours.

**376-3 Aviation Maintenance Management.** To familiarize the student with the functions and responsibilities of the aviation maintenance manager. Maintenance management at the fixed base operator, commuter/regional airline, and national air carrier levels will be studied. Aviation maintenance management problems areas will be reviewed using the case study method.

**377-3 Aviation Safety Management.** This course will survey the various aspects of aviation flight and ground safety management. Weather, air traffic control, mechanical and human factors in aviation safety management will be reviewed. Case studies of individual aviation accidents and incidents will be analyzed.

**385-3 Air Transport Labor Relations.** The body of legislation of governing labor relations in the private sector of the United States economy consists of two separate and distinct pieces of legislation, the Railway Labor Act, which governs labor relations in the railroad and airline industries; and the National Labor Relations Act governing labor relations in all other industrial sectors. This course focuses on the examinations of air transport labor relations in the context of these key laws. As the student and practitioner of aviation management comes in contact with both Acts through this course, the student learns similarities and differences of each and their resultant impact. Such a review will provide an understanding of underlying public policy goals, while acquiring an appreciation and understanding of the collective bargaining process, administration and procedures of the labor arena. The student will actively apply this knowledge in a mock labor negotiation. Prerequisite: Aviation Management major or consent of department.

**386-3 Fiscal Aspects of Aviation Management.** An introduction to the fiscal problems encountered in the administration of aviation facilities.

**401-3 Current Issues in Aviation Management.** A review of current problems affecting the aviation industry with particular emphasis on resource allocation, planning, and internal and external constraints. Not for graduate credit. Prerequisite: a course in economics or marketing, senior standing, consent of instructor.

**402-3 Aviation Industry Career Development.** Provides an overall description and forecast of the employment possibilities in the aviation industry, as well as specific information regarding how to apply for such employment. Also covered is the preparation of the future aviation professional for the search for employment including such items as personal assessment, resume construction, interviewing skills, writing letters of appreciation, the use of references, networking, employment referral agencies/services and continuing education. Not for graduate credit. Prerequisite: Aviation Management major or consent of department.

**460-3 National Airspace System.** The evolution, current state, and future of the National Airspace System with emphasis on its current and future impact on the domestic and international aviation industry. Defines the Federal Aviation Administration's role in the operation, maintenance, and planned modernization of Air Traffic Control facilities, airways and navigational aids, landing aids, and airports. The users of the system, their needs, and issues with the system's operation and planned modernization are examined. Not for graduate credit. Prerequisite: 360 or consent of department.

## Aviation Technologies (AVT)

**199-1 to 10 Individual Study.** Provides students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: instructor and departmental consent.

**233-3 Aircraft Communication and Navigation Systems.** This course will introduce the student to the theory of operation of transceivers used for communication in aircraft, as well as audio control and intercom systems, navigation receivers, including VOR, ILS and ADF will be discussed. Student will be introduced to basic operational and trouble analysis techniques using test equipment. Lecture two hours, laboratory two hours. Prerequisite: Aviation Maintenance Technology 112 or department consent.

**237-3 Aviation Logic Circuits and Pulse Systems.** Students will study the operation of logic gates, inverters, shift registers and counters used in aviation pulse-type equipment. The theory and application of Air Traffic Control Radar Beacon Transponders and Distance Measuring Equipment will be covered. Students will be introduced to basic operational and trouble isolation techniques using test equipment. Lecture two hours, laboratory two hours. Prerequisite: Aviation Maintenance Technology 112 or departmental consent.

**258-1 to 30 Aviation-Technology Work Experience.** Credit granted for prior Aviation Technologies related job skills, work experience, management-worker relations and supervisory experience while employed in the aviation industry. Credit will be established by departmental evaluation.

**259-1 to 60 Aviation-Technology Occupational Education Credit.** A designation for credit granted for past occupational educational experiences related to the student's educational objectives in Aviation Technologies. Credit will be established by departmental evaluation.

**317-3 Introduction to Aviation Electronics.** This course provides an introduction to electron devices used in analog and digital electronics equipment. Device operation will be analyzed from a theoretical perspective, and applied to circuits for power supplies, amplifiers, control devices and communication data bussing. Practical application will be stressed in laboratory. Lecture two hours, laboratory two hours. Prerequisite: Aviation Maintenance Technology 112 or departmental consent.

**318-3 Aviation Electronics Control Systems.** Coursework is based upon theory and application of analog and digital control systems. Topics include transducers, control input devices, instrument panel displays and feedback sensor circuits. Data recording and monitoring systems will also be presented. Lecture two hours, laboratory two hours. Prerequisite: 317 or concurrent enrollment in 317.

**319-1 to 15 Aviation-Technology Internship.** Each student will be assigned to a departmentally approved work site engaged in activities related to the student's academic program and career objectives. The student will be assigned to an unpaid internship position and will perform duties and services in an instructional setting as previously arranged with the sponsoring work site supervisor. Prior departmental approval, supervisor evaluations and student reports are required. Hours and credits to be individually arranged. Mandatory Pass/Fail. Prerequisite: departmental approval.

**320-1 to 12 Aviation Technologies Cooperative Education.** Student will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career related work experience. Students may receive a salary or wages and will engage in pre-arranged work assignments related to their academic program and career objectives. Departmental faculty evaluations, cooperating agency student performance evaluations and student reports are required. Hours and credit to be individually arranged. Prerequisite: departmental approval.

**321-2 FCC Regulations.** The students will have knowledge of Federal Communications Commission requirements for aircraft station licenses, aeronautical ground stations, and radio telephone operator's privileges and limitations. Lecture two hours. Prerequisite: 233 or departmental consent.

**322-3 Aviation Radar System.** Introduces the student to applications of airborne radar equipment, including weather detection and tracking. The student will gain an understanding of installation techniques, system performance specifications, operational analysis and troubleshooting. Lecture two hours, laboratory two hours. Prerequisite: 317 and 318.

**323-4 Microcomputers for Aviation Professionals.** This course is designed to acquaint the student with microcomputer systems and their utilization as it relates to the aviation industry. The student will become familiar with software requirements, software systems, work processing, spreadsheets and data base requirements. Each student will be acquainted with telecommunication systems used in the aviation field. Each student will have the knowledge to evaluate an individual microcomputer system and its software. Lecture four hours.

**324-5 Aviation Electronics Flight Line Maintenance.** This course presents a introduction to the study of aircraft electronic systems and their components. Students will learn flight line preventive maintenance techniques and will troubleshoot the systems to the faulty line-replaceable-unit (LRU). The student will evaluate system performance as directed by the Federal Aviation Regulations (FARs), as well as equipment manufacturers' specifications. Lecture five hours. Prerequisite: concurrent enrollment in 325.

**325-4 Flight Line Maintenance Laboratory.** Students will perform selected operational tasks on aircraft systems or simulators, and will perform flight line preventive maintenance tasks and troubleshoot selected aircraft electronic systems. The student will demonstrate the ability to apply ramp-test criteria to selected systems to determine if tested systems meet prescribed standards. Laboratory eight hours. Prerequisite: concurrent enrollment in 324 and departmental consent.

**330-3 Advanced Aviation Electronics.** This course will enable the student to develop advanced technical skills in aircraft communication, navigation and pulse systems. Applications will include diagnosing and analyzing state-of-the-art equipment and systems from an operational and fault isolation perspective. Coursework will include applications of emerging technologies in aviation electronics. Lecture one hour, laboratory four hours. Prerequisite: 233 and 237, or departmental consent.

**350-1 to 32 Technical Subjects in Aviation Technologies.** In-depth competency, skill development and exploration of innovative techniques and procedures used in Aviation Technologies. Study of departmentally approved topics or projects may include workshops, short courses, seminars, research or independent study. Prerequisite: consent of instructor.

**360-3 Digital Data Bussing and Electronic Flight Instrument System (EFIS) Theory.** This course will introduce the student to digital microprocessor concepts and circuits. The student will be introduced to various digital information data bus systems and electronically generated displays. Data bus protocols, controllers, exchange formats and software used in typical aircraft electronics systems will be explored. Cathode-ray tube display formats used in EFIS indicators will be studied. Lecture three hours. Prerequisite: 318, concurrent enrollment in 365.

**365-3 Digital Data Bussing and Electronic Flight Instrument System Laboratory.** This course has been designed to enable the student to develop technical skills with the topics studied in 360. The student will construct fundamental digital and microprocessor circuits for analysis and will demonstrate the ability to encode and decode information on standard aircraft data busses. The student will evaluate, test and troubleshoot brief software routines for digital information transfer. Laboratory six hours. Prerequisite: concurrent enrollment in 360.

**370-5 Reliability, Maintainability and Fault Prediction and Analysis.** Students will demonstrate the ability to understand and perform analysis and prediction of the logistical concepts of reliability, maintainability and fault prediction and analysis of products and systems. A conceptual understanding of logic symbols, fault tree analysis and fault criticality as well as logistical management are presented. Lecture five hours. Prerequisite: departmental consent.

**410-3 Advanced Composites.** Topics include the theory and application of advanced composite materials used in modern aircraft structures and engine components. Students will evaluate structures and implement various methods of repair and maintenance using both cold and heated application methods. Not for graduate credit. Prerequisite: Aviation Maintenance Technology 110 or departmental consent.

**416-3 Advanced Propulsion Systems.** A study of advanced turbine powerplants and their control systems. Students will demonstrate an understanding of the operation and construction of integrated composite engines and analyze digital control systems. Topics include the interfacing of powerplant controls and monitoring systems, aircraft electronic data bussing and indicating displays. Not for graduate credit. Prerequisite: 317, 318, Aviation Maintenance Technology 216 or departmental consent.

## Biology (BIOL)

**200A-3 Cell and Molecular Biology, Genetics and Evolution.** Basic concepts and principles of biology: chemistry of life; cell structure and function; energetics and biosynthesis; genetics and molecular biology; and evolution. Two lectures and one two-hour laboratory per week. Prerequisite: Chemistry 200, 201 or concurrent enrollment.

**200B-3 Organismal and Ecological Biology.** Basic concepts and principles of biology: organismal diversity (plants, animals and microorganisms); plant form and function; animal form and function; and ecology. Two lectures and one two-hour laboratory per week. Prerequisite: Chemistry 200, 201 or concurrent enrollment.

**210-2 to 6 Biology Field Studies.** A trip of from two to six weeks to acquaint students with organisms in various environments or with methods of field study, collection, and preservation. Students will incur costs for food, lodging, and transportation. Prerequisite: consent of instructor.

**305-3 Genetics-Classical and Molecular.** Principles of genetics including Mendelism; chromosome behavior; genetic mapping; mutation and allelism; replication, transcription and translation; gene function and regulation; polygenic systems; population genetics and evolution; and genetic applications. Prerequisite: 200a,b and Chemistry 200, 201.

**306-3 Cell Biology.** The basic functions of the cell are considered. The biochemical basis and mechanisms of the cellular processes, the functions of the subcellular structures, and their ramifications will be explored in the context of plant and animal cells. Prerequisite: 200a,b and Chemistry 200, 201.

**307-3 Principles of Ecology.** Broad principles of ecology on the organismic, the population, the community, and the ecosystem level. Includes environmental factors, adaptations, energy and material balance, succession, and human ecology. Prerequisite: 200a,b and Chemistry 200, 201.

**308-3 Organismic Functional Biology.** Fundamental principles and biological examples of basic phenomena characteristic of organisms, including transport, integration, and reproductive systems. Detailed attention will be given to various organ systems with an emphasis on function. Prerequisite: 200a,b and Chemistry 200, 201.

**309-3 Developmental Biology.** Basic principles and processes of embryonic development including contemporary research on molecular, cellular and genetic mechanisms of differentiation and morphogenesis; selected invertebrate and vertebrate animals and plants will be considered. Prerequisite: 200a,b and Chemistry 200, 201.

**315-2 History of Biology.** The interrelationships between the development of biological knowledge and the history of the human races.

## Black American Studies (BAS)

**109-3 Introduction to Black America.** A survey course designed to expose the student to various aspects of the black experience. Aspects included are history, literature, theology, the arts, etc. The textbook is a collection of essays designed to use especially in this course and is supplemented by guest lecturers and audiovisual materials.

**135-3 The Third World: The African Model.** A study of the Third World through a focus on Africa as a model; emphasis on the cultural traditions, the impact of the West, and the problems facing Third World nations today.

**209-3 Critical Issues in the Black American Experience.** Insights into the black American experience. Concepts including race, ethnicity, class, caste, minorities, prejudice, discrimination will be analyzed. Main focus is on exploration of critical socio-economic, political, and cultural themes such as demographic trends; migration and urbanization, political participation and strategies, income and employment, housing, health, education, black family, black religion, law, and justice. Prerequisite: 109 recommended but not required.

**215-3 Black American Experience in a Pluralistic Society.** (University Core Curriculum) A study and understanding of the evolution of issues of pluralism in contemporary African American society. This course provides an interdisciplinary analysis of ideological and practical problems of racism, integration, class, equity, social institutions as they relate to the Black American experience.

**225-3 Social Change in Africa.** Examination of the interplay between tradition and modernity in an effort to understand the new Africa. Some of the forces of social change are analyzed. Other topics include African women and the family structure in change and the problems of African development.

**230-3 Introduction to Black Sociology.** An introductory course which focuses on the concepts of black sociology in order to fill the gaps of traditional sociology pertaining to the black experience. Designed to heighten the student's awareness of the black identity and the sociological phenomena which affect it and acquaints the student with specific sociological problems in the study of Afro-Americans. Prerequisite: 109.

**257-1 Black American Studies Choir.** Prerequisite: consent of instructor.

**311-6 (3,3) Black American History.** (Same as History 362.) (a) Black American History to 1865; (b) Black American History since 1865. The role of blacks and contribution in the building of America and the ongoing fight for equality.

**314-6 (3,3) History of Africa.** (Same as History 387a,b). (a) History of Africa. A study of West African peoples from earliest times to the present; including the era of kingdoms; the role of Islam; African-European rela-

tions; colonialism; and African nationalism. **(b) History of East-Central Africa.** A study of East and Central African peoples from earliest times to the present; including migrations and kingdoms; African-Arab-European relations, colonialism, and African nationalism.

**320-3 Leaders of the Black World.** A study of black rulers; governmental representatives; activists; and thinkers; both past and present; in Africa; the West Indies; and the United States, with emphasis on the effects of their philosophies on the black world.

**330-3 Black American Social Problems.** Comparative study of the social problems which afflict black Americans and other minorities and their consequences; including crime and delinquency, mental and emotional disorders, drug addiction, housing conditions, poverty and unemployment, and labor conditions. Prerequisite: consent of instructor.

**332-3 Black Americans and the Law.** Focuses on the effect of the American legal system upon the Afro-American from slavery to the present; uses theory and knowledge from the law, history and sociology; will explain the historical perspectives of specific laws as well as their effect upon the Afro-American.

**333-4 The Black Family.** Exploring the myths and realities of the black family from sociological and psychological perspectives through a critical examination of scholarly controversies and research. Prerequisite: junior standing.

**336-4 The Black Personality.** Examines current areas of interest in the study of the psycho/social characteristics of black Americans. Theoretical and empirical data will be examined. Considers critical issues as cognitive development; self-concept, socialization process and inter-and intra-group relations. Prerequisite: consent of department.

**339-3 Black Americans and the Correctional Process.** Analysis of selected topics: the prison community and the black inmate; correction education and the black inmate; and the black professional. Prerequisite: 332.

**345-3 Law and Civil Liberties.** (See Political Science 332.)

**350-3 Contemporary Black Drama.** Surveys in the works of major and minor writers of contemporary black dramas from *A Raisin in the Sun* to *No Place to Be Somebody*. Explores recent criticism on black theater, and approaches oral and written criticism from the point of view of black aesthetics. Prerequisite: English 201 or consent of department.

**355-3 The Black American Novel Since Native Son.** The black American novel and its major themes since Richard Wright's *Native Son*. Includes such authors as Baldwin, Petry, Williams, etc. Prerequisite: English 210, English 325, junior standing, or consent of instructor.

**357-3 Blacks in the Performing Arts.** History of the role of blacks in the performing arts covering dance companies, ballet, folk dance and black dramatists; cinema, in all its forms; radio and television; and music (spirituals, jazz, opera, classics, etc.) Prerequisite: English 325, or consent of department.

**360-3 Race and History in the United States.** (See History 361.)

**399-1 to 5 Independent Study in Black American Studies.** Independent study which examines problems and issues not covered in a specific course. Hours and subject matter decided during consultation with a faculty member. Prerequisite: consent of instructor.

**430-3 Black Political Socialization.** Definitive approach to how people learn about politics focusing on blacks because of their unique experience; i.e., prolonged minority group status. Research oriented, in that, it takes an explanative and predictive approach to produce models of political learning. Not for graduate credit. Prerequisite: 230, junior or senior standing, or consent of department.

**465-3 Governments and Politics of Sub-Saharan Africa.** (See Political Science 465.)

**475-3 Sociological Effects on Black Education.** A teacher-oriented course dealing with up-to-date research in black and minority education. The instructor utilizes the findings of current periodicals to present models for understanding and communicating with black children. Not for graduate credit. Prerequisite: Education 303 or consent of department.

**490-1 to 3 Cross-Cultural Rehabilitation.** (See Rehabilitation 419.) Not for graduate credit.

## Business and Administration, College (BUS)

**259-1 to 6 Intern-Work Experience.** Current practical experience in business or other work directly related to coursework in a College of Business and Administration program and to the student's educational objectives may be used as a basis for granting credit in the college. Credit is given when specific program credit cannot be granted and may only be used for free elective or general elective credit. Credit is sought by petition and must be approved by the dean before registration. Mandatory Pass/Fail. Prerequisite: College of Business and Administration major with at least twelve hours with a 2.5 grade point average.

**291-1 to 6 Individual Study.** Supervised work that relates to the students' academic program and career objectives. Enrollment provides access to resources of the entire college. Each student will work under the supervision of a sponsoring staff member. May only be used for free or general elective credit. Credit is sought by petition and must be approved by the dean before registration. Prerequisite: College of Business and Administration major (including pre-business) with at least twelve hours and with a 2.5 grade point average.

**402-1 Business Career Transitions.** This one credit, required course is designed to prepare business students to make a successful transition from the academic community to the business and professional world. Students develop a personal career strategy, learn how to conduct a pro-active job search campaign, and explore the types of challenges they are likely to experience in the work world. The class features alumni and business guest speakers as well as videos, case studies, and discussion seminars. Not for graduate credit.

## Business Administration (BA)

**410-3 Financial Accounting Concepts.** Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset, liability, equity valuation and income determination are stressed. Prerequisite: Enrollment in M.B.A. program or consent of department; M.B.A. program computer ability foundation requirement met.

**420-3 Production/Operations Management.** A survey of the design, operation, and control of systems that produce goods and services. Topics include forecasting, production planning, facility location and layout, inventory management, scheduling and quality control. Prerequisite: enrollment in M.B.A. program or consent of department.

**426-3 Managerial Economics.** Develops conceptual framework for business decision-making with emphasis on demand, costs, prices, and profits. Prerequisite: enrollment in M.B.A. program or consent of department.

**430-3 Business Finance.** An introductory course combining both a description of the structure of business financing and an analysis of functional finance from a managerial viewpoint. Prerequisite: enrollment in M.B.A. program or consent of department; 410, Educational Psychology 506, and M.B.A. program computer ability foundation requirement met, or equivalent.

**440-3 The Management Process.** Analysis of management theories and the administrative process. Specific managerial activities are analyzed and discussed. Functional relationships in administered organizations are explored. Prerequisite: enrollment in M.B.A. program or consent of department.

**450-3 Introduction to Marketing Concepts.** An overview of the role of marketing within an economic system and of the major marketing activities and decisions within an organization. Emphasis is on developing an understanding of the marketing process. Prerequisite: enrollment in M.B.A. program or consent of department.

**451-3 Methods of Quantitative Analysis.** (Same as Mathematics 457.)

**452-3 Operations Research.** A survey of operations research techniques with emphasis on problem formulation, model building, and model solution. Topics include mathematical programming, waiting-line models, simulation, and decision theory. Prerequisite: enrollment in the M.B.A. program or consent of department; 451, Educational Psychology 506, and M.B.A. program computer ability foundation requirement met or equivalent.

**470-3 Legal and Social Environment.** An overview of the legal, social, and ethical dimensions which influence business with particular attention to the role of law as a control factor of society in the business world. Prerequisite: enrollment in M.B.A. program or consent of department.

## Chemistry and Biochemistry (CHEM)

**106-3 Chemistry and Society.** (University Core Curriculum) Exploration of the many implications that chemistry has upon modern society. Topics include air and water quality, global warming, acid rain, fossil, solar and nuclear fuels, nutrition and drugs. Three lectures per week except that every other week a three-hour lab is substituted for one of the lectures that week.

**140-8 (4,4) Chemistry.** A two-semester course of general, organic and biological chemistry designed to meet the needs of students of nursing, dental hygiene, physical therapy, other allied health programs, agriculture, forestry, home economics and other majors with comparable requirements. This course does not satisfy prerequisite requirements for other courses offered by the Department of Chemistry and Biochemistry. It is not applicable to a major in chemistry. Chemistry 140a can serve as a preparation for 200 for students without a year of high school chemistry or for those who feel their background is inadequate. Three lectures and one three-hour laboratory per week.

**200-3 Introduction to Chemical Principles.** A first semester chemistry course for students majoring in scientific, pre-professional, engineering or technological programs. Atomic structure, molecular structure, bonding, solutions, stoichiometry, gases, liquids, solids and kinetics. Three lectures per week. Prerequisite: one year of high school chemistry or Chemistry 140a; completion or concurrent enrollment in Chemistry 201; two years high school algebra or concurrent enrollment in Mathematics 108.

**201-1 General Chemistry Laboratory I.** Synthesis and exploration of the properties of compounds and elements. One three-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in Chemistry 200. If Chemistry 200 is dropped, the laboratory course must also be dropped.

**210-3 General and Inorganic Chemistry.** Second semester chemistry for science, engineering and pre-professional majors. Rates of reaction, chemical equilibrium, acid-base equilibria, pH, electrochemistry, transition metals, properties of inorganic compounds, nuclear chemistry and organic chemistry. Three lectures per week. Prerequisite: 200, 201; completion of or concurrent enrollment in 211.

**211-1 General Chemistry Laboratory II.** Continued synthesis and exploration of properties of compounds and elements. Prerequisite: 200, 201; completion of or concurrent enrollment in 210. If 210 is dropped, 211 must also be dropped.

**230-4 Quantitative Analysis.** A one-semester course in analytical chemistry that emphasizes quantitative analyses based on wet-chemical methods and modern instrumentation. Topics include statistics, sampling strategy, gravimetry, multiple chemical equilibria, titrimetry, potentiometry, voltammetry, absorbency and fluorescence spectroscopies, gas and liquid chromatographies, and capillary electrophoresis. Two lectures and two laboratories per week. Ability to solve simple algebraic equations and familiarity with logarithms essential. Prerequisite: 210 and 211.

**340-3 Organic Chemistry I.** Introduction to the chemistry of carbon-based compounds. Intended to introduce students to functional groups; their structure properties and reactivity. Three lectures per week. Prerequisite: 200.

**341-2 Organic Chemistry Laboratory I.** An introductory lab course based upon a problem-solving approach to organic chemistry. Students will identify and derivative unknowns using modern organic techniques. One one-hour lecture and one four-hour laboratory per week. Prerequisite: 200, 201 and 340 or taken concurrently.

**342-3 Organic Chemistry II.** A second semester course in organic chemistry emphasizing synthetic and mechanistic aspects of functional groups. Three lectures per week. Prerequisite: 340, concurrent enrollment in 343 recommended.

**343-2 Organic Chemistry Laboratory II.** A second organic laboratory course based upon a synthetic approach. Students will learn modern synthetic organic chemistry techniques including modern spectroscopic techniques. One one-hour lecture and one four-hour laboratory per week. Prerequisite: 340, 341 and 342 or taken concurrently.

**350-3 to 4 Introductory to Biological Chemistry.** Survey of basis elements of biochemistry. Three lectures per week for three hours credit. Enrollment for four hours credit includes a laboratory lecture and one three-hour laboratory. The laboratory lecture is offered on alternate weeks with the laboratory session. Prerequisite: 340, 341.

**396-1 to 6 (1-2 per semester) Chemical Problems.** Chemical investigations under the direction and supervision of a faculty member culminating in a written report. Student may take 1 - 2 hours per semester and a total of 6 hours. Prerequisite: consent of instructor and one semester of chemistry laboratory.

**411-3 Intermediate Inorganic Chemistry.** Fundamentals of inorganic chemistry, covering bonding and structure, coordination compounds and the chemistry of some familiar and less familiar elements. Three lectures per week. Prerequisite: 456 or 462 or concurrent enrollment.

**431-3 Environmental Chemistry.** Chemical principles applied to the environment and environmental problems. Chemical kinetics, thermodynamic, and equilibrium concepts as they relate to the atmosphere, water, and soil will be discussed to include current problems of pollutants, pollutant evaluation, and pollutant remediation. Discussion of methods for the chemical analysis of environmental samples will also be included. Prerequisite: 230 and 340.

**434-2 or 4 Instrumental Analytical Chemistry.** Theory and practice of instrumental measurements, including emission and absorption spectroscopic, electroanalytical, and chromatographic methods, and an introduction to applied electronics. Two lectures and two three-hour laboratories per week for four credits. Enrollment for two credit hours is restricted to graduate students in the Department of Chemistry and Biochemistry who are advised to take instrumental analysis. Prerequisite: one semester of physical chemistry or concurrent enrollment in 461 or 462; 230 or consent of instructor.

**439-3 Forensic Chemistry.** A one-semester course in forensic methods of analysis offered in conjunction with the Illinois State Police Forensic Science Laboratory. Topics include identification and quantitation by gas chromatography (GC), GC/mass spectrometry (GC/MS) of drugs and arson residues, selected ion monitoring by GC/MS, Fourier-transform infrared spectroscopy (FTIR) and GC/FTIR of drugs, scanning electron microscopy, energy dispersive X-Ray analysis of paints and metals, X-Ray diffraction of inorganics, and UV spectroscopy. One lecture by SIUC faculty and two labs directed by forensic scientists at the Forensic Science Laboratory per week. Those enrolled must submit to background checks due to presence of sensitive materials. Enrollment limited to 3-4 students per class; students with high academic standing considered. Prerequisite: 434 and instructor consent.

**444-3 Intermediate Organic Chemistry.** A transitional course between introductory and graduate level chemistry. The chemistry of carbon compounds based upon a mechanistic approach will be discussed. Three lectures per week. Prerequisite: 340, 342 or one year of organic chemistry.

**451-6 (3,3) Biochemistry.** (Same as Microbiology 451.) (a) Chemistry and function of amino acids, proteins, and enzymes; enzyme kinetics; chemistry, function and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a,b sequence. Prerequisite: one year of organic chemistry.

**455-4 Biochemistry Laboratory.** Modern biochemical laboratory techniques for isolation, purification, and characterization of constituents of living cells and for investigations of pathways, kinetics, energetics, and regulatory mechanisms related to metabolism and enzymatic activity. One lecture and eight hours of laboratory per week. Prerequisite: 451a and 230 or concurrent enrollment.

**456-3 Biophysical Chemistry.** A one semester course in biophysical chemistry intended for biochemists and molecular biologists. Emphasis will be on solution thermodynamics, kinetics, and spectroscopy applied to biological systems. Prerequisite: 340 and 342, 451a or concurrent enrollment, Mathematics 141 or 150.

**461-3 Quantum Mechanics and Spectroscopy.** An introduction to quantum mechanics and spectroscopy. Prerequisite: Mathematics 221 or 305 or concurrent enrollment.

**462-3 Classical Physical Chemistry.** An introduction to chemical, statistical thermodynamics and kinetics. Prerequisite: Mathematics 150; Mathematics 250 recommended.

**466-2 (1,1) Physical Chemistry Laboratory.** A two semester laboratory sequence. One three hour laboratory per week per semester. (a) Experiments relating to topics covered in 462. Prerequisite: 462 or 456 or concurrent enrollment. (b) Experiments relating to topics covered in 461. Prerequisite: 461 or concurrent enrollment.

**468-3 Application of Symmetry to Chemistry.** The concepts of symmetry elements, groups and character tables will be taught. Symmetry will be applied to molecules in order to simplify and characterize their wave functions and vibrational frequencies. Prerequisite: 461 or consent of instructor.

**489-1 to 3 Special Topics in Chemistry.** Prerequisite: consent of instructor and of chair.

**496-1 to 8 Undergraduate Research — Honors.** Introduction to independent research under the direction of a faculty member culminating in a written report. Not for graduate credit. Prerequisite: a 3.0 grade point aver-

age, five semesters of chemistry laboratory including one semester of physical chemistry, consent of instructor and department chair.

## Chinese (CHIN)

**120-8 (4,4) Elementary Chinese.** Standard (Mandarin) Chinese. The basic skills of listening, speaking, reading, and writing. No previous knowledge of Chinese required. Must be taken in a,b sequence.

**201-8 (4,4) Intermediate Chinese.** Standard (Mandarin) Chinese. Development of listening, speaking, reading, and writing on the intermediate level. Must be taken in a,b sequence. Prerequisite: 120b or equivalent.

**305-2 to 4 (2,2) Individualized Language Study.** Designed to improve language skills beyond the intermediate level. Tailored to the particular needs of students. Prerequisite: 201b or equivalent.

**320-8 (4,4) Advanced Chinese.** Standard (Mandarin) Chinese. Further development of listening, speaking, reading, and writing skills on the advanced level. Emphasis on developing proficiency in reading modern Chinese through cultural readings. Must be taken in a,b sequence. Prerequisite: 201b or equivalent.

**370-3 Contemporary China.** A study of customs, habits, beliefs and traditions operating in China today. Taught in English. Prerequisite: Foreign Languages and Literatures 313i or consent of instructor.

**390-1 to 6 Independent Study in Chinese.** Directed individual study of some question, author, or theme of significance in the field of Chinese literature, language, or culture. Prerequisite: consent of instructor.

**410-3 The Linguistic Structure of Chinese.** (Same as Linguistics 411.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or Linguistics 401.

**435-3 Business Chinese.** An overview of China's business through reading in Chinese dealing with the major aspects of China's foreign trade ranging from broad principles and policies to concrete details of operation and procedure. Enhancement of conversational skills for business contexts. Prerequisite: 320 or equivalent.

**490-1 to 6 Advanced Independent Study in Chinese.** Directed individual study of some question, author, or theme of significance in the field of Chinese literature, language, or culture. Prerequisite: consent of instructor.

## Cinema and Photography (CP)

**101-3 History and Analysis of Cinema.** (University Core Curriculum) An introduction to world cinema. To include film as entertainment, art, personal expression, education and cultural/ideological expression. Modes of film including narrative, documentary, animation and experimental are studied.

**220-2 Introduction to Photography.** An introduction to the basic technical information and black and white laboratory processes. The emphasis is upon an exploration of the technical process rather than photographic vision. Students will have hands-on experience in the labs. Students will supply their own film and paper. Laboratory fee: \$15.

**225-3 Photography for Design Majors.** An introduction to the principles of photographic language and techniques specifically tailored to the need of the art and design student. Will cover the basic photographic skills as well as specific techniques of interest to art and design students. Students will supply their own camera, materials and some chemicals. Laboratory fee: \$15.

**257-1 to 6 Work Experience.** Used to recognize concurrent work experience related to the student's educational objective. One to six hours of credit may be applied toward graduation requirements following departmental evaluation and approval. Mandatory Pass/Fail. Prerequisite: consent of the department.

**310-3 History of Still Photography.** A survey of the important images, ideas, people, and processes that make up the history of still photography. Covers from 1839 to the mid-twentieth century. Students purchase texts.

**311-3 Contemporary Photography.** A survey of contemporary photographers, their concepts, and the influences of their work upon culture. Covers from mid-twentieth century to the present. Students may be required to purchase texts. Completion of 310 may be helpful, but is not required.

**320-4 Basic Photography.** An introduction to black and white still photography; its materials, processes and vision. Designed to give technical knowledge and to explore visual perception. Students must have fully adjustable camera, may purchase texts, and will supply own materials and some chemicals. Laboratory fee: \$15. Prerequisite: Non-majors by consent of department.

**322-4 Color Photography.** Introduction to color still photography, its materials, processes, and vision. Students purchase materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 320 or equivalent and consent of department.

**349-3 The Cinema.** The cinema as a communicative and expressive media. Study of film types illustrated by screenings of selected films. Screening fee: \$10.

**355-4 Film Production I.** Basic techniques for filmmaking. Production of Super 8 motion pictures. Students purchase texts, film stock and processing. Requires access to Super 8 camera and cassette recorder. Non-majors by consent of department. Equipment usage fee: \$10.

**356-4 Film Production II.** Techniques of 16mm double system sound film production. Production of films by individuals or crews. Students purchase texts, film stock, processing, sound materials and laboratory services. Equipment usage fee: \$50. Prerequisite: 355 and consent of department.

**360-3 Film Analysis.** The relationships among structure, style and meaning in all types of films. Screening fee: \$10. Students purchase texts.

**368-3 Introduction to Cinema Theory.** A survey of cinema theories propounded by figures such as Munsterberg, Arnheim, Eisenstein, Bazin, Kracauer, and important modern theorists. The course covers the wide

range of major attempts to derive the essence of cinema. Films that exemplify or raise theoretical issues are screened. Screening fee: \$10. Students purchase texts. Prerequisite: 360.

**401-3 Large Format Photography.** Introduction to the aesthetics and techniques of large format (sheet film cameras) photography with emphasis on personal expression and commercial/professional applications. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 320 and consent of department.

**402-3 Sensitometry.** An advanced course dealing with the technical and visual applications of the black and white process. Explores the zone system, density parameter system, and practical chemistry. Also deals with the visual application of these systems. Laboratory fee: \$15. Prerequisite: 320 and consent of department.

**404-3 Introduction to the Studio.** Problems and possibilities in the aesthetics and techniques of studio photography: lighting, visual perception, environment, history, theory. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 320 and consent of department.

**405-3 Applied Photography I.** Theory and practice of contemporary commercial/industrial photography. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

**406-3 Applied Photography II.** Practice and ideas of advertising/illustrative and editorial photography. Students purchase materials and may purchase props, texts, and equipment. Laboratory fee: \$15. Prerequisite: 405 and consent of department.

**407-3 Photography and the Mass Media.** Exploration of the use, context, and meaning of photography in the mass media. The photograph as a communications tool will be evaluated along with the role and responsibility of the photojournalist. Students will apply theoretical concepts through group and individual assignments. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 320 and consent of department.

**408-3 Documentary Photography: Method, Format, and Distribution.** Exploration of the techniques, history, and contemporary context of documentary photography. Audience, publication, and distribution of documentary projects will be addressed. Each student will produce an in-depth documentary photographic project. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 322 and consent of department.

**420-3 Experimental Camera Techniques.** Experimental approaches to the creation of photographic images in the camera. Students provide materials and may be required to purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

**421-3 Experimental Darkroom Techniques.** Experimental darkroom manipulations of the straight camera image. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 or consent of department.

**422-3 Advanced Color Photography.** Advanced study and production of color photographs with emphasis on experimental techniques using Kwik Proof, and other forms of photo-mechanical reproduction. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

**425-3 to 9 (3,3,3) Studio Workshop.** An intensive workshop focusing on current trends in photography. Topics have included landscape photography, architectural photography, environmental portraiture, and imagemaking, among others. Students provide photographic materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

**426-3 Non-Silver Photography.** Intensive introduction to hand-applied emulsions of cyanotype, Vandyke brownprinting, gum printing, etc. Students purchase materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

**449-3 Survey of Film History.** Intensive study of major historical periods of the cinema, including technological developments, national cinema movements, sociological and aesthetic determinations, and concerns of film historiography. Prior completion of 349 and 360 is strongly recommended for cinema and photography majors. Screening fee: \$10.

**452-3 Film Planning and Scripting.** The screenplay as a basis for production. Practice in preparing film plans, treatments, storyboards, and scripts. Examination of the film industry. Prerequisite: 355, junior standing or consent of department.

**454-3 Animated Film Production.** Practical course for visual expression exploring various animation techniques: developmental, filmographic, rear lit, cut out, line, cel, etc. Students purchase texts, art supplies, film materials, and processing. Equipment usage fee \$10. Prerequisite: 355 and/or consent of department.

**455-3 Film Production III.** Advanced production by individuals or crews of 16mm sound films from pre-production through shooting. Intensive study of budgeting, production planning, scripting, casting, location and studio shooting techniques, equipment rental, lighting and double system sound filming. Students provide film stock, processing and sound materials. Equipment usage fee \$50. Prerequisite: 356 and consent of department.

**456-3 Film-Production IV.** Continuation of 455 through post production to a first answer print. Intensive study of editing, sound mixing, laboratory procedures and distribution. Students provide editing and sound materials and are responsible for laboratory costs. Equipment usage fee: \$50. Prerequisite: 455 and consent of department.

**462-3 History of the Documentary Film.** Study of the development of the non-fiction film with emphasis on the documentary. Screening fee: \$10. Students purchase texts.

**463-3 History of the Experimental Film.** Study of experimentation in cinema from the turn of the century to contemporary avant-garde films. Student purchase texts. Screening fee: \$10.

**466-3 to 6 (3,3) Film Styles and Genres.** Intensive study of specific body of films grouped by similarities in style, genre, period and cultural origin. Emphasis of historical, theoretical, and critical issues. Topics vary each

semester. Sample topics: the Western; the French new wave; Third World cinema; Surrealism in film. May be taken two times if topic differs. Screening fee: \$10.

**467-3 to 6 (3,3) Film Authors.** Intensive study of the work of one or more film authors (directors, screenwriters, etc.). Emphasis is on historical, theoretical, and critical issues. Topics vary each semester. Sample topics: the films of Alfred Hitchcock, the films of Jean Renoir. May be taken two times if topic differs. Screening fee: \$10.

**470-3 to 9 (3,3,3) Advanced Topics.** An advanced course concentrating on special topics in cinema and photography. (a) Advanced studies in cinema history/theory. Topics offered have been the information film, feminist and ideological criticism of film. (b) Advanced topics in film production. Topics offered include motion picture sound workshop, narrative film workshop. (c) Advanced studies in photography. Topics offered have included publication and presentation, the figure, multi-image, fantasy photography among others. (d) Advanced studies in interdisciplinary topics. Not more than six semester hours may be counted for graduate credit. Screening fee for (a): \$10. Equipment fee for (b): \$50. Laboratory fee for (c): \$15. Prerequisite: consent of department.

**471-3 to 6 (3,3) Problems in Creative Production: Photography.** Conceptual exercises involving different aspects of photographic production. Emphasis is placed upon individual creative response to assignments. Topics vary; may be repeated for a total of 6 credits. Students provide photographic materials and chemicals and may purchase texts. Prerequisite: 322 and consent of department.

**472-3 to 6 (3,3) Problems in Creative Production: Cinema.** An intensive examination, through readings, screenings, and filmmaking, of a cinematic genre, style, movement, or technical challenge. Theory is combined with practice, resulting in a group film production. Previous problems studied have been the pseudo-documentary, 35mm filmmaking, and film as performance. Topics may vary; may be repeated for a total of 6 credits. Equipment usage fee: \$50. Prerequisite: consent of department.

**491-1 to 9 Individual Study in Cinema or Photography.** Research in history, theory or aesthetics. Usually taken 3, 3, 3. Not more than 9 semester hours of 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department.

**492-1 to 3 Practicum.** Practical experience in the presentation of photographic theory and procedures. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

**495-1 to 12 Internship.** Credit for internship with professional film or photographic units. Not more than 9 semester hours of 491, 495 and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

**497A-1 to 9 Projects in Cinema.** Individual or crew projects in motion picture production. Not more than 9 semester hours of 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Equipment usage fee: \$50. Prerequisite: consent of department.

**497B-1 to 9 Projects in Photography.** Individual projects in still photography. Not more than 9 semester hours of 491, 495 and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Laboratory fee: \$15. Prerequisite: consent of department.

**498-1 Senior Portfolio.** Preparation of senior portfolio project. Required of all photography students. To be taken during last year in residence. Mandatory pass/fail. Not for graduate credit.

**499A-4 Senior Thesis-Production.** Preparation of a film under the supervision of a cinema and photography faculty member. Normally taken during last term in residence, the senior thesis is evaluated by the departmental faculty. The department will retain one copy of all theses. Students interested in producing a film should have completed 355, 356, 368, 452, and nine hours of cinema history courses. Not for graduate credit. Equipment usage fee: \$50. Mandatory Pass/Fail. Prerequisite: consent of department.

**499B-4 Senior Thesis-Studies.** Preparation of a screenplay, critical or research paper under the supervision of a cinema and photography faculty member. Normally taken during last term in residence, the senior thesis is evaluated by the departmental faculty. The department will retain one copy of all theses. Not for graduate credit. Mandatory Pass/Fail. Prerequisite: consent of department.

## Civil Engineering (CE)

Safety glasses, a hand-held scientific calculator, and textbooks are required of all civil engineering students.

**101-2 Introduction to Civil Engineering.** Introduction to the role of engineers in society. Discussion of the various aspects of the civil engineering profession. Introduced to problem solving and the design process as it relates to engineering. Introduction to statistics. Individual and team design projects. Instruction on how to use computers in engineering, in particular DOS and WINDOWS operating systems, word processing, spreadsheets, equation solvers, using the Internet (e-mail, FTP, telnet, World Wide Web), and the UNIX operating system.

**263-3 Basic Surveying.** An introductory course designed to introduce the principles, theory and equipment of surveying. Development of survey field practices on the earth's surface and subsurface and related computations. Prerequisite: Engineering 102 and Mathematics 111.

**310-3 Introduction to Environmental Engineering.** Basic engineering aspects of water, land and air pollution and control. Problems, sources and effects of pollution. Major state and federal regulations relating to environmental issues. Laboratory supply fee \$15. Prerequisite: Chemistry 210 and concurrent enrollment in or completion of 102, 222a and Mathematics 251.

**320-3 Soil Mechanics.** Physical and mechanical properties of soils, flow through soils, effective stresses, consolidation, shear strength, soil improvement, lateral earth pressures. Prerequisite: 101 or concurrent enrollment, Engineering 222a and 311.

**330-3 Civil Engineering Materials.** Introduction of cements and aggregates; production and evaluation of concrete structures; mechanical properties of steels and timber; mixing and evaluation of pavement materials; testing of asphalt and masonry. Prerequisite: 101 or concurrent enrollment and Engineering 311.

**331-3 Transportation Engineering.** Introduction to geometric design, earth work, drainage and traffic. Basic design principles for each area and their application to typical problems. Prerequisite: 330 or equivalent, or concurrent enrollment in 330.

**340-3 Structures.** Loads. Types of structures. Structural materials. Safety. Analysis of statically determinate beams, trusses, and frames under static loads. Influence lines. Moving loads. Cables. Arches. Space trusses. Deflection of beams, trusses, and frames. Moment distribution for beams. Prerequisite: 101 or concurrent enrollment and Engineering 311.

**361-3 Civil Engineering Surveying.** Surveying process and theory for Civil Engineering projects, topographic surveys, precise surveys, easements and related computations. Laboratory. Prerequisite: 263.

**362-3 Land Surveying.** Survey process and theory of land surveying including development of the United States Rectangular System, boundary and retracement surveys, basic survey law, legal descriptions, title search, field monument search and related computations. Laboratory. Prerequisite: 263.

**363-3 Control/Construction Surveying.** The surveying processes and theory of control surveying, geodesy, global positioning systems, geographic information systems, all types of construction surveying and related computations. Laboratory. Prerequisite: 263.

**392-1 to 6 Civil Engineering Cooperative Education.** Supervised work experience in industry, government or professional organization. Students work with on-site supervisor and faculty adviser. Reports are required from the student and the employer. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: sophomore standing.

**410-3 Solid and Hazardous Waste Engineering.** Engineering aspects of solid and hazardous waste prevention, treatment, recycling and disposal. Design of recycling programs, solid and hazardous waste treatment and disposal facilities. State and federal regulations. Problems, sources, and effects of solid and hazardous waste. Design projects required. Prerequisite: 310.

**411-3 Physical and Chemical Treatment in Environmental Engineering.** Physical and chemical treatment as applied to water and wastewater. Topics include coagulation, flocculation, sedimentation, adsorption, ion exchange, reverse osmosis and oxidation in dilute aqueous systems. Design of systems. Laboratory. Prerequisite: 310.

**415-3 Wastewater Treatment.** A study of the design equations used in physical, chemical, and biological treatment processes and comparison to design by state standards. Basics of bacteria and their metabolic processes in the degradation of organic wastes. Treatment and disposal of sludges produced in wastewater treatment. Advanced waste treatment processes and reuse of wastewater. Prerequisite: 310 and Engineering 313 and 351.

**417-1 Water Quality Laboratory.** Measurements of water quality parameters performed. Use of modern instrumental techniques demonstrated. Safety glasses are required. Laboratory supply fee \$15. Prerequisite: 310.

**419-3 Water Supply and Treatment.** Water quality requirements, water sources, water treatment to include coagulation and flocculation, mixing and sedimentation basins, filtration, disinfection processes, and water softening. Consideration of toxic elements in water (sources, problems and treatments). Prerequisite: 310 and Engineering 313.

**421-3 Foundation Design.** Application of soil mechanics to the design of the foundations of structures; bearing capacity and settlement analysis; design of shallow footings; stability of earth slopes; design of retaining walls, design of pile foundations, coffer dams. Prerequisite: 320.

**422-3 Environmental Geotechnology.** Geotechnical aspects of land disposal of solid waste and remediation, solute transport in saturated media, diffusion in soil, hydraulic conductivity and its measurement in laboratory and field, soil-water interactions, compaction, construction quality control of liners, flexible membrane liners used in disposal facilities, slope stability/settlement considerations, cap design using the HELP model. Prerequisite: 320.

**431-3 Pavement Design.** Design of highway and airport systems: subgrades, subbases, and bases; soil stabilization; stresses in pavements; design of flexible and rigid pavements; cost analysis and pavement selection; and pavement evaluation and rehabilitation. Prerequisite: 320 and 330.

**440-3 Statically Indeterminate Structures.** Analysis of trusses, beams, and frames. Approximate methods. Method of consistent deformations. Three-moment theorem. Slope deflection. Moment distribution. Column analogy. Plastic analysis. Matrix methods. Prerequisite: 340.

**441-3 Matrix Methods of Structural Analysis.** Flexibility method and stiffness method applied to framed structures. Introduction to finite elements. Prerequisite: 340 and Engineering 222.

**442-3 Structural Steel Design.** An introduction to structural steel design with emphasis on buildings. Composite design. Plate girders. Rigid frames. Design project and report required. Prerequisite: 340.

**444-3 Reinforced Concrete Design.** Behavior and strength design of reinforced concrete beams, slabs, compression members, and footings. Prerequisite: 340.

**445-3 Reinforced Masonry Design.** Materials. Loads. Walls. Columns and pilasters. Beams. Lateral-load resisting elements. Connections and joints. High-rise structures. Environmental features. Quality control. Design project and report required. Prerequisite: 444.

**446-3 Prestressed Concrete Design.** Fundamental concepts of analysis and design. Materials. Flexure, shear, and torsions. Deflections. Prestress losses. Composite beams. Indeterminate structures. Slabs. Bridges. Prerequisite: 444.

**451-3 Introduction to Finite Elements in Engineering Applications.** Introduction to finite element techniques and computer methods in finite element applications. Theory and structure of algorithms for one-dimensional and multi-dimensional problems. Introduction to boundary element methods. Applications in solid mechanics, structural analysis, groundwater flow, and heat transfer. Prerequisite: Engineering 351.

**461-3 Legal Aspects of Surveying.** Topics covered include common and statute law; unwritten rights in land and their relationship to land surveys; survey standards; restoration of lost corners; multiple corners; rules of evidence and rights, duties and liability of the surveyor. Not for graduate credit. Prerequisite: 362.

**462-3 Survey Design and Land Development.** Subdivision and land development principles, theory, methods and procedures including laws relating to subdivision and land development. Scope will include rural and urban subdivisions, industrial parks and major recreational developments. Laboratory. Not for graduate credit. Prerequisite: 362.

**463-3 Field Survey Problems.** Perform extensive field projects in the areas of engineering, hydrographic, topographic, land and control surveying utilizing state-of-the-art equipment. To be held at Crab Orchard National Wildlife Refuge. Must be taken concurrently with 464. Enrollment limited to 12 students. Not for graduate credit. Prerequisite: 361 or 362 or 363.

**464-3 Field Survey Planning and Computation.** Planning, organization, computations and drafting of field survey projects including the needed mapping utilizing calculators, computers, COGO and CAD. This course must be taken concurrently with 463. Enrollment limited to 12 students. Not for graduate credit. Prerequisite: 361 or 362 or 363.

**465-3 Photogrammetry.** Process and theory of applications of Photogrammetry with respect to engineering and surveying including flight planning, mathematical principles of aerial photographs, ground control methods, control extensions, stereoscopy and parallax, basic instrumentation and remote sensing with related computations. Laboratory. Not for graduate credit. Prerequisite: 263.

**471-3 Modeling Ground Water Flow and Pollution.** Mathematical and numerical models for the analysis of groundwater flow and the transport of pollution by moving groundwater. Finite difference and finite element methods. Transport by advection and dispersion. Applications to the design of production wells and remediation of polluted areas. Prerequisite: 474 or consent of instructor.

**472-3 Intermediate Fluid Mechanics.** A detailed derivation of the Navier-Stokes equations is presented. A working knowledge of these equations is obtained by analyzing several potential flows and some simple viscous flows. Next, the Reynolds equations are derived followed by an introduction to turbulence. Contaminant transport is covered by introducing the concepts of diffusion and dispersion. Finally, the foundations of computational fluid dynamics are presented culminating in the numerical solution of several simple viscous flows. Prerequisite: Engineering 313 and Mathematics 305.

**473-3 Hydrologic Analysis and Design.** Hydrological cycle, Stream-flow analysis, Hydrographs generations, Frequency analysis, Flood routing, Watershed analysis, Urban hydrology, Flood plain analysis. Application of hydrology to the design of small dams, spillways, drainage systems. Prerequisite: Engineering 222, 313.

**474-3 Hydraulic Engineering Design.** Hydrostatics, flow in pipes, open channels and porous media metering devices. Includes two to three week projects involving identification, modeling, analysis and design of hydraulic engineering systems. Prerequisite: Engineering 313 and 351.

**492-1 to 4 Special Problems in Civil Engineering.** Selected engineering topics or problems in (a) structural engineering; (b) hydraulic engineering; (c) environmental engineering; (d) applied mechanics; (e) geotechnical engineering; (f) computational mechanics. Four hours maximum credit. Not for graduate credit. Prerequisite: consent of instructor.

**495-4 (1, 3.) Civil Engineering Design.** (a) Project development skills, feasibility and cost-benefit analysis, engineering ethics and professionalism. Formation of design teams. Selection of a project, preliminary design, task assignments, development of a design proposal. Written and oral presentations of the design proposal. Not for graduate credit. Prerequisite: completion of or concurrent enrollment in 320, 442, 444, 474, and either 410, 411, 415, or 419; Engineering 361. (b) A capstone design experience using a team approach for the preliminary and final design of a civil engineering project. Documentation of all stages of the design project. Written and oral presentation of the final design. Not for graduate credit. Prerequisite: 495a.

## Classics (CLAS)

**100-2 Greek and Latin in English.** Vocabulary building through roots, prefixes, and suffixes. Recommended for students interested in the origin of English words. No knowledge of Greek or Latin is required.

**101-3 Scientific Terminology: Greek and Latin Derivatives.** Analysis of common vocabulary and of basic scientific terminology into its component prefixes, roots, and suffixes. The course concentrates on methods for recognizing and understanding polysyllabic technical terms. No prerequisite required. No knowledge of Greek or Latin is required.

**130-8 (4, 4) Elementary Classical Greek.** The object of this course is to give students a firm foundation in the grammar, vocabulary, and syntax of Ancient Greek in order to enable them to progress to the reading of the Greek classics and New Testament. Must be taken in a,b sequence. No previous knowledge of Greek required.

**133-8 (4,4) Elementary Latin.** The object of this course is to give students a firm foundation in the grammar, vocabulary, and syntax of Latin in order to enable them to progress to the reading of the Latin classics. No previous knowledge of Latin required. Must be taken in a,b sequence.

**201-6 (3,3) Intermediate Greek.** Reading and interpretation of selected works by authors such as Xenophon, Plato, Homer, and the New Testament writers. Must be taken in a,b sequence. Prerequisite: (a) 130b with a grade of C or better; (b) 201a.

**202-6 (3,3) Intermediate Latin.** Reading from authors such as Livy, Caesar, and Cicero. Must be taken in a,b sequence. Prerequisite: 133b with a grade of C or better.

**225-3 Athletics, Sports, and Games in the Ancient World.** The Olympics and other great games of ancient Greece; games and sporting events of ancient Rome; differences between ancient and modern attitudes about sport and sports. No knowledge of Greek or Latin is required.

**270-3 Greek Civilization.** An introduction to the life and culture of ancient Greece. Greek contributions to western civilization in literature, art, history, and philosophy. No knowledge of Greek or Latin is required.

**271-3 Roman Civilization.** An introduction to the life and culture of ancient Rome. Rome's function in assimilating, transforming, and passing on the Greek literary and intellectual achievements. Rome's own contributions in the political, social, and cultural spheres. No knowledge of Greek or Latin is required.

**310-3 Ancient Art and Archaeology.** Survey of the physical remains of ancient civilizations of the Aegean and Mediterranean areas. Special attention to the artistic and architectural achievements of the Greeks and Romans. Occasionally offered overseas. No knowledge of Greek or Latin is required.

**320-3 Latin Composition.** The object of this course is to understand and appreciate the structure and style of Latin through composition. Prerequisite: 202a and b, each with a grade of C or better.

**332-3 Classical Drama.** Reading several tragedies and comedies of the Greeks and Romans both with a view to enjoying them as timeless works of art and with a view to understanding how they grew out of the societies of classical Greece and Rome. No knowledge of Greek or Latin is required. This course satisfies the CoLA Writing Across the Curriculum requirement.

**380-2 to 4 Greek Prose Authors in Greek.** Reading of Greek prose. Selections from the historians (Herodotus, Thucydides), orators (Lysias, Demosthenes, et al.) philosophers (Plato, Aristotle), or epistles of the New Testament. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 201a and b, each with a grade of C or better.

**381-3 Homeric Epic in Greek.** Reading and interpretation of selections from the *Iliad* or the *Odyssey*. Homeric grammar and metrics, epic diction, the conventions of oral poetry. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 201a and b, each with a grade of C or better.

**382-3 Greek Drama in Greek.** Reading and interpretation of selections from the works of the classical Greek dramatists: Aeschylus, Sophocles, Euripides, and Aristophanes. Stage conventions of the Attic theater. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 201a and b, each with a grade of C or better.

**383-3 Early Greek Lyric in Greek.** Reading and interpretation of poets of the Archaic Age such as Alcaeus, Sappho, and Pindar. Socio-political background, dialects, meters. Prerequisite: 201a and b, each with a grade of C or better.

**384-3 Roman Philosophy in Latin.** Selections from Cicero, Lucretius, and Seneca the Younger. Recommended for students with double majors in philosophy and classics. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

**385-3 Medieval Latin.** Selected readings from Latin authors of the Middle Ages. Prerequisite: 202a and b, each with a grade of C or better.

**386-3 Roman Historians in Latin.** Selections from Caesar, Sallust, Livy, Tacitus, and Suetonius. Recommended for students with double majors in history and classics. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

**387-3 Vergil in Latin.** Selections from Vergil's major works, the *Aeneid*, *Eclogues*, and *Georgics*. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

**388-3 Latin as a Research Tool.** Intensive study of Latin as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

**389-3 Myth, Fable, and Story in Latin.** Selections from works such as the *Metamorphoses* of Ovid, the *Fables* of Phaedrus, and *Satyricon* of Petronius. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

**390-3 Roman Comedy in Latin.** Reading and interpretation of selections from play(s) by Plautus and Terence. Prerequisite: 202a and b, each with a grade of C or better.

**391-3 Lyric and Satire in Latin.** Reading and interpretation of works by poets such as Catullus, Horace, Juvenal, and Persius. Study of either the lyric or satiric genre. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

**396-3 Honors in Classics.** Readings of classical literature, in Greek or Latin or English translation, for junior or senior majors. The course requires preparation of an honors paper or comparable project, and satisfies one of the requirements for graduation with honors in classics. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 3.75 grade average in classics courses and consent of classics faculty.

**401-3 to 6 (3 per topic) Classical Literature in Translation.** Reading and analysis of selected Greek and Latin authors, genres and themes. Students taking the course for graduate credit will do a critical study of one aspect. No knowledge of Greek or Latin is required.

**415-1 to 9 (1 to 3 per topic) Readings from Greek Authors in Greek.** Reading and interpretation of works of Greek literature at an advanced level. Students taking the course for graduate credit will do a critical study of one aspect. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: two semesters of 300-level Greek or consent of instructor.

**416-1 to 9 (1 to 3 per topic) Readings from Latin Authors in Latin.** Reading and interpretation of works of Latin literature at an advanced level. Students taking the course for graduate credit will do a critical study of one aspect. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: two semesters of 300-level Latin or consent of instructor.

**488-3 Advanced Latin as a Research Tool.** Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor. With consent of student's own department, and with a grade of B or A, satisfies graduate program requirements for foreign languages as a research tool. Prerequisite: 388 or one year of Latin or equivalent.

**496-2 to 8 Independent Study in Classics.** Guided research on problems in classics. The academic work may be done on campus or in conjunction with approved off-campus activities. Not for graduate credit. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: consent of instructor.

## Commercial Graphics (CG)

**101-3 Fundamentals of Drawing for Commercial Graphics – Design.** An introduction to the materials and techniques utilized in graphic design and illustration. The basic elements of art and design will be identified and incorporated in a series of exercises designed to better acquaint students with the concepts, processes, and skills needed by professionals employed in the commercial graphics field.

**109-2 Basic Photography for Commercial Graphics—Design.** An introduction to the fundamentals of photography directed toward the needs of graphic design. Through a basic understanding of film exposure and development processes, its use as a graphic medium will be attained. By creative studio and laboratory assignments an insight into the possibilities and limitations of the photographic process will be gained. The cost of film, processing, and printing will be borne by the student. Laboratory fee: \$10. Lecture and laboratory.

**110a-3 Survey of Graphic Design to the 19th Century.** A survey of the influential images, ideas, movements, graphic artists and illustrators that have contributed to the evolution and history of graphic design from pre-historic origins through the 19th century. Lecture.

**110b-3 Survey of Graphic Design—20th Century.** A survey of the influential images, ideas, movements, graphic artists and illustrators that have contributed to the evolution and history of graphic design in the 20th Century (1900 to present). Lecture.

**120-4 Artistic Anatomy and Color Perception I.** Students will demonstrate an ability to understand and use pigmental and light ray color theory and practical application. Students will also demonstrate a knowledge of the bones and muscles of the human anatomy by way of examination and further demonstrate their comprehension and talent by way of ability to design, organize and structure through compositional arrangement. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: concurrent enrollment in 122 and 124.

**122-4 Technical Drawing for Graphics.** Students will demonstrate an ability to understand and utilize the proper point of perspective in illustration and to use the T-square, triangle, and drawing instruments in precisely executing geometric forms, mechanical, and industrial illustration. In addition, students will demonstrate an ability to render objects on scratchboard: the utilization of zipatone patterns and the proper use of the ruling pen to accurately execute ruled business forms. Lecture and laboratory. Prerequisite: concurrent enrollment in 120 and 124.

**124-4 Graphic Layout and Typography I.** Students will demonstrate an ability to use the basic principles of layout, how to do thumbnails, roughs, and clear accurate comprehensives. They will also demonstrate an understanding of basic lettering styles and techniques with chisel point pencil. They will demonstrate an ability to understand the history and practical uses of typography in advertising. Lecture and laboratory. Concurrent enrollment in 120 and 122.

**126-2 Fundamentals of Drawing and Composition.** The student will demonstrate awareness of perspective, light and shade, color theory and application, and composition through basic drawing techniques. Non-majors only. Lecture and laboratory.

**128-2 Fundamentals of Graphic Processes.** The student will be made aware of the various principles and styles of layouts, letter forms and typography and prepare mechanicals to demonstrate a knowledge of the various printing methods. The student must supply all materials used. Lecture and laboratory.

**130-4 Artistic Anatomy and Color Perception II.** The student will continue to demonstrate knowledge and artistic ability of the human anatomy in the development of advertising, illustration, fashion illustration, and by way of modification the development of the cartoon figure. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 120, 122 and concurrent enrollment in 132 and 134.

**132-4 Airbrush and Photo Retouching.** The student will demonstrate development of skills in the operation and techniques of airbrush rendering used for mechanical and illustrative purposes, and in addition, will retouch black and white photographs suitable for reproduction. Lecture and laboratory. Laboratory fee: \$10. Prerequisite: 120 and 122 and concurrent enrollment in 130 and 134.

**133-1 Copyfitting.** The student will demonstrate an ability through discussion and examination to properly solve copy fitting problems, specify how many lines a given manuscript or ad will set, how deep, how many pages in any given format, and to calculate the number of characters per pica and per line. Lecture. Prerequisite: concurrent enrollment in 134.

**134-4 Graphic Layout and Typography II.** The students will demonstrate their ability through discussion and examination to identify at least 14 different type faces on sight. In addition, they will demonstrate an ability to prepare clean, accurate, professional, quality work with offset lithography, letterpress, gravure, and silk

screen printing processes. Lecture and laboratory. Prerequisite: 122 and 124 and concurrent enrollment in 130, 132, and 133.

**150-2 Computer Applications for Commercial Graphics Design.** Introduction to microcomputer-based techniques. Includes a survey of history and current computer generated graphics. The student will become familiar with basic computer operation and keyboard, and develop business graphics visuals in full color to be produced on 35mm film. Programming not required. Incidental expenses will be borne by the student. Laboratory fee: \$10. Prerequisite: 120, 122 and 124 or permission of the instructor.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

**200-1 Artfair Exhibition.** Students will receive practical experience in the coordination and development of an art exhibition. They will participate in the development of announcements, mailers, cataloging, scheduling news releases, receiving of entries, security, and returning procedures. They will develop a systems flow chart for the effective and smooth operation of an exhibition including hands-on operation of exhibit construction and location. Laboratory.

**210-6 Advertising Graphics.** Students will demonstrate their ability in the preparation of professional assignments in lettering, logo, and letterhead design and the development of line art and cartoons for advertising illustration. In addition, students will have their work selected for production on various client-oriented projects. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 130, 132 and 134 and concurrent enrollment in 224.

**215-6 Dimensional Design.** Students will demonstrate their ability to research and analyze information to create a precise original concept and to visually render point-of-purchase displays, exhibits, signs, and package designs. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 210 and 224 and concurrent enrollment in 222.

**222-6 Graphic Design and Advertising Illustration.** Students will demonstrate their ability to prepare professionally acceptable assignments in poster panels and billboard designs, diecut tent cards, folder designs and multi-unit advertising, and advertising and cover illustration and client oriented projects for promotions and product. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 210, 224, and concurrent enrollment in 215.

**224-6 Publication Graphics.** Students will demonstrate their ability to create new and unusual concepts in advertising layout and design, folder design, color keys, marking up copy, and doing complete production art. Contemporary techniques in design and production will be emphasized. Students also have the opportunity to have work selected for production on various client-oriented projects. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 130, 132, 134, and concurrent enrollment in 210.

**230-1 Job Orientation Seminar.** Students will demonstrate a knowledge through discussion and examination of the operations of large and small agencies and studios including the various responsibilities of the people employed in them by class discussion and examination. Prospecting for employment, working conditions, prospects for advancement, how much an artist should charge for a piece of art, and the legal responsibilities of the artist-designer to the client-agency will be discussed. Students will conclude this course with the presentation of a portfolio demonstrating their ability to do professional quality work (at least 10 plates) and will have acquired the experience of being interviewed for an artist position. Lecture.

**240-3 to 12 Special Study.** A student with a special interest in a particular advertising art or graphic design area will do selected projects and research to develop additional professional skill. Requires approval of the program supervisor. Lecture and laboratory.

**299-1 to 16 Individual Study.** Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

**310-6 (3,3) Advanced Illustration.** Provides the student with the opportunity for advanced studies in methods and techniques used by recognized illustrators in the development of fiction and non-fiction story visualizations. (a) Visual development. To depict the climax or visually stimulating moment of the story through the use of thumbnails, roughs, value studies and to secure models, costumes, props, etc., as may be needed to photograph for rendering studies. Laboratory fee: \$10. (b) Renderings to be in any medium approved by the faculty sponsor. Number of projects to be determined by complexity of each. Student must have access to a 35mm SLR camera and tripod. Laboratory fee: \$10. Prerequisite: 120, 130, and successful completion of graphic design proficiency requirement, or consent of department chair.

**312-6 (3,3) Advanced Airbrush/Technical Illustration.** Provides the opportunity for advanced studies in methods and techniques used in airbrush and technical illustration. (a) Perspective or isometric projections rendered in ink, overlay films, or airbrush. Laboratory fee: \$15. (b) Airbrush rendering of commercial advertising or products. Students will be required to complete a specific number of projects that lead through the production to a finished commercial rendering, from concept to touch-up, based on the complexity of each as determined by the sponsoring faculty member. Must have own airbrush and portable compressor. Laboratory fee: \$15. Prerequisite: 122, 132, and successful completion of graphic design proficiency requirements, or consent of department chair.

**315-3 Advanced Dimensional Design for Commercial Graphics—Design.** Provides the opportunity to advance skills, development, and knowledge in the diverse field of dimensional graphics. The student will utilize dimensional design in the conceptualization and creation of (1) advanced dimensional design (package and exhibit design, point of purchase displays, etc.) and/or (2) paper engineering graphic design (pop-up advertisements, dimensional inserts, etc.). The student will be expected to successfully complete several chal-

lenging projects chosen from a field of eight. Laboratory fee: \$20. Prerequisite: 215, 224, and successful completion of the graphic design proficiency examination, or consent of department chair.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Course and credits to be individually arranged. Mandatory Pass/Fail.

**320-1 to 12 Commercial Graphics-Design Cooperative Education.** Each student will participate in a departmentally approved cooperative education program that includes formal instruction, training, and/or career-related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluations, cooperative agency student performance evaluations and student reports are required. Cooperative experiences may be in one of the following broad areas: (a) Print design; (b) Advertising design; (c) Print pre-press and production; (d) Print operations. Hours and credit to be individually arranged. Prerequisite: 120, 122, 124, 130, 132, 134.

**350-1 to 32 Technical Career Subjects.** In depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**360-3 Advanced Computer Applications.** Provides an opportunity for the advanced study of artistic and technical solutions for commercial graphic problems using the computer as a tool. Demystifies computer graphics for artists and designers and helps them use computer graphics in their work. Hands-on computer painting is explored as well as a library of type fonts. An understanding of commercial graphic print tools and color separation are studied and used. Animation and special effects may be created and saved on a disk. Lecture/laboratory. Expenses approximately \$25. No programming required. Prerequisite: 150 and associate degree in commercial graphics and successful completion of graphic design proficiency requirements, or consent of department chair.

## Communication Disorders and Sciences (CDS)

**100-0 to 1 Speech Clinic: Therapy.** For students with speech and hearing deviations who need individual help. Prerequisite: consent of instructor.

**104-3 Training the Speaking Voice.** For those students who desire to improve their voice and articulation.

**105-3 Introduction to Communication Disorders.** A general survey course devoted to a discussion of the various problems considered to be speech and hearing disorders with special emphasis on basic etiological classification schemes and their incidence in the current population. Opportunities for directed observation.

**300-3 Phonetics.** Instruction in the use of phonetic symbols to record the speech sounds of midland American English, with emphasis on ear training, and a description of place and manner of production of these sounds.

**301-3 Introduction to Speech-Language and Hearing Science.** An introduction to the science of general speech including the history of research in the field and significant experimental trends. Open to all students.

**302-3 Voice and Articulation.** A general introduction to the phonological development in children on a normative basis. In addition to introducing the student to the classical studies in articulatory development, this course provides a general exposure to the implications of classical phonetic theory, coarticulatory theory and distinctive features theory as a framework for therapy and research. Physio-acoustic parameters of voice quality variables evidenced in verbal communication are also studied. Lectures and demonstrations emphasize basic information necessary to study for the treatment of voice disorders.

**303-3 Language Development and Disorders.** Presentation of the progressive stages of language development in the areas of syntax and semantics. The student is acquainted with normal developmental processes and introduced to identification and remediation of therapeutics with children from ages three to twelve. Theoretical considerations and terminology related to traditional structural and transformation grammars are introduced as tools for interpreting the acquisition processes.

**307-3 Introduction to Organics.** An introduction to the organic bases of communication disorders. An emphasis will be placed on the foundations of development and teratological events and influences which result in specific communication disorders, and overview of those disorders, and their implications for the individual. Observations as directed. Prerequisite: 314 or consent of instructor.

**314-3 Anatomy and Physiology of the Speech and Hearing Mechanism.** Structure and function of the speech and hearing mechanism.

**385-3 Computer Technology in Communication and Fine Arts.** An introduction to the basic terminology, concepts and techniques being used in the various areas of education and rehabilitation. A foundation course to prepare students for the impact of computer technology in the professional lives of those who work in the occupational settings represented within the college.

**408-3 Communicative Disorders: Craniofacial Anomalies.** An introduction to the ontology, teratology, and management of cleft palate and various craniofacial syndromes important to majors and non-majors interested in this aspect of communication and its disorders. Associated problems of personal and social adjustments are also examined. Prerequisite: 314 or consent of instructor.

**410-3 Multicultural Aspects of Communication Disorders.** Students will explore different cultures and communication within these cultures. Emphasis will be placed on the relationship between cultural differences and communication disorders. Review of speech and language disorders in multicultural populations, as well as assessment and intervention strategies for use with this diverse group will be provided. Prerequisite: 302, 303 or consent of instructor.

**417-3 Stuttering.** Reviews the data and theories that relate to the etiology, onset and development of stuttering.

**418-3 Parameters of Voice.** Physio-acoustic parameters of voice quality variables evidenced in verbal communication. Lectures and demonstrations emphasize basic information necessary to study for the treatment of voice disorders.

**419-3 Communication Problems of the Hearing Impaired.** Objectives and techniques for the teaching of lip reading, speech conservation, and auditory training. Prerequisite: 302, 303, and 420 or equivalents and consent of instructor.

**420-3 Introduction to Audiological Disorders and Evaluation.** Bases of professional field of audiology (orientation, anatomy, and physiology of the auditory system), major disease processes influencing hearing and their manifestations, measurement of hearing loss. Prerequisite: 301 and 314.

**428-3 Communication Disorders and the Classroom Teacher.** Etiology and therapy of common speech defects. May be taken by all inservice teachers, seniors, and graduate students in education.

**431-1 to 6 Speech Physiology.** Course focuses on the physiologic parameters of the supraglottal tract, and respiratory and laryngeal systems related to speech production. Discussion and laboratory experiences involve physiological characteristics of normal and disordered speech production, measurement and research procedures, and implications for neuromotor control of speech. Prerequisite: 301 and 314 or consent of instructor.

**438-2 Problems of Communication and the Process of Aging.** Reviews problems of communication related to the aging process and examines relevant diagnostic and therapeutic techniques. Prerequisite: senior or graduate standing.

**450-3 Neuroanatomical Basis of Human Communication.** Examination of the central nervous system (brain and spinal cord) as it relates to normal and disordered human communication. Presentation of basic neuroanatomy, common neuropathologies relevant to communication disorders, and strategies in neurogenic problem solving. Prerequisite: 314 or consent of instructor.

**460-3 Augmentative and Alternative Communication Systems.** An introduction to alternative and augmentative communication systems for non-vocal clients. Discussions include: use of aided and unaided augmentative systems, assessment procedures and training. Prerequisite: 301 or consent of instructor.

**485-1 to 9 (1 to 3 per 700 section number) Special Topics in Communication Disorders and Sciences.** Topical presentations of current information on special interests of the faculty not otherwise covered in the curriculum. Designed to promote better understanding of recent developments related to disorders of verbal communication. Open to advanced undergraduate and graduate students with consent of instructor.

**491-1 to 9 (1 to 3 per semester) Individual Study.** Activities involved shall be investigative, creative, or clinical in character. Must be arranged in advance with the instructor, with consent of the chair. Prerequisite: consent of chair.

**492-3 Diagnostic Procedures in Communication Disorders.** A course devoted to discussion of the role of the speech and hearing clinician as a differential diagnostician. Special emphasis is placed on correlating information obtained from the oral-peripheral examination, articulation and language evaluation, audiometric and case history information in constructing the initial evaluation report. Prerequisite: restricted to consent of instructor.

**493-3 Basic Clinical Practice.** Current information regarding diagnostic, treatment and documentation procedures in speech-language pathology will be presented through active observation in the clinical environment and classroom instruction. Prerequisite: restricted to consent of instructor.

## Computer Science (CS)

**102-3 Computers in Society.** An introduction to computers, their history, their uses, present and future roles of computer technology in society, and related social issues. Includes a discussion of hardware and software components, and basic use of some application software. Enrollment restricted to non-majors.

**200-3 Introduction to FORTRAN Programming.** An introduction to computers and programming. Primary emphasis will be given to the design and implementation of algorithms using FORTRAN. Enrollment is restricted to non-majors.

**201-3 Computers and Problem Solving.** This course is intended to serve as an introduction to computer systems including their hardware and software, and their use in problem solving. An important component of the course will be laboratory experiences based around the use of personal computers, their peripheral hardware and software, and application packages. The course will have three major objectives as follows: computer literacy and competency, the use of application packages, and problem solving with programming. There will be two lecture and two laboratory hours per week. Roughly, equal number of lecture and lab hours will be devoted to achieve the three objectives.

**202-3 Introduction to Computer Science.** An introduction to computers and programming using a high-level structured language including a discussion of programming constructs and data representation. Primary emphasis will be given to problem solving, algorithm design, and program development. Prerequisite: 201 or Mathematics 108.

**210-3 Introduction to C Programming.** An introduction to programming in the language C. Primary emphasis will be given to the design and implementation of algorithms using C. Enrollment is restricted to non-majors. Prerequisite: A first course in a high-level programming language or consent of instructor.

**212-3 Introduction to Business Computing.** An introduction to concepts and features of computing systems with reference to business information processing. Includes an overview of information system concepts with

basic treatment of database, electronic spreadsheet, and word processing application software as they relate to the business environment.

**215-3 Discrete Mathematics.** (Same as Mathematics 215.) Number systems and computer arithmetic. Sets, logic and truth tables. Boolean algebra with application to computer logic design, functions and relations. Elementary matrix operations and systems of equations. Combinations, permutations and counting techniques. Elementary probability and statistics. Prerequisite: Mathematics 108 or equivalent.

**220-3 Programming with Data Structures.** A course in advanced programming, data structure and algorithm design with an increased emphasis on structured design techniques and program development. Topics include advanced language features, data abstraction and object-oriented programming, classes and dynamic data, recursion, stacks, queues, linked lists, trees and graphs, sorting and searching. Prerequisite: 202 and 215 each with a grade of C or better.

**306-3 Introduction to Systems Programming.** An introduction to system software used at the different levels in a computing system. Design and implementation of system software. Introduction to the UNIX operating system. The language C will be taught as a component in the course and used throughout the course. Prerequisite: 320 with a grade of C or better.

**311-3 Design and Implementation of Programming Languages.** Study of the significant features of existing programming languages such as FORTRAN, Algol, Pascal, Ada, C with particular emphasis on the underlying concepts abstracted from these languages. Includes formal specification of syntax, representation of data objects, implementation of procedure calls, coroutines and concurrency, heap management and static and dynamic scoping. Introduces object oriented programming (such as Smalltalk), symbolic, functional (such as LISP) and logic programming (such as Prolog) languages. Prerequisite: 220 with a grade of C or better.

**312-3 COBOL Programming.** COBOL and its use in business data processing. Prerequisite: 202.

**315-3 Computer Logic and Digital Design.** Introduction to switching algebra and its applications. Combinational logic and combinational circuit components. Sequential logic and sequential circuit components. Asynchronous sequential circuits. Prerequisite: 202 and 215 each with a grade of C or better.

**320-3 Computer Organization and Architecture.** Overview of the basic logic circuits needed in constructing a computer. Fundamental computer operations: machine and assembly language instructions, stacks, procedures and macros. The translation process: assembly, compiling, linking and loading. Input/Output programming. Hardware elements for processing, transferring and storing information. An introduction to advanced architectures. Prerequisite: 220 and 315 each with a grade of C or better.

**330-3 File Structures and Databases.** Secondary memory devices. Advanced data structures and algorithms for efficient storage and retrieval of information contained in files. Introduction to database management and the relational database model. Local and remote file access, servers and network-related issues. Prerequisite: 220 with a grade of C or better.

**355-3 Algorithms.** An introductory treatment of the design, analysis, and complexity of algorithms. Explores fundamental techniques, sorting and order statistics, and basic graph algorithms. Introduction to theory of computing. Prerequisite: 220 with a grade of C or better and Mathematics 221.

**361-3 Numerical Calculus.** (Same as Mathematics 361.) Algorithms for the solution of numerical problems encountered in scientific research work with special emphasis on the use of digital computers. Includes an elementary discussion of error, polynomial interpolation, quadrature, solution of nonlinear equations and linear systems, solution of differential equations. Prerequisite: 202 or equivalent programming proficiency and Mathematics 221 and 250.

**399-1 Social, Ethical and Professional Issues in Computer Science.** The issues facing the computer professional in society and industry. Social impact of information technology. Ethical responsibilities of the computer professional. Professional organizations: availability, membership, meetings, ethical codes of conduct. Professional communications: written reports on case studies dealing with ethical decision making in information technology; a written report and an oral presentation on a technical research area in computer science. Prerequisite: Senior standing in computer science.

**401-3 Computer Architecture.** Review of logical circuit design. Hardware description languages. Algorithms for high speed addition, multiplication, and division. Pipelined arithmetic. Implementation and control issues using PLA's and microprogramming control. Cache and main memory design. Input/Output. Introduction to interconnection networks and multiprocessor organization. Prerequisite: 315 with a grade of C or better.

**402-3 Theory and Applications of Computer Aided Design.** A study of algorithmic techniques which solve high complexity design rules. Graph algorithms and formulations, randomized solutions, techniques from operations research and statistics, computational geometry algorithms and data structures are introduced. The techniques are mainly applied on the physical design/automation problem for integrated circuits and systems. Prerequisite: 315 and 355 each with a grade of C or better.

**414-3 Operating Systems.** An extended treatment of the components of operating systems including I/O programming, memory management, virtual memory, process management, concurrency, device management and file management. Prerequisite: 306 and 330 each with a grade of C or better.

**416-3 Compiler Construction.** Introduction to compiler construction. Design of a simple complete compiler, including lexical analysis, syntactical analysis, type checking, and code generation. Prerequisite: 306 and 311 each with a grade of C or better.

**420-3 Parallel and Distributed Computing.** This course serves as an introduction to the areas of parallel and distributed computing. The major approaches to parallel programming, including shared-memory multiprocessing and message-passing multicomputing, will be covered in some detail. Students will have programming experience in each of paradigms. Architectural considerations, algorithm design, and measures of performance will be covered. In addition, the course will provide an introduction to distributed computing on a network of computers. Parallel and distributed computing will be contrasted. Other approaches to parallelism

including data parallelism (SIMD) and vector processing will be surveyed. Prerequisite: 306 and 355 each with a grade of C or better.

**430-3 Database Systems.** A comprehensive treatment of database systems, including network, hierarchical, and relational systems. Prerequisite: 330 with a grade of C or better.

**435-3 Software Design and Development.** An exercise in the analysis, design, implementation, testing, and maintenance of a large modular application system. Team production of a system is the focal point for the course. Topics include the system life cycle, system specification, human interfaces, modular design, improved programming techniques, and program verification and validation. Prerequisite: 306 and 330 each with a grade of C or better.

**436-3 Artificial Intelligence I.** Search and heuristics, problem reduction. Predicate calculus, automated theorem proving. Knowledge representation. Applications of artificial intelligence. Parallel processing in artificial intelligence. Prerequisite: 311 and 355 each with a grade of C or better.

**440-3 Computer Networks.** Design and analysis of computer communication networks. Topics to be covered include queuing systems, data transmission, data link protocols, topological design, routing, flow control, security and privacy and network performance evaluation. Prerequisite: 315 and 355 each with a grade of C or better.

**447-3 Introduction to Graph Theory.** (Same as Mathematics 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cut-points, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in networks and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: Mathematics 349 or consent of instructor.

**449-3 Introduction to Combinatorics.** (Same as Mathematics 449.) An introduction to combinatorial mathematics with computing applications. Topics include selections and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: Mathematics 349 or consent of instructor.

**451-3 Theory of Computing.** The fundamental concepts of the theory of computation including finite state acceptors, formal grammars, Turing machines, and recursive functions. The relationship between grammars and machines with emphasis on regular expressions and context-free languages. Prerequisite: 311 and 355 each with a grade of C or better or graduate standing.

**455-3 Design and Analysis of Computer Algorithms.** An extensive treatment of the design, analysis and complexity of algorithms. Lower bound arguments, divide-and-conquer techniques, greedy algorithms, dynamic programming, graph theoretic algorithms, PRAM algorithms and NP-completeness and approximation algorithms. Prerequisite: 355 each with a grade of C or better or graduate standing.

**464-6 (3,3) Numerical Analysis.** (Same as Mathematics 475.) An introduction to the theory and practice of computation with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, solution of systems of linear equations, numerical integration, solution of ordinary differential equations, computation of eigenvalues and eigenvectors, and solution of partial differential equations. Prerequisite: (a) 202 or equivalent programming proficiency and Mathematics 221 and 250 (b) 464a and Mathematics 305.

**470-3 Computer Simulation Techniques.** Applications and rationale. Design and analysis of discrete simulation models. Generation of random sequences and stochastic variates. Simulation languages. Prerequisite: 202 and Mathematics 380.

**471-3 Introduction to Optimization Techniques.** (Same as Mathematics 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 202 and Mathematics 221 and 250.

**472-3 Linear Programming.** (Same as Mathematics 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problem. Postoptimality analysis. Prerequisite: 202 and Mathematics 221.

**484-3 User Interface Design and Development.** Human-computer interaction and the importance of good interface design. Interface quality and methods of evaluation. Interface design examples and case studies. Prototyping and implementation techniques. Task analysis and the iterative design cycle. Dialogue techniques, basic computer graphics, I/O device, color and sound. Use of at least one interface toolkit and development methodology to complete an interface design project. Prerequisite: 306 with a grade of C or better.

**485-3 Computer Graphics.** Study of the devices and techniques for the use of computers in generating graphical displays. Includes display devices, display processing, transformation systems, interactive graphics, 3-dimensional graphics, graphics system design and configuration, low and high level graphics languages, and applications. Prerequisite: 306 with a grade of C or better; Mathematics 150 and 221 are recommended.

**490-1 to 6 (1 to 3 per semester) Readings.** Supervised readings in selected subjects. Prerequisite: consent of instructor and department.

**491-1 to 4 Special Topics.** Selected advanced topics from the various fields of computer science. Prerequisite: consent of instructor.

**492-1 to 6 (1 to 3 per semester) Special Problems.** Individual projects involving independent work. Prerequisite: consent of department.

**493-1 to 4 Seminar.** Supervised study. Preparation and presentation of reports. Prerequisite: consent of instructor.

## Construction Technology (CST)

**100-1 Construction Orientation.** The student will be given an overview of the construction industry and the various job opportunities available. Guest speakers and field trips are included.

**102-4 Construction Drawing and Blueprint Reading.** Students will learn to read architectural drawings, to sketch shop drawings and construction details, and to mechanically draw typical plans often included in a set of house plans. Lecture/laboratory six hours. Materials fee, \$3.

**103-4 Concrete Technology.** The student will obtain knowledge of concrete, its physical and mechanical properties, and the design and control of concrete mixes. In addition, forming systems and the use of concrete as a building material in residential and light commercial construction will be demonstrated. Materials fee, \$3.

**104-4 Surveying in Construction.** The student will perform basic surveying operations necessary for the location, lay-out and construction of a building. Interpretation of plat books, site plans, and topographic maps is included. A major portion of the course will be spent in field work. Lecture/laboratory six hours. Material fee, \$2.

**105-2 Construction Codes, Specifications, Inspection and Safety.** This course is designed to make the students aware of safety practices on the job site, OSHA standards and accident prevention. Also, knowledge of building codes, architect and government specifications and building inspection procedures as commonly found in residential and light commercial construction will be discussed. Lecture two hours.

**110-5 Residential Framing and Exterior Finish.** Students will acquire the basic skills necessary to layout and build a wood frame home. Emphasis is placed on proper layout, fabrication, and erection techniques for floor, wall, and roof frame systems. Lecture/laboratory eight hours. Materials fee, \$6.

**125-3 Structural Mechanics I.** Students will learn fundamental principles of mechanics as they apply to stationary structures. Students will apply these principles and use tables and formulas in the determination of loads and the selection of wooden members and steel connectors which will safely carry these loads on floor and roof systems. Lecture three hours. Prerequisite: Information Management Systems 125.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

**203-3 Construction Materials.** The student will gain knowledge of physical properties, material composition, and use of materials in residential and light commercial construction. Lecture three hours. Materials fee, \$2.

**207-3 Construction Management.** Students will gain knowledge of construction management functions, primarily from the point of view of the building contractor. Emphasis will be placed on business operations as they relate specifically to the construction industry. Lecture three hours. Materials fee, \$3.

**208-3 Construction Cost Estimating.** The student will be able to assist in the preparation of construction cost estimates. Actual working drawings and specifications are used extensively. Emphasis is on quantity take-off and the development of unit costs from given or derived data. Lecture three hours. Materials fee, \$3. Prerequisite: 102.

**209-4 Mechanical Systems.** The student will obtain knowledge of electrical, plumbing, heating, and air conditioning systems commonly found in residential and light commercial buildings. Emphasis is placed on interpretation of local, state, and national codes. Active and passive solar systems are also studied as alternatives to conventional heating and cooling systems. Lecture four hours.

**210-3 Remodeling and Renovation.** Students will acquire knowledge of the techniques and technologies necessary to remodel, repair, or renovate existing residential and small commercial buildings. The student will study the design and construction techniques required to convert unused areas into additional living space, additions to existing structures, upgrading of mechanical and electrical systems to meet building codes and repair, renovation and maintenance of older buildings. Lecture/laboratory eight hours. Eight weeks. Materials fee, \$6. Prerequisite: 111.

**211-3 Commercial Construction.** Students will acquire the technical background necessary to perform operations in the construction of prefabricated single family and multi-family dwellings, agricultural buildings, prefabricated commercial and industrial metal buildings, and prefabricated concrete buildings. Lecture three hours. Prerequisite: 111.

**212-3 Scheduling and Advanced Cost Estimating.** Students taking this course will study the methods used in preparing a schedule and the methods used in developing a bid from take-off until a contract is finalized. The student will complete a total and comprehensive estimate for commercial buildings and develop the skills and techniques necessary to coordinate and schedule such work. Lecture 2 hours and lab 8 hours per week for eight weeks. Prerequisite: 208.

**225-3 Structural Mechanics II.** Students will extend their abilities to assist engineers, architects, builders in determining stresses in members of trusses and in selecting proper-sized steel beams or open web joists, wood or steel columns or struts, welded joints, and reinforced concrete beams, footings, and basement walls. Lecture three hours. Prerequisite: 125.

**299-1 to 16 Individual Study.** Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair is required.

**303-3 Advanced Concrete Technology.** Provides the student with knowledge of the design and use of specialty concrete, admixed concrete, architectural concrete, structural concrete in commercial construction, and precast concrete products. Knowledge of types and methods of steel reinforcement, concrete inspection procedures, and ASTM Testing Standards will be acquired. Successful completion of this course can lead to

certification by the American Concrete Institute as Concrete Field Testing Technician-Grade I. Lecture/laboratory. Prerequisite: associate degree with construction technology major or consent of department.

**307-3 Computer Applications in Construction.** Will advance the computer training students received in the associate degree construction technology courses. Students will study advanced computer problems in estimating, scheduling, planning, marketing, mechanical system sizing, and performance. Students should learn to interpret computer-generated data and how to modify programs to meet changing industry needs. Prerequisite: associate degree in construction technology or consent of department.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**325-3 Quality Assurance in Construction.** The student is introduced to the role of the construction inspector, will develop skills of communication with the trades and management, and will acquire knowledge of quality assurance systems, documentation techniques and significant legal aspects of construction failures. Lecture three hours. Prerequisite: 102, 103, 105, 125, 203, 225 and Applied Sciences and Arts 126, equivalent experiences, or consent of instructor.

**350-1 to 31 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

## Curriculum and Instruction (CI)

**199-1 The Library as an Information Source.** Designed to expose undergraduate students to the basic concepts and structures of the library. This would enable students to use their knowledge in completing reading and term paper assignments as well as in gaining confidence for independent work in the library.

**209-2 Philosophy of Creativity.** The creative process in developing child. Emphasis will be upon the levels, dimensions and individuality of creativity as it is manifested, observed and nurtured in preschool children.

**212-2 Reading College Texts.** Textbooks, supplementary materials, and evaluative instruments will be analyzed. Attention will be given to determining usability, feasibility, learnability, and teachability of instructional materials. The following factors will be investigated: content structure and organization, concept density, conceptualization levels, readability, and format.

**213-2 Understanding the Elementary School Child.** Child development concepts necessary for understanding the elementary school child, with information provided on preschool, primary, and intermediate grade levels.

**227-3 Marriage and Family Living.** (Same as Women's Studies 286.) A study of relationships and adjustments in family living, designed largely to help the individual. To help student better understand the recent changes that have occurred in marriage and the family in the United States.

**237-3 Early Child Development I.** Principles of development and guidance of children as applied to home situations. Directed observations of children from 0 through 6. Understanding the social, emotional, physical, and intellectual development of the preschool child.

**245-3 Professional Development Seminar.** Introduction to early childhood with an emphasis on personal and professional development as preparation for work with children, parents, and professional peers. Acquaints students with the varied career options, approaches to programming, and professional personnel in working with children under eight. Some field trips will be taken.

**258-1 to 4 Credit for Work Experience.** This course includes work experiences relevant to the student's major program, such as work in day care centers, teacher's aid in public school, or with federal, state, or local agencies or programs that deal with children. Prerequisite: 12 semester hours completed with a grade of B or better in the student's major area of concentration in the C&I department and consent of undergraduate affairs committee, Department of Curriculum and Instruction.

**312-3 Teaching Reading in the Elementary School.** (Same as Special Education 312.) Examination of the reading process with emphasis on the factors and conditions that affect reading. Emphasis on the formula of a philosophy of reading and its implications in relation to methods, materials, organizational procedures, and evaluation techniques. Prerequisite: junior standing and an overall gpa of 2.5.

**313-4 Emergent and Early Reading in the Young Child, 0-8.** The examination of factors and conditions which affect emergent and early reading from birth to eight years of age. Emphasis on the formulation of a philosophy regarding children's development and emergent/early literacy. The philosophy provides the foundation upon which to base decisions regarding family and classroom practices, methods, materials, organizational procedures and evaluation techniques. Survey and analysis of appropriate children's literature to support each level of literacy development will be integrated throughout the course. Prerequisite: 318; or concurrent enrollment in 318; or consent of instructor.

**315-3 Teaching Mathematics in the Elementary School.** (Same as Special Education 315.) Objectives of mathematics education, learning theory as it is related to mathematics, major concepts to be taught, modern approaches to instruction, with emphasis on the use of concrete learning aids. Four class hours and two laboratory hours per week. Prerequisite: junior standing and an overall gpa of 2.5. Mathematics 114 and 314, or consent of instructor.

**316-2 Early Childhood Education Methods and Curriculum (K-3).** Philosophy and principles underlying the teaching of four-to-eight-years old. Emphasis upon organization, equipment, materials, and methods for promoting growth of young children. Prerequisite: concurrent enrollment in Education 302.

**317-3 Guiding Children's Development in the Learning Process.** The specific behaviors of parents and teachers of children 3 years to 8 years are examined to determine the effect they have on the development of children's behavior. Guiding behavior through play is emphasized. Prerequisite: 237 or concurrent enrollment in 237.

**318-4 Instructional Methods for the Preschool Child.** The purpose of this class is to plan the optimum learning environment for the preschool child. Emphasis will be placed on integrated learning and appropriate instructional methods in the content areas of language arts, mathematics, science and social studies. Practicum experiences will be provided in a preschool setting for one half-day per week for the semester for all students. Preschool/primary certification students are required to have concurrent enrollment in Education 312 with placement one half day per week for the semester in a kindergarten setting. Child and Family Services specialization students must enroll for an additional one hour of 395 to provide practical experiences one-half day per week for the semester in a community preschool setting. Prerequisite: 237, 317, consent of instructor for non-early childhood majors or graduate students.

**319-3 Instructional Methods for the Primary Child.** The purpose of this class is to plan the optimum learning environments for kindergarten through the primary grade three. Emphasis will be placed on integrated learning and appropriate instructional methods in the content areas of language arts, mathematics, science and social studies. Early Childhood Certification students must have concurrent enrollment in one hour of Education 312 to provide practical experience one half day per week for the semester in primary settings. Prerequisite: 237, 317, 318, consent of instructor required for non-early childhood majors, and/or graduate student.

**324-2 Early Childhood Social Learning Methods.** The objectives, procedures, and methods of designing and implementing social learning environments for early childhood education programs; including an overview of significant early social learning theory and practice. Two hour block required for practicum experiences.

**325-3 Young Children and the Arts.** The development of creativity in young children. Methods and curriculum that foster creativity in graphic expression, music and creative movement among preschool and primary school children. Prerequisite: Music 101 or consent of instructor.

**327-3 Family Studies.** Study of changing patterns in family living throughout the family life cycle. Insights into common current family problems typical of each stage of the family life cycle. Prerequisite: 227.

**337-3 Early Child Development II.** The specific behaviors of both parents and teachers are examined to determine the effect they have on the development of the preschool child's desirable and undesirable behavior. Prerequisite: 237.

**390-1 to 3 Readings - Middle School.** In-depth reading in various areas of education as related to the fields of (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) middle school, (m) instruction, (n) educational media, (q) family studies. Prerequisite: consent of instructor.

**393-1 to 6 Individual Research in Education, Middle School.** The selection, investigation, and writing of a research topic under the personal supervision of a member of the departmental staff in one of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) middle school, (m) instruction, (n) educational media, and (o) environmental education, (q) family studies. Maximum of 6 hours to be counted toward a bachelor's degree. Prerequisite: consent of instructor.

**395-1 to 3 Field Observation.** Students will participate in practical experiences for young children in community settings.

**400-3 Simulation and Gaming.** Analyzes the role of simulation and gaming in instruction, the availability of commercial games, board games, simulation devices, and computer games, and preparation of teacher-make games and simulations.

**402-3 The Study of Cultural Diversity in Education and Family Services.** The student examines origins, characteristics of behavior, learning patterns, family constellations, and lifestyles of the diverse cultural groups in our community, state, and nation. Students will identify their own cultural background and biases; recognize diversity resulting from ethnic origin, gender, age, or disability; and experience ways of learning about cultures other than their own that promote constructive communication and integration into all aspects of schooling, teaching, and family services.

**404-3 Infant Development.** Current theories and knowledge concerning growth and development of infants with related laboratory field observations. Prerequisite: 237 or Psychology 301 or equivalent.

**405-4 Methodologies For Group Care of Infants and Toddlers.** Application of theories of development of children up to age 3 in a child-centered environment. Development of competencies and skills needed by early childhood professionals. Two hour seminar and four hour practicum required. Prerequisite: 318 and 404.

**407-3 to 9 (3 per topic) Diagnostic Teaching Strategies for Classroom Teachers.** Diagnostic instruments and teaching techniques with an emphasis on understanding and teaching students underachieving in the areas of: (c) language arts, (e) mathematics, and (f) reading. Prerequisite: (c) 423, (e) 315, (f) 312, and/or consent of instructor.

**409-3 Creative Teaching.** To assist pre- and in-service teachers in acquiring methods and materials that will improve instruction in the public school classroom, with special attention to the characteristics and needs of students. Prerequisite: Education 315.

**410-2 Creative Writing in the Public School.** Techniques of encouraging creative writings in the schools.

**412-3 to 15 (3 per topic) Improvement of Instruction in Early Childhood Education (Preschool-Grade 3).** Examines recent findings, current practices, and materials used in early childhood education in the fields of (c) language arts, (d) science, (e) mathematics, (f) reading, and (g) social studies. Prerequisite: specialized methods course for the field of study selected by the student.

**413-3 Language Development of the Young Child, 0-8.** The normal language development and communication skills of the young child will be the focus of this course; attention will be given to an integrated, holistic philosophy toward development and learning in young children ages 0-8; specifically focusing upon social and environmental influences on the development of language and literacy, students will observe, listen, record, and analyze samples of young children's communication.

**415-3 Modern Approaches to Teaching Middle School Mathematics (Grades 4-8).** Examines current mathematics materials and teaching approaches. Hands-on experience with a multitude of teaching aids including microcomputers and problem solving materials. Student exchange of ideas and discussion of activities for classroom use. Prerequisite: 315 or consent of instructor and overall gpa of 2.5.

**417-3 Administration of Early Childhood and Family Programs.** Planning and organizing programs for pre-school or residential facilities including budgeting, staffing, programming, and evaluation. Prerequisite: 318.

**418-3 History and Philosophy of Early Childhood Education.** A survey of the history and philosophies of early childhood education with implications for current program practices. Students' analysis of their personal philosophy of early childhood education. Prerequisite: senior or graduate standing; 318; or consent of instructor for graduate students.

**419-3 Child, Family and Community Involvement.** This course is designed to provide students with the knowledge and skills needed to work successfully with parents and parent groups in individual and community settings. The focus will be on strengthening adult-child relationships and parent-staff relationships in home, school and community settings. Parent involvement in early childhood programs and parent education will be stressed. Prerequisite: 227 and 318; or consent of instructor for non-early childhood majors and/or graduate students.

**420-3 Teaching the Adult Functional Illiterate.** The emphasis in the course will be on understanding the problems of the individual whose literacy level does not permit full participation in the economic, social, and civic opportunities available to the majority of citizens. Prerequisite: permission of instructor.

**423-3 Teaching Elementary School English Language Arts.** Oral and written communication processes with emphasis on the structure and process of the English language arts in the elementary school. Specific attention to the fundamentals of speaking English, writing, spelling, and listening. Study of learning materials, specialized equipment and resources. Prerequisite: English 101, 102, Speech Communication 101 or equivalent, and a 2.5 overall gpa.

**424-3 Teaching Elementary School Social Studies.** Emphasis on the structure and process of teaching social studies in the elementary school setting. Specific attention to the fundamentals of developing social studies objectives, planning units, developing a general teaching model, organizing the curriculum, and evaluating behavioral change. Study of learning materials, specialized equipment, and resources. Prerequisite: completion of two of the following: Political Science 114, Psychology 102, History 110; and overall gpa of 2.5

**426-3 An Introduction to Teaching Elementary School Science.** Content and methods of elementary school sciences, grades K-8. Emphasis on the materials and strategies for using both traditional and modern techniques of science education. One or more field trips. Prerequisite: junior standing and an overall gpa of 2.5.

**427-4 Science Process and Concepts for Teachers of Grades N-8.** (Same as Botany 462.) Specifically designed to develop those cognitive processes and concepts needed by elementary school teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

**428-3 Inquiry Skills for Teaching Junior and Senior High School Science.** The major focus will be the application of inquiry skills as used in all areas of science instruction at the junior and senior high school levels; students will be expected to demonstrate mastery of basic and integrated science process skills through conducting and reporting results of science investigations.

**435-3 Literature for Children.** Studies types of literature; analysis of literary qualities; selection and presentation of books and other media for children; and, integration of literature in preschool, elementary, and library settings. Prerequisite: junior standing, a minimum of 6 hours of college-level English, and an overall gpa of 2.5.

**437-3 Instructional Technology in Training Programs in Business and Industry.** Examines the role that performance and instructional technology plays in current training practices in business and industry. The organization, staffing, budgeting, and evaluation of training and development departments is presented. The kinds of performance problems typically encountered by corporate training departments are addressed. Field trips are expected.

**441-3 Multicultural Literature for Children.** Identification, selection and evaluation of books and audiovisual materials dealing with various cultural groups such as African Americans, Asian Americans, Native Americans, Hispanic Americans and European Americans. Prerequisite: 435 or consent of instructor.

**445-3 Literature for Young Adults.** The selection and use of books and other educational media for students in the junior high and senior high school.

**452-3 Small Format Video Production in Education.** An introduction to small format black-and-white and color video equipment in educational settings. Emphasis is on understanding the role of video as an instructional and informational tool and on the principles of design that determine instructional video's effectiveness.

**455-3 Design and Development of Self-Instruction Systems.** Introduction to the theory and practice of self-instruction systems with a particular emphasis on the creation of instruction for mastery. Various self-instruction systems are reviewed and procedures for designing, developing, and evaluating these systems are discussed. Includes planning a teaching unit and creating a self-instruction package for the unit.

**458-3 Classroom Teaching with Television.** Classroom utilization of open and closed circuit television. Emphasis is placed on the changed role of the classroom teacher who uses television. Evaluation of program-

ming, technicalities of ETV, and definition of responsibilities are included. Demonstration and a tour of production facilities are provided.

**461-3 Content Literacy Strategies.** For middle grade teachers who desire strategies for helping students comprehend content encountered in narrative and expository text. Materials, lesson plans, and teaching strategies to help middle grade students move from basic to more advanced reading, writing, studying, and learning skills are featured.

**462-3 Middle and Junior High School Programs.** Focuses on the development of middle and junior high school curriculum and the identification of instructional activities which relate to the pre and early adolescent student. It is anticipated that the student will be able to plan and develop teaching units and evaluate procedures complementary to this portion of the school structure.

**463-3 Meeting the Social and Emotional Needs of Gifted Children.** Deals with strategies for meeting the social and emotional needs of gifted children in the classroom. In particular, this course focuses on low-incidence gifted students, including underachievers, minorities and females. The course will not only cover particular curriculum and instruction strategies designed for this population but also will emphasize strategies for teachers to be more facilitative in assisting these students to accept and realize their potential. Prerequisite: 467 or consent of instructor.

**464-2 Student Activities.** Analysis of extra-class activities and programs in public schools with a focus on the status, trends, organization, administration, and problems.

**465-3 Advanced Teaching Methods.** The focus is on a variety of teaching methods and strategies which are appropriate for secondary and/or post-secondary educators. Both individual and group methods are emphasized.

**467-3 Methods and Materials in the Education of the Gifted.** Content focuses on the most appropriate instructional strategies and materials to be utilized with the gifted. Time spent practicing teaching models, designing materials and developing teaching units. Emphasis placed on techniques for individualizing instruction for the gifted and talented students.

**468-3 Science Methods for Junior and Senior High Schools.** A performance-based approach to instructional skills common to teaching natural science at the junior and senior high school levels. Three class hours and one micro teaching laboratory hour per week. Prerequisite: Education 315 or consent of instructor.

**469-3 Teaching Social Studies in the Secondary School.** Emphasis is placed upon instructional strategies and curricular designs in social studies at the junior and senior high school levels. Prerequisite: Education 315 or consent of instructor.

**473-3 Teaching in Middle Level Schools.** This course is designed to acquaint students with the issues of teaching young adolescents and the unique role teachers must play as interdisciplinary team members, advisers and resource persons to connect schools and communities. Information from current research, area specialists and exemplary practitioners will be used to extend appropriate teaching strategies and supplement background knowledge on special topics related to social, emotional and physical development as it relates to the curricula. Attention is given to the development of classroom resource files for interdisciplinary and advisory programs. Prerequisite: 462, Education 310, 315 or permission of the instructor.

**480-3 Introduction to Computer Based Education.** Introduction to microcomputers and their uses in the classroom, including computer evolution, languages and authoring systems, instructional modalities, word processing, instructional management, and software evaluation. Utility functions and basic commands in programming are also introduced.

**481-3 Instructional Applications of Mainframe Computers.** Design, development, and programming of computer-assisted instructional materials using interactive, timesharing computer systems. Study of lesson design and programming, including branching and program flow, display techniques, response judging, teaching strategies, organization, and style.

**482-3 Instructional Internet Telecommunications.** An introduction to the use of the Internet for instruction. Emphasis is placed upon examining the emerging use of Internet based resources and the role of the teacher in preparing to integrate network based learning activities in the classroom. Additional emphasis is placed on identifying skills needed by learners for involvement with network resources. A variety of selected commercial and non-commercial computer based networks linked to the Internet are examined.

**483-6 (3,3) Instructional Applications for Microcomputers.** A study of the development and use of microcomputers systems in educational settings. Emphasis is upon the characteristics, capabilities, applications, and implications of microcomputers and microcomputer lessons, with case studies of their integration into the teaching, learning process.

**484-3 Multimedia Presentation Systems.** Provides learners with skills in designing, developing and conducting classroom based multimedia presentations that involve computer and other electronic delivery systems including videodiscs and CDROMS. Emphasis is placed upon identifying major activities that contribute to effective multimedia presentations regardless of computing software or visual delivery system employed.

**486-3 Instructional Authoring Systems.** Designed to give students experience using authoring systems, languages and utilities for the design, production, and integration of computer assisted instruction into educational settings. Tools will include Superpilot, Author, and various commercial and consortium authoring tools. Prerequisite: 480 or consent of instructor.

**487-3 Microcomputer Applications for Teachers.** Laboratory instruction in the use of the microcomputer and software applications representative of those used by the teacher or education specialist in educational settings. An emphasis is placed upon developing skills used by teachers or education specialists which enhance and facilitate the education process.

**495-2 to 8 Field Experience.** Supervised learning experiences in settings for children and families and public agencies. Prerequisite: 318, 319, 405 and consent of instructor.

**496-2 to 6 (2 to 4 per semester) Field Study Abroad.** Orientation and study before travel, readings, reports, and planned travel. Includes visits to cultural and educational institutions. Maximum credit hours in any term is 4.

**498-1 to 15 (1 to 3 per topic) Workshops in Education.** Critical evaluation of innovative programs and practices. Acquaints teachers within a single school system or in a closely associated cluster of school systems with the philosophical and psychological considerations and methods of implementation of new programs and practices in each of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) the middle school, (k) secondary education, (l) school library media, (m) instruction, (n) educational technology, (o) environmental education, (p) children's literature, (q) family studies, (r) computer based education, (s) gifted and talented education, and (t) teacher education. Maximum of six hours toward a master's degree. Prerequisite: consent of instructor.

## Dental Hygiene (DH)

**101-1 Orientation to Dental Hygiene.** The student will be introduced to the profession of dental hygiene. Emphasis is on history of the profession, patient's bill of rights, careers in dentistry and dental hygiene and professionalism. 16 weeks.

**126-3 Oral Anatomy and Tooth Morphology.** The student will learn to recognize and identify in detail the structures within the oral cavity including the tongue, salivary glands, lips and cheeks, and teeth, both permanent and primary. Laboratory emphasis will be placed on tooth identification, tooth and root morphology, and occlusal relationships to enhance application of instrumentation techniques. Lecture two hours, laboratory two hours.

**133-2 Histology and Embryology.** The student will learn the microscopic components of the primary tissue groups of the human body and will be expected to identify microscopically in detail, the dental tissues of the oral cavity. The course also enables the student to relate the embryonic development of the head to the normal and abnormal structures of the adult head and oral cavity. Lecture two hours.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair.

**206-2 Oral Anatomy and Tooth Morphology.** The student will learn to recognize and identify the structures within the oral cavity. These will include the tongue, salivary glands, lips and cheeks and teeth (both permanent and primary). Laboratory emphasis will be placed on tooth identification and tooth/root morphology to enhance the application of instrumentation techniques. 10 weeks. two hours of lecture weekly. Two hours of lab weekly. Two credit hours. Prerequisite: acceptance into professional sequence or consent of instructor.

**207-3 Instrumentation Techniques.** Fundamentals of dental hygiene instrumentation and infection control are taught to prepare students for clinical hygiene practice. Laboratory fee \$25. Lecture one hour. Lab four hours. 16 weeks. Prerequisite: acceptance into the professional sequence.

**209-3 Dental Hygiene Clinic.** The student will perform professional services of a hygienist on designated clinical patients and is expected to demonstrate improvement of skills covered in 137. Additional skill incorporated into clinical procedures include application of fluoride gels, maintenance and sharpening of scaling instruments, recognition and detection of carious lesions, extended or home care education, auxiliary polishing devices, caries etiology tests, and nutritional counseling. Laboratory 12 hours, eight weeks. Laboratory fee: \$50. Prerequisite: 208.

**210-3 Patient Assessment Techniques.** Assessment theory and techniques are taught to prepare the student to successfully recognize and record normal and abnormal intraoral and extraoral conditions. These assessment skills will be incorporated into treatment planning for individualized patient care. Lecture two hours. Lab two hours. Prerequisite: 101, 207, 226.

**212-1 Medical Emergencies in the Dental Office.** The student will learn about medical conditions which may affect or alter the provision of oral care. Emphasis is on acquiring and evaluating the medical, dental and drug history. Modification of treatment plans will be discussed. Lecture one hour. 16 weeks. Prerequisite: Microbiology 201.

**217-2 Dental Nutrition.** The biologic functions of essential nutrients are studied in their relation to growth and development of dental and oral tissues. Nutrition in health and disease is considered in detail; food sources of essential nutrients are identified. Knowledge gained is applied to the nutritional management and prevention of dental health problems in clinical practice through dietary counseling. Lecture four hours, eight weeks. Prerequisite: Chemistry 106, Allied Health Careers Specialties 141.

**218A-3 Dental Radiology I.** The student is introduced to principles of radiation biology and protection, x-ray production, image formation and intraoral radiographic techniques. Lecture two hours. Laboratory two hours. 16 weeks. Laboratory fee \$25. Prerequisite: acceptance into the Professional Sequence.

**218B-2 Dental Radiology II.** The student will learn special dental survey techniques including paralleling, occlusal and special views. The student will also identify anatomical landmarks and recognize pathological conditions that appear on dental x-ray image receptors. In the laboratory, the student will receive individual assistance in learning special survey techniques. 16 weeks. two credit hours. Prerequisite: 218a.

**220-2 Dental Hygiene Clinic I.** The student will apply knowledge and utilize techniques learned in various dental hygiene courses in order to assess oral health status, plan and implement treatment, and evaluate outcomes related to improved oral health. The student will provide preventive, therapeutic and educational

services to clinical patients for prevention of oral disease. Laboratory fee \$50. Clinic six hours. 16 weeks. Prerequisite: 101, 207, 212 or concurrent enrollment in 212.

**226-2 Anatomy of the Head and Neck.** The goal of this course is for the dental hygiene student to acquire clinical problem solving skills through a basic understanding of the gross anatomy of the head and neck region of the human body. Through a regional approach to the head and neck, the student will be able to synthesize solutions to clinical problems by understanding the morphological and functional interrelationships of anatomical structures. 16 weeks. two credit hours. Prerequisite: acceptance into the professional sequence.

**233-2 Histology and Embryology.** The goal of this course is to enable the dental hygiene student to develop a basic understanding of the microscopic structure of the primary and dental tissue groups of the human body. This course also enables the student to relate embryonic development to the normal and abnormal structures of the head and oral cavity. This background will prepare the student to differentiate between normal and abnormal clinical manifestations in subsequent courses. 16 weeks. two credit hours. Prerequisite: acceptance into the professional sequence.

**240-2 Dental Pharmacology and Anesthesia.** The student will recognize the various types of drugs, their actions and effects on tissues of the body. Special emphasis will be placed on those drugs most commonly prescribed by the dentist. The student will study the anesthetics most commonly used in a dental office and the techniques of administering them. Lecture two hours. Prerequisite: Chemistry 106, Allied Health Careers Specialties 141, Microbiology 201.

**247-3 Preventive Oral Care.** The student will prepare for the role of oral health educator and consumer advocate. The dental hygiene process of assessment, planning, implementation and evaluation is applied for the prevention of oral disease. Laboratory techniques for assessing disease processes will be applied. Lecture two hours. Laboratory two hours. 16 weeks. Prerequisite: 126, 226 and Microbiology 201.

**299-1 to 16 Individual Study.** Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and department chair is required.

**315-2 Ethics and Jurisprudence for Dental Hygienists.** Ethical, and legal issues related to the practice of dentistry and dental hygiene are studied. Case situations are evaluated to determine appropriate management in accordance with the principles of dental ethics and jurisprudence. Review and interpretation of dental practice acts and licensure requirements are included. Lecture two hours. 16 weeks. Prerequisite: 220

**318-4 General and Oral Pathology.** The student will learn principles of general pathology in relationship to diseases of the teeth, soft tissues and supporting structures of the oral cavity. Early recognition of abnormal oral conditions is emphasized. Lecture four hours. 16 weeks. Prerequisite: 226 and 233.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**320-3 Dental Hygiene Clinic and Radiology II.** The student will utilize previous and concurrent information and skills in the treatment of clinical patients. Instrumentation, patient assessment, prevention, radiology and care of special populations will be stressed. Adjunctive treatment methodologies will be introduced. Laboratory fee \$50. Lecture one hour. Clinic six hours. 16 weeks. Prerequisite: 210, 218, 220, 247, and 318,

**322-2 Operative Oral Care and Adjunctive Procedures.** This course includes an overview of various materials and procedures used in operative, endodontic, orthodontic and prosthetic dentistry. Emphasis is placed on the role of dental hygienists in explaining these procedures to clients/patients and in adapting dental hygiene services. Adjunctive procedures which augment operative care are taught in laboratory. Lecture two hours. Lab two hours. 16 weeks. Prerequisite: 320.

**340-2 Dental Pharmacology.** This course is designed to teach the student about different drugs used in dentistry, the biochemical activity of each, appropriate use, interactions with other drugs or systemic conditions and some basic pharmacology terminology. Pharmacotherapeutics will be presented to the dental hygiene student in a meaningful, practical manner. Emphasis will be placed on clinical effects, dosages, adverse effects and contraindications of drugs commonly prescribed in dentistry or which patients may be taking under direction of other health care providers or under self-direction. Information will be presented from a perspective to include pharmacological basis for drugs, the need for and use of a medical history, legal aspects related to these subjects. The course format is lecture, two hours weekly over sixteen weeks. 2 credit hours. Prerequisite: Chemistry 140a,b, Allied Health Careers Specialties 141.

**341-3 Periodontics.** The student will be introduced to identification, treatment and prevention of pathological conditions that affect the periodontium. Emphasis will be placed on anatomy and histology of the periodontium, current advances in periodontics and soft tissue management. Lecture two and one-half hours. Laboratory one hour. 16 weeks. Prerequisite: 226 and 233.

**347-2 Community Oral History.** The student is introduced to the general principles of dental public health, community dentistry and epidemiology. Also presented is an overview of current community based oral health programs and roles of a community based dental hygienist. Lecture two hours. 16 weeks. Prerequisite: 247, Sociology 108, Health Care Management 365 or concurrent enrollment.

**348-2 Community Oral Health Practicum.** Principles of community oral health are applied through practical experience. Programming phases of assessment, planning, implementation and evaluation are studied in detail. The student will develop and present dental health education programs according to these principles. Lecture one hour. Practicum two hours. 16 weeks. Prerequisite: 347 and Speech Communication 101

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations of-

ferred through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**355-3 Dental Hygiene Clinic and Radiology III.** The student will provide comprehensive individualized treatment using all aspects of dental hygiene care in the clinical setting. Emphasis is on mastery of skills and techniques previously introduced. Laboratory fee \$75. Lecture one hour. Clinic six hours. 16 weeks. Prerequisite: 320 and 341.

**388-2 Career Options in Dental Health.** The course presents an overview of the various career options available in the field of dentistry. Advanced dental hygiene clinical practice, education, marketing, nursing home and other long term resident facilities are possible career options to be examined. The student will select and participate in career options of interest. The experiences will correlate to advanced dental hygiene education and will be designed to meet the needs of the individual student and the selected career option. Two hours lecture. Prerequisite: the student must have completed one semester of the dental hygiene associate degree sequence or have consent of the instructor.

**414-2 Oral Health Management of Special Populations.** Presents a comprehensive approach to the oral care of special needs patients and populations. Student will be introduced to a variety of settings in which dental care and oral health education may be provided. Provides opportunity to plan and implement programs and treatment. Not for graduate credit. 16 weeks. Lecture one hour. Laboratory: two hours seminar.

**415-2 Rural Health and Geriatric Internship.** The student will utilize preventive, therapeutic and educational measures in combination with principles of public health to provide care to clients in rural health settings and to the geriatric population. Emphasis will be placed on the ability to work with area health care providers in an interdisciplinary approach to meeting oral health care needs of these special populations. Seminar one hour. Field experiences six hours. 16 weeks. Prerequisite: 348, 350, 414 or concurrent

**440-2 Interpretation and Review of Dental Literature.** This course includes an investigation of various types of sources used for accessing literature related to the practice of dental hygiene. A review of general research principles and statistics is included. Students conduct critical reviews of research articles, utilize various computer searches and write abstracts of published research reports. Lecture two hours, 16 weeks, two credit hours, not for graduate credit. Prerequisite: Health Care Management 365, Dental Hygiene 347 or concurrent enrollment, or consent of faculty.

**441-3 Advanced Periodontics and Pain Control.** Cotherapy treatment of the complex periodontic patient by the dentist and the dental hygienist will be practiced with development of appropriate therapies for specific case types. Emphasis will be placed on comprehensive evaluation and treatment planning, pain control, adjunctive antibiotic therapy, instrumentation, soft tissue management, evaluation and maintenance. Laboratory fee \$50. Lecture one hour. Clinic six hours. 16 weeks. Not for graduate credit. Prerequisite: 322, 341, 355, or consent of faculty.

**442-3 Simulated Clinical Office Practice.** The student will utilize skills and knowledge from all courses to provide professional dental hygiene care to clients in a clinical setting that simulates private practice. Emphasis will be placed on efficiency and quality of care to facilitate the transition from practice in the university clinical setting to the private practice setting. Lecture one hour. Clinic eight hours. 16 weeks. Not for graduate credit. Prerequisite: 441 or consent of the faculty.

## Dental Technology (DT)

**102-4.5 Tooth Anatomy.** The student will be able to write definitions of the nomenclature of teeth; draw five different peripheral views of maxillary and mandibular teeth; carve maxillary and mandibular teeth in plaster, three times natural size and in wax, natural size; wax maxillary and mandibular teeth on dentiform models. Lecture three hours. Laboratory 17 hours. Five weeks.

**103A-4.5 Complete Dentures I.** The student will be able to write the steps of denture construction; identify and use lab stone, lab plaster and acrylic resins; construct edentulous casts, custom trays, base plates, occlusal rims, mount casts on non-adjustable articulators; and set up, contour, invest, and process and finish a complete denture. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 102.

**103B-4.5 Complete Dentures II.** The student will be able to describe the theory inherent in all phases of full denture construction; bead and box an impression, set up anatomical, semi-anatomical, and non-anatomical teeth on non-adjustable and semi-adjustable articulators; select and set up teeth for different classes of arch forms; contour, flask, process, and finish complete dentures; relines, rebase, and repair full dentures; set up and process an immediate denture and fabricate a surgical tray. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 103a.

**104A-4.5 Removable Partial Dentures I.** The student will be able to write the basic steps of partial denture construction, identify and use impression materials, gypsum products, surveyors, dental waxes, clasp designs, and partial denture alloys; mount master casts, survey, design, and cast frameworks. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 102.

**104B-4.5 Removable Partial Dentures II.** The student will be able to describe and do the planning, designing, and surveying of partial dentures; construct refractory casts, wax, invest, and finish several partial denture frameworks; articulate, set up denture teeth on partial frameworks, wax, invest, process, and finish acrylic bases; and repair broken frameworks. Lecture three hours. Laboratory 17 hours. Prerequisite: 104a.

**110-4 Dental Occlusion.** The student will be able to write and identify the basic anatomy of the oral facial structure, and the theory inherent to occlusion. The theory will include the physiology of occlusion, the determinants of occlusion, and popular occlusion theories and techniques. The laboratory aspect will include building wax occlusions such as cusp/marginal ridge and cusp/fossa occlusal contacts, including waxing of natural dentition. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 103b, 104b.

**113A-2 Science of Dental Materials.** The student will be able to: identify orally, as well as written, the physical and mechanical properties of dental materials, the uses and composition of dental gypsum products, namely, plaster, stones, and investments; impression materials, dental resins, dental cements, and pit and fissure sealants. Lecture two hours.

**113B-2 Science of Dental Materials.** The student will be able to identify orally, as well as written, the physical and mechanical properties of metals and alloys, namely, dental golds, chrome cobalt and nickel cobalt alloys; the control of their physical properties, namely, strain hardening, alloying and heat treatment, the chemistry of tarnish and corrosion, dental waxes, casting and soldering techniques, dental porcelains and polishing agents and abrasives. Lecture two hours.

**128-1 Oral Anatomy.** The student will be able to identify the anatomical features of the head and oral cavity; identify the blood and nerve supply to the oral cavity and surrounding area; be able to list the muscles of mastication, and know the origin and insertion of each muscle; identify the anatomical parts of the maxilla and mandible; differentiate the movements of the mandible; and be able to identify the temporomandibular articulations. Lecture one hour.

**143-1 Orientation to Dental Technology.** The student will be able to identify pertinent dates and contributions made by people in the history of dentistry and the dental laboratory industry; identify specialties of dentistry and dental technology; identify organizations affiliated with the dental laboratory industry; identify ethics and laws regulating the dental profession; identify laboratory safety procedures, equipment maintenance, infection control, areas of possible cross contamination in the dental laboratory, and identify current issues impacting dentistry.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and department.

**202-4.5 Orthodontics and Pedodontics.** The student will be able to pour and trim orthodontic models, fabricate a maxillary Hawley, mandibular Hawley, holding arch, space maintainer, arch expander, tongue thrust and thumb habit appliances, occlusal palatal splint, bite planes, operate welding machine, orthodontic model trimmer, orthodontic blowpipe, write the gauges of wire that are used for the orthodontic appliances, identify the functional appliances and their clinical applications, and write the theory associated with the use of the appliance. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 110.

**204A-4.5 Crown and Bridge I.** The student will be able to write definitions of the nomenclature for crown and bridge I prosthetics; communicate orally and in writing the theory necessary for successful completion of the laboratory projects; construct working models, full cast crowns, inlays and veneer crowns. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 202.

**204B-4.5 Crown and Bridge II.** The student will be able to write definitions of the nomenclature for crown and bridge II prosthetics; communicate orally and in writing the theory necessary for completion of the laboratory projects; construct working models, multiple unit bridgework, broken stress bridgework, crown under an existing partial denture, opposing crowns, and soldering procedures. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 204a.

**205-1 Dental Laboratory Management.** The student will be able to identify how the following areas of management relate to the dental laboratory technician and the dental laboratory industry: principles and practices of management, marketing management, financial management, human resource management, and production management.

**206A-4.5 Dental Ceramics I.** The student will be able to construct porcelain jackets and porcelain-to-ceramic alloy restorations. Included will be cast preparation, waxing for porcelain bonded to ceramic alloy, casting, finishing, and porcelain firing techniques. Related theoretical concepts will be presented. The correct use and function of finishing and casting equipment and porcelain furnaces will be included. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 202.

**206B-4.5 Dental Ceramics II.** The student will be able to construct porcelain bonded to ceramic alloy restorations. Included will be veneer and full coverage porcelain restorations and bridges using modern methods and techniques. Fabrication of porcelain laminates will be included. Also, the theory involved in conventional and new techniques for porcelain-to-metal restorations will be included as well as color control, and staining procedures. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 206a.

**210-4.5 Applied Prosthodontics.** The student will be able to complete removable prosthodontic cases per directions of the dentist's prescription. Emphasis is on fabricating removable dental prosthesis on practical laboratory models. Laboratory 20 hours. Five weeks. Prerequisite: all 100 and 200 level dental technology courses.

**299-1 to 16 Individual Study.** Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and department chair is required.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

## East Asia (EA)

**300-3 Masterpieces of Oriental Literatures.** Lectures and collateral readings of representative oriental literary works in English translation with special attention to literary forms and thought from ancient to contemporary China and Japan. No knowledge of an oriental language required.

**370-1 to 6 (1 to 3 per topic) Topics in East Asian Cultural Traditions.** Selected topics in East Asian cultural traditions. May be repeated to a total of six hours with the consent of the department. No prerequisite. Taught in English.

## Economics (ECON)

**113-3 Economics of Contemporary Social Issues.** (University Core Curriculum) An examination of the basic economic problems confronting United States society and the world today. The analysis is undertaken utilizing fundamental economic concepts with emphasis on alternative economic policies. Topics as diverse as health care, the national debt, crime, pollution and international trade are addressed.

**240-3 Introduction to Microeconomics.** Study of businesses, consumers, and the government and their effects on prices, output and income distribution. Current economic problems will be used as illustrative examples. Prerequisite: satisfaction of the University Core Curriculum mathematics requirement.

**241-3 Introduction to Macroeconomics.** Determination of income, employment, output and price levels in the national economy; government taxation, expenditure, and monetary policies to solve problems such as inflation and unemployment. Prerequisite: satisfaction of the University Core Curriculum mathematics requirement.

**300-3 to 9 Contemporary Economic Problems.** A study of one or more contemporary economic problems. Problems chosen vary from semester to semester and the topic will be announced in advance. Prerequisite: 113, 240, 241 or consent of instructor.

**301-1 to 6 Economic Readings.** Readings in books and periodicals in a defined field, under direction of one or more faculty members. Periodic written and oral reports. Prerequisite: consent of instructor and department chair.

**3021-3 History and Philosophy of the World's Economic Systems.** (University Core Curriculum) An investigation into how economic systems coexist with, and determine, or are determined by, the political and social structures in internationally diverse countries. Utilizing both economic concepts and an institutional approach the evolution of systems in nations such as Russia, Japan, the United States, China and others will be explored.

**303-3 Poverty and the Economy.** Poverty as a study of income inequality. Economic determinants of income inequality are isolated and related to current policy proposals.

**308-3 Economics and Business Statistics.** Survey of the foundations and applications of the principal statistical methods used in economic and business decision making. Included are probability theory, probability distributions, and testing hypothesis about, and estimation of, the important types of population parameters. Prerequisite: Mathematics 140 or equivalent.

**310-3 Labor Problems.** A comprehensive overview of the relation of labor to the United States economy. Included are the history of labor in the United States; analysis of institutions affecting labor; the theory of wage and employment determination; as well as analyses of unions and collective bargaining, discrimination, unemployment, and the distribution of income. Prerequisite: 240 or consent of instructor.

**315-3 Money and Banking I.** Study of the operation of the money and banking system in the United States. Stresses Federal Reserve control of the money supply and credit conditions to combat inflation and unemployment. Monetary arrangements and problems among nations are also considered. Prerequisite: 241 or consent of instructor.

**322-3 Introduction to Economic Development.** An analysis of the preconditions, processes, and problems involved in economic development. Both the theory and policy relevant to development, with special emphasis on the developing or emerging economies, are stressed. Prerequisite: 240 and 241 or consent of instructor.

**329-3 Introduction to International Economics.** Introduction to the principles of international economics. Stresses the relationship between the balance of payments and the United States economy, the determinants of deficits and surpluses, and policy options to correct an imbalance. Prerequisite: 240 and 241 or consent of instructor.

**330-3 Public Finance.** Effects of government spending and taxing activities on the rest of the economy. Analysis of government debt, the federal budgetary process, and various taxes used in the United States. Prerequisite: 240 or consent of instructor.

**333-3 Economics of the Environment.** Factors which lead to physical and human deterioration in a market economy. Consideration of solutions to such problems as urban decay, overpopulation, and pollution. Prerequisite: 240, 241 or consent of instructor.

**334-3 Health Economics.** Factors underlying the demand for and supply of health and medical care services. Included are the market, voluntary nonprofit, and governmental sectors of the industry. Special topics are the regional coordination of hospital facilities and services, the consumer price index and the measurement and costs of control programs.

**340-3 Intermediate Microeconomics.** A survey of theories of household, firm, and government economic behavior in the determination of competitive and non-competitive market prices. Emphasis is on understanding the United States economic system and on evaluating existing and proposed government microeconomic policies designed to improve the system. Not open to students who have had Economics 440. Prerequisite: 240 or consent of instructor.

**341-3 Intermediate Macroeconomics.** The determinants of fluctuations in aggregate economic activity, unemployment and inflation. An analysis of the behavior of consumption and investment, the impact of government monetary and fiscal policies, and factors affecting the rate of economic growth. Not open to students who have had Economics 441. Prerequisite: 241 or consent of instructor.

**361-3 Regional and Urban Economics.** A survey of regional and urban economic growth and the associated problems, including disparities among regions in income and employment. Examination of governmental policies aimed at reducing or eliminating such problems as depressed areas and urban blight. Prerequisite: 240, or 241, or consent of instructor.

**374-3 Industrial Organization.** A survey of economic theories and empirical studies on the nature and consequences of business rivalry in imperfectly competitive markets. Includes such topics as oligopoly, economics of scale, natural monopoly, introductory game theory, advertising, imperfect information, spatial competition, patents, and innovation. Prerequisite: 240.

**408-3 Economics and Business Statistics II.** A continuation of 308 which includes the construction, interpretation, and use of economic data. Topics include correlation, regression, decisionmaking, index numbers, time series analysis, forecasting, and other statistical techniques used in analyzing economic and business data. This course will not count as graduate credit for economics majors. Prerequisite: 308 or equivalent.

**416-3 Money and Banking II.** An examination of the principal institutions whose joint actions determine the supply of money in the United States economy. Emphasis is placed on the commercial bank operating as a firm within the Federal Reserve System. Policy issues are examined for the regulation of the banking industry as well as for the control of the domestic money supply. Prerequisite: 315, or 340, or 341, or consent of instructor.

**419-3 Latin American Economic Development.** Special attention to contemporary policy issues and alternative strategies for development. Among the topics included are inflation and financial reform, international trade and economic integration, foreign investment, and agrarian reform. Prerequisite: 322, or 340, or 341, or consent of instructor.

**420-3 The History of American Growth in the 20th Century.** An analytical survey of American growth in the present century. Concentrates on problems associated with the United States' role as a world economic power and changes in economic institutions engendered by rapid technological change and the need to cope with such problems as income distribution, equity, the growing public sector, inflation, unemployment, and others. Prerequisite: 340, or 341, or consent of instructor.

**429-3 International Trade and Finance.** Analysis of the pattern and volume of world trade and capital flows; effects of trade and payments on the domestic economy; problems and methods of adjusting to change in the balance of payments. Prerequisite: 340 and 341 or consent of instructor; and Mathematics 140 or 150, or consent of instructor.

**431-3 Public Finance II.** State and local. Analysis of the economic effects, problems, and alternative solutions concerning state and local government expenditures, revenues, and debt. Prerequisite: 330 or 340 or 341 or consent of instructor.

**436-3 Government and Labor.** Influence of government and law on collective bargaining, on the internal operation of unions, and on job discrimination in the public and private sectors. Prerequisite: Political Science 114 and Economics 113 or equivalents or consent of instructor.

**440-3 Price, Output, and Allocation Theories.** A systematic survey of theories of product prices, wage rates, rates of production and resource utilization under conditions of competition, monopolistic competition, oligopoly and monopoly markets. Emphasis is on developing analytical tools useful in the social sciences. Not open to students who have had Economics 340. Prerequisite: 240 or consent of instructor.

**441-3 Contemporary Macroeconomic Theory.** An examination in the causes of inflation, unemployment, and fluctuations in aggregate economic activity, factors affecting consumption and investment, and the sources of economic growth. Emphasis is on understanding contemporary United States macroeconomic problems and the options for fiscal, monetary, and income policies facing the United States government. Not open to students who have had 341. Prerequisite: 241 or consent of instructor.

**443-3 Honors Seminar in Economics.** Application of the tools of economic analysis to the study of contemporary social problems. Enrollment limited to economic majors who have a minimum cumulative grade point average of 3.0 or higher in all prior economics courses. Economics graduate students are not permitted to enroll in this course. Prerequisite: 340 and 341; and Mathematics 140 or 150, or consent of instructor.

**450-3 History of Economic Thought.** An analytical study of the development of economic ideas, with special reference to historical and societal context, central thrust, and impact. Such benchmark figures as Smith, Marx, Marshall, Veblen, and Keynes are highlighted and major schools of economic thought are identified. Prerequisite: 240 and 241; or 113; or consent of instructor.

**463-3 Introduction to Applied Econometrics.** Applications of statistical tools to specific economic problems. Numerous examples will be examined in order to achieve this goal. Emphasis will be given to model misspecification, non-classical estimation techniques, data analysis, and simultaneous equations. Prerequisite: 408 or consent of instructor.

**465-4 Mathematical Economics I.** A systematic survey of mathematical economics. Application of basic mathematical tools to economic analysis, and a restatement of economic theory in mathematical terms. Prerequisite: 340 or 440, and Mathematics 140 or consent of instructor.

**474-3 Antitrust and Regulation.** The theory and practice of government policy toward imperfectly competitive markets. Includes such topics as merger policy, unfair trade practices, regulation of natural monopolies, peak load pricing, safety and environmental regulation, and consumer protection. Prerequisite: 340 or 374.

**479-3 Problems in Business and Economics.** Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 240; 308 or Management 208; Marketing 304; Mathematics 140 or 150 or consent of instructor.

## Education, College (EDUC)

**258-1 to 4 Credit for Work Experience.** Credit granted for prior work experience relevant to the student's major program in which specific experiences with children or youth can be documented. Prerequisite: 310, 315, and consent of coordinator of professional education experiences.

**259-1 to 60 Occupational Education Credit.** Credit for educational experiences in training schools and institutes relevant to the particular departmental program. Credit hours to be determined by the associate dean for undergraduate studies.

**300-1 to 10 Experimental Education.** Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

**308-3 Characteristics and Methods for Teaching Exceptional Children.** For preservice teachers and school personnel who serve directly and indirectly handicapped children and youth. The course focuses on providing the essential characteristic information and skills to appropriately educate the handicapped in a variety of settings. Prerequisite: 310, 314.

**310-1 to 2 Study of Teaching.** Requirement in professional education sequence which cannot be waived. Introduction to major roles assumed by classroom teachers. Orientation to the Teacher Education Program Reflective Teaching Model and to the teaching profession. During the semester, there are four class meetings, lasting two hours each, scheduled to be held on-campus. Participation and observation in public schools two one-half days per week or one full day per week on Tuesdays, Wednesdays, or Thursdays. Placement in public school settings coordinated by College of Education Student Services. Students who have completed 36 clock hours of observation/participation in an approved course prior to enrollment in 310 may enroll for one semester hour. All sections of 310 require a restricted class card which may be obtained in Wham 135. 72 clock hours. Prerequisite: admission to the Teacher Education Program.

**311-2 School and Society: Historical, Sociological, and Philosophical Perspectives.** A requirement in the professional education sequence. Fulfills the minimum state certification requirement in the history and philosophy of education. Assists students in developing an understanding of the organization, function, and role of schools in the United States.

**312-1 to 8 Field Observation and Participation.** Allows the pre-service teacher education student to observe and participate in activities and experiences relating to the offerings of their major department. These experiences will be correlated with the offerings of the student's major department, and the experiences will be designed to meet the needs of the individual student. Enrollment in this course will be coordinated by the student's major department. Placement in public school settings will be coordinated by the College of Education Student Services. Prerequisite: 310, 311, 314 and 315 or concurrent enrollment.

**314-2 Human Growth, Development, and Learning.** A requirement in the professional education sequence. This course deals with factors involved in the teaching-learning process including cognitive development, socio-personal characteristics, socio-cultural characteristics, motivation for learning, and principles of school learning. Prerequisite: Psychology 102 or equivalent.

**315-3 Organizing and Directing Instruction.** A requirement in the professional education sequence. Techniques and procedures applicable to effective teaching including planning for instruction, instructional design, and general teaching strategies. Teaching skills will be demonstrated by the students and evaluated by the instructor on a regular basis in the Teaching Skills Lab. 12 lab hours. Laboratory work also required in media production laboratory and microcomputer laboratory. A \$10 laboratory fee is required. Prerequisite: 310 or concurrent enrollment, 314 and admission to the Teacher Education Program.

**316-2 Classroom Management and Discipline.** Includes techniques and procedures intended to provide teachers with skills for managing groups of students. Content includes management techniques, discipline models, child abuse identification and reporting, field observation, and data collection in the public schools. Public school assignments are one-half day per week on Tuesdays, Wednesdays, or Thursdays for ten weeks beginning with week five. Placement in public schools is coordinated by the College of Education Student Services. All sections require restricted class cards. Thirty clock hours. Prerequisite: 310, 314 and admission to the Teacher Education Program.

**317-2 Evaluation of Learning and Teaching.** Covers construction and use of teacher-made tests of classroom learning; interpretation and use of standardized tests of achievement, aptitude, and scholastic ability; procedures for determining and reporting grades; and procedures for measuring and evaluating instructional effectiveness. Prerequisite: 310, 314, 315, admission to the Teacher Education Program.

**400-1 to 4 Student Teaching.** A requirement in the undergraduate professional education sequence, 400 represents preliminary student teaching experiences necessary for certification by entitlement. For undergraduate students who are majoring in special education and are seeking entitlement to more than one teaching certification in the state of Illinois. Enrollment in this course must be arranged through the College of Education Student Services. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 312.

**401-1 to 12 Student Teaching.** A requirement in the undergraduate professional education sequence, 401 concludes the student teaching experience necessary for certification by entitlement. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program and acceptance for student teaching.

**402-5 to 8 Student Teaching for Provisionally Certified Teachers.** Offered for purposes of converting a provisional teaching certificate to a standard teaching certificate. The student teaching experience may be pro-

vided for in the position of employment, without pay, under the supervision of a university supervisor. Enrollment in this course must be arranged with the coordinator of professional education experiences in the College of Education Student Services. Prerequisite: consent of instructor, provisional certificate, and teaching experience. For undergraduate credit only.

**450-1 to 10 Experimental Education.** Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

## Educational Administration and Higher Education (EAHE)

**402-1 to 3 Principles of Student Personnel Group Work.** Acquaints the student with group work possibilities and functions in higher education.

**430-3 History of Education in the United States.** An historical study of the problems of American education.

**432-3 Education and Social Forces.** A study of the social forces that shape educational policies in the United States.

**454-3 Contrasting Philosophies of Education.** An examination of current educational problems and trends in the light of contrasting philosophies of education.

**455-3 Introduction to Adult and Continuing Education.** Introduces the multifaceted areas of adult and continuing education in traditional and non-traditional settings by reviewing and studying philosophies, directions, program efforts, and activities associated with them.

**495 (3 to 9) (3,3,3) Workshop in Adult Education.** The foci for these workshops are to provide quality educational experiences for students and practitioners in the field of adult and continuing education in three major areas: (a) current issues, (b) improvement of instruction and programs in adult education, and (c) evaluation in adult education.

## Educational Psychology (EPSY)

**100-2 Decision Making for Career Development.** Examination of factors relating to career decision making. Emphasis on the continuous use of learned processes and information in vocational development. Supplementary group guidance and counseling sessions required. Charges may be assessed to cover the cost of administering and scoring occupational interest surveys to be given during the course. These charges should be less than \$10.

**307-3 Educational Psychology.** The basic factors involved in the teaching-learning process including student characteristics, motivation, learning, and teacher-student relationships. The course activities are intended to prepare the student with a basic foundation in educational psychology for the purpose of teaching.

**380-1 to 4 Practicum in Instructional Roles.** One semester hour of credit for every three modules selected. Application of educational psychology in a practical teacher-learner situation. Class members conduct actual instructional activities with individuals or groups of students. Field activities are required and the student may be required to purchase additional materials not to exceed \$20. Prerequisite: consent of instructor.

**402-3 Basic Statistics.** A master's level terminal statistics course. Emphasis on descriptive statistics, graphical representation of data, correlation, and simple regression. Includes an introduction to hypothesis testing procedures and analysis of variance.

**412-3 Human Behavior and Mental Health.** A study of the principles of human needs, mechanisms of adjustment, and factors and conditions in life that tend to affect mental health. Prerequisite: junior or senior standing.

**418-3 Psychology of the Classroom.** Intended to develop interpersonal skills such as values clarification, empathy, and listening. Strategies for the resolution of conflicts and reasons for students demonstrating disruptive behavior will be discussed. Role-playing, group processes, concepts and activities in behavior modification, and activities related to concepts of discipline will be examined. Content should be suited to parents, teachers, and other professionals.

**422-3 Introduction to Individual and Group Assessment.** The student will be introduced to the basic testing process and the problems related to individual group assessment and will be expected to choose a project for study and investigation. The project must be related in some way to the role and function of the counselor in different settings. The various types of assessment instruments and the manner in which the data derived therefrom can be employed in consultation.

**442-3 Introduction to Counseling.** The following topics will be covered: purposes of counseling; counselor roles in various settings; approaches to counseling; counseling activities; and application of the above.

**481-1 to 12 Seminar.** Conducted by staff members and distinguished guest lecturers on pertinent topics. Prerequisite: consent of instructor and department.

**482-1 to 3 Seminar in Marriage and Family Counseling.** Seminar will focus on current clinical and research topics in the field of marriage and family counseling and the general issues that emerge from the marriage and family counseling practicum. Prerequisite: 494a or b, 490, concurrent enrollment in 494E and permission of instructor.

**490-3 Introduction to Marriage and Family Counseling.** Problems and techniques of premarital, marital, divorce, family, and family crisis counseling. Counseling individuals singly, in family units, and in groups.

**491-1 to 6 Special Research Problem—Individual Study.** For majors. Formulating, investigating, and reporting on a problem in the area of applied psychology. Prerequisite: advanced standing and consent of department.

**493-3 Counseling Skill Development.** Through simulated counseling situations and extensive examination of counseling case studies, counseling skills are examined and practiced.

**494A-3 School Counseling Practicum.** A combined seminar, laboratory, and field experience representing the central focus of the program in school counseling. Enables the student to practice the role of the counselor under close supervision. Graded *S/U* only. Prerequisite: 493, 538 and admitted to counseling program.

**494B-3 Counseling Practicum.** Practice of counseling skills with different populations in varied settings. The professional setting depends on the student's interest area. Individual and group supervision are provided. Use of tape recorder is required. Graded *S/U* only. Prerequisite: 493, 538 and admitted to counseling program.

**494C-3 Career Group Practicum.** Supervised in the creation and maintenance of small group process for the purpose of career development. Application of theoretical models is stressed concurrently with entry level skills in the facilitation of small groups and career counseling. Graded *S/U* only. Prerequisite: 542, 543 and admitted to counseling program.

**494D-3 to 6 Practicum in School Psychology.** Observation and participation in case conferences related to the development of psycho-educational assessment and planning, including teacher and parent consultation, field observations, and psychometric applications. Graded *S/U* only. Prerequisite: 533, 546 and consent of instructor.

**494E-1 to 6 Practicum in Marriage and Family Counseling.** Supervised on-campus counseling experience with couples and families. Supervision will be individual as well as within the context of a therapy team. Graded *S/U* only. Prerequisite: 493, 494a or b, 490, concurrent enrollment in 482 and consent of instructor.

## Electrical Engineering (EE)

Safety glasses, a hand-held scientific calculator, and textbooks are required of each electrical engineering student.

**101-3 Introduction to Electrical Engineering.** Concepts and fundamental laws of electrical engineering. Mathematics in modeling and analyzing electric components and systems. Demonstrations of electric and electronic circuits and devices. Applications of computers. Opportunities for electrical engineers in industrial, academic, medical and governmental settings. Mandatory Pass/Fail.

**222-3 Introduction to Digital Computation in Electrical Engineering.** Digital computation to solve basic problems in electrical engineering. Analyzing problems, flowcharting, coding, diagnosing, executing and verifying solutions. Programming in C language. Prerequisite: Mathematics 111.

**225-3 Introduction to Digital Systems.** Number systems. Boolean algebra. Combinatorial circuits; minimization. Sequential circuits. Logic devices. Introduction to switching algebra. Prerequisite: Engineering 222.

**235-4 Electric Circuits I.** Concepts and basic laws in analysis of AC and DC linear circuits. Mesh and nodal methods, Thevenin's and Norton's theorems, superposition principle, and phasor notation. Transients. Basic instrumentation. Lecture and laboratory. Prerequisite: Mathematics 250.

**327-4 Sequential Circuit Design.** Introduction to switching algebra, logic gates, description synthesis and organization of asynchronous and a synchronous sequential circuits, flip flops, registers, counters, and memory. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 225.

**336-3 Electric Circuits II.** Three phase balanced circuits. Mutual inductance. Series and parallel resonance. Laplace transform and its applications. Transfer function. Two port network. Prerequisite: 235 with a grade of C or better and concurrent enrollment in Mathematics 305.

**345-4 Electronics.** Fundamental electronics and basic signal-processing. Characteristics and typical applications of analog and digital electronic modules. Operational amplifiers. Fundamentals of transistors. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 235 with a grade of C or better and concurrent enrollment in 336.

**355-3 Signals and Systems.** Concept of continuous and discrete signals and systems. Singularity functions. Differential and difference equations. Convolution. Fourier transform. Z transform. System transfer function. State variables. Stability. Prerequisite: 336 or concurrent enrollment.

**375-3 Electromagnetic Fields.** Electric and magnetic fields using vector analysis. Maxwell's equations, Laws of Coulomb, Gauss, Ampere, and Faraday. Concepts of energy and potential. Poisson and Laplace fields. Wave equation and plane waves. Prerequisite: Mathematics 251.

**385-4 Electromechanical Energy Conversion.** Principles of electromagnetic energy conversion and related circuitry. Magnetic circuits. Transformers. DC machines. Single phase and polyphase machines. Polyphase circuits. Lecture and laboratory. Prerequisite: 235 with a grade of C or better and concurrent enrollment in 336.

**392-1 to 6 Electrical Engineering Cooperative Education.** Supervised work experience in industry, government or in a professional organization. Students work with on-site supervisor and faculty adviser. Reports are required from the student and the employer. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: sophomore standing.

**421-3 Introduction to Hardware Descriptive Languages.** Fundamental concepts, techniques and tools for computer-aided design of simple digital systems. Modeling of digital systems using hardware descriptive languages, behavioral description and structural description. Realization of the design on FPGA-like chips. Simulation and testing. Prerequisite 327.

**424-4 Design of Microprocessor-Based Systems.** Microprocessor terminology. Design, construction, and programming of microprocessor-based systems. Lecture and laboratory. Cost of parts for microprocessor-based system, approximately \$80. Prerequisite: 427 or concurrent enrollment, or consent of instructor.

**425-3 Computer-Aided Design of Digital VLSI Systems I.** Principles of using CAD tools in designing digital VLSI systems: stick diagrams, design rules, and layout diagrams for CMOS technology. Design and implementation of custom VLSI integrated circuits. Projects. Prerequisite: 336, 345 and 427.

**427-4 Structure of Digital Computers.** Introduction to structure and design of digital computers: central processing unit, arithmetic unit, memory organization including cache and virtual memory concepts, input and output systems, interrupts, direct memory access, hardwired, and microprogrammed control units. Trends in computers. Lecture and laboratory. Prerequisite: 327.

**428-4 Digital Hardware Design.** Introduction to theoretical concepts and experimental design and construction of digital systems with a microprocessor as system controller. FPGA (Field Programmable Gate Arrays) or similar logic. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 427 or consent of instructor.

**443-4 Electrical Engineering Design.** Students select suitable project, define and design subsystems, define requirements of interfaces among subsystems, integrate subsystems into final design, and document, price, and schedule project. Lecture and laboratory. Prerequisite: senior standing in electrical engineering.

**446-4 Electronic Circuit Design.** Analysis and design of electronic circuits, both discrete and integrated. Computer-aided circuit design and analysis. Consideration of wideband, power, and tuned amplifiers; switching circuits; feedback; and oscillators. Design projects. Lecture and laboratory. Laboratory fee of \$10 to defray cost of consumable items. Prerequisite: 336, 345, and 355 or concurrent enrollment.

**447-4 Electronic Devices.** Physical mechanisms governing the operation of a wide variety of semiconductor devices. Applications of specific devices to illustrate performance characteristics. Device design related to terminal properties. Term paper on design. Lecture and laboratory. Prerequisite: 336 and 345.

**448-4 Laser Electronics.** Excitation and lasing in various liquid, solid, and gas lasers. Techniques and principles utilized in design of laser system. Lecture and laboratory. Prerequisite: 375.

**456-3 Control Theory.** Fundamentals and techniques for analysis and design of linear, dynamic systems: Laplace transformation, signal-flow graphs, state variable equations, stability conditions, time-domain analysis, frequency-domain analysis, root-locus method, and controller designs. Prerequisite: 336 and 355.

**458-3 Communications Theory.** Signal transmission through linear systems. Applications of Fourier transform in communications. Sampling theory. Digital coding of analog sources: pulse code, differential pulse code, and delta modulations. Data transmission through telephone channels. Amplitude and frequency modulations; signal-to-noise ratio. Prerequisite: 336 and 355.

**459-3 Digital Control.** Analysis and design of linear, discrete-data and digital control systems: Z-transformation, state variable equations, stability criteria, time-domain analysis, frequency-domain analysis, and digital controller designs. Prerequisite: 456 or concurrent enrollment.

**462-3 Biomedical Instrumentation.** (Same as Physiology 462.) Diagnostic and therapeutic modalities related to engineering. Cardiovascular, neural, sensory and respiratory instrumentation. Prerequisite: consent of instructor.

**465-3 Instrumentation.** Measurement systems for research and manufacturing. Instrument characteristics. Digital and analog techniques and devices in instrumentation. Transducers. Signal conditioners. Displays. Control devices. Statistics of measurement. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 336 and 345.

**468-3 Digital Signal Processing.** Discrete-time signals and systems; sampling; Z-transform; discrete Fourier transform; fast Fourier transform algorithms; digital filter design; digital filter realizations. Prerequisite: 355 and 336.

**476-3 Introduction to Broadband Communication Systems.** Digital transmission fundamentals. Satellite, microwave, video coding and optical transmission. Prerequisite: 355 and 375.

**477-4 Electromagnetic Waves.** Transmission-line analysis. Phasor diagrams. Smith chart. General eigen-wave analysis. Guided wave. Plane waves including optical waves. Oblique reflection and transmission. Non-reciprocal wave systems. Design of electromagnetic systems. Lecture and laboratory. Prerequisite: 375 or consent of instructor.

**478-3 Digital Communication.** Application of probability theory and random processes in digital communication systems. Behavior of digital communication systems in noise. Performance comparisons of digital modulation systems. Optimum signal detection. Entropy and channel coding. Prerequisite: 355.

**479-3 Electromagnetic and Optical Measurements.** Fundamental measurement techniques in electromagnetic wave systems and optical systems. Accurate measurements of microwave properties of materials, laser transmission reception, modulations, and holographs. Prerequisite: 375.

**483-4 Power Electronics.** Power semiconductor devices. Power converters. Solid-state control of electro-mechanical systems. Lecture and laboratory. Not for graduate credit. Prerequisite: 336, 345, and 385.

**484-3 Computer-Aided Circuit Analysis.** Network Topology. Nodal analysis of linear and nonlinear networks. Standard form of state equations of linear networks. Numerical solution of state equations. Sensitivity calculations. Prerequisite: 336.

**486-3 Electric Energy Sources.** Principles and utilization of nuclear, solar, and fossil-fuel generators. Direct energy-converters. Energy-storage devices. Cost of generating power. Prerequisite: 336 and 385, or consent of instructor.

**487-4 Power Systems Analysis.** Introduction to analysis of electric power systems. Modeling of power system components. Power system configuration. Per-unit quantities. Network analysis applied to power systems. Load flow. Lecture and laboratory. Prerequisite: 385.

**488-3 Power Systems Engineering.** Economic operation of power systems; symmetrical components; short circuit analysis; stability. Prerequisite: 487.

**489-3 Electric Power Distribution.** Design of primary and secondary distribution networks. Load characteristics. Voltage regulation. Metering. System protection. Technical and legal requirements in power distribution. Prerequisite: 487.

**492-1 to 3 Special Studies in Electrical Engineering.** Individual projects and problems selected by student or instructor. Open to seniors only. Not for graduate credit. Prerequisite: consent of instructor.

**493-1 to 3 Special Topics in Electrical Engineering.** Lectures on topics of special interest to students in various areas of electrical engineering. Designed to test new and experimental courses in electrical engineering. Prerequisite: consent of instructor.

**495-4 (1,3) Electrical Engineering Design.** (a) Development of preliminary design. Feasibility and cost-benefit analyses. Ethics and professionalism. Organization, identification of tasks, assignment of tasks to team members and coordination. Development of final proposal. Not for graduate credit. Prerequisite: Senior standing in electrical engineering, (b) Development of final design. Scheduling and cost estimating. Documentation of all stages of design. Construction of final design (if project warrants). Evaluation of final design. Written, oral and poster presentation of final design. Not for graduate credit. Prerequisite: 495a.

## Electronics Management (ELM)

**100-3 Introduction to Electronics.** This course is an introduction to the field of electronics technology designed for students who are not majoring in Electronics Management. It examines the role of the electronics technician and teaches the fundamental concepts of electronics.

**101-3 DC-AC Circuit Analysis.** This course covers the theory and application of passive DC and AC circuits presented in a comprehensive manner using qualitative and quantitative methods. Theoretical topics such as Ohm's Law and Kirchhoff's Law are applied to analyze DC and AC circuits. Prerequisite: concurrent enrollment in 111, equivalent, or consent of instructor

**102-3 Electronic Circuits Theory.** This course presents the use and analysis of active and passive devices in electronic circuits. Semiconductor diodes, bipolar junction transistors and field effect transistors are discussed in circuit applications which include power supplies, amplifiers and switching circuits. Prerequisite: 101 and concurrent enrollment in 112 and 121 or consent of department.

**111-3 DC-AC Circuit Analysis Laboratory.** This course introduces fundamental skills required by the electronics technician. The fundamental laws and theories of passive DC-AC circuits will be verified through experimentation. Hand tools and electronic test equipment will be used to construct, analyze and troubleshoot electronic circuits. The measurement and analysis of electronic circuits will require the use of the oscilloscope, multimeter, power supply and signal generator. Six contact hours. Prerequisite: concurrent enrollment in 101 or consent of department

**112-3 Electronics Circuits Laboratory.** This course introduces the fundamental operation, application and troubleshooting techniques associated with semiconductor devices. Formulas and theories associated with the operation of semiconductor circuits will be verified using the oscilloscope, multimeter, power supply and signal generator. Experiments demonstrate the application of diode, transistor amplifier and transistor switching circuits. Six contact hours. Prerequisite: 111 and concurrent enrollment in 102 or consent of department.

**121-3 Advanced Analysis and Digital Fundamentals.** This course is divided into two distinct subject areas. The first subject area includes advanced laws and theories of DC-AC circuits, circuit theorems and AC circuit analysis using complex numbers. The second subject area encompasses digital fundamentals which include numbering systems, logic gates, combination logic, Boolean algebra, multivibrator circuits and their applications. Prerequisite: concurrent enrollment in 102 or consent of department.

**199-1 to 10 Individual Study.** This course provides the first-year student with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor and department chair.

**201-3 Digital Circuits Theory.** This course presents the concepts of digital circuits that make up systems such as numeric control, computers and communications networks. The application and analysis of counters, registers, arithmetic logic circuits, analog conversion circuits, memory circuits and basic microprocessor systems are presented. Prerequisite: 102 and 121 or consent of the department.

**202-3 Telemetry and Industrial Circuits Theory.** This course introduces the principles of acquisition, transmission and application of measurements and data in industrial and commercial systems. The course also introduces the theory and application of solid state and electro-mechanical devices used in industrial control. The principles of the operation of sequential and analog process control are introduced. Prerequisite: 221 and concurrent enrollment in 212 or consent of department.

**211-3 Digital Circuits Laboratory.** This course provides practical experience assembling, testing, and troubleshooting counters, registers, arithmetic logic circuits, analog conversion circuits, memory circuits and basic microprocessor systems. An emphasis is placed on the use of data books, safety and troubleshooting. Six contact hours. Prerequisite: 112 and 121 or consent of department.

**212-3 Telemetry and Industrial Circuits Laboratory.** This course demonstrates the principles of measurement, transmission and utilization of data found in industrial systems. Experiments and projects develop skills in assembling, testing and trouble-shooting of transducer, telemetry and power electronic circuits. An emphasis is placed on the safe procedures for test and measurement of high power and control systems found in the industrial environment. Six contact hours. Prerequisite: 112 and concurrent enrollment in 202 or consent of department.

**221-3 Electronic Circuit Analysis.** This course analyzes electronic systems through the study of single stage transistor, multiple stage transistor and operational amplifiers. Simplified modeling techniques are applied to compute impedance, gain and frequency response of linear circuits. The course also investigates the effect of positive and negative feedback on circuit performance and characteristics. Operational amplifier applications

of filtering, analog computation and waveshaping are covered. Prerequisite: 102 and 121 or consent of department.

**223-1 to 3 Electronics Certification Test Preparation.** This course will provide the student an opportunity to prepare for industry recognized certification tests. This is an individualized self-paced course. Certification tests are in the areas of communications technology, biomedical technology, industrial technology and computer technology. The student will be responsible for all fees associated with taking the certification tests and purchasing reference materials that are not provided by the program. Prerequisite: consent of department.

**224-3 Computer Systems Applications.** This course introduces students to microprocessor and microcomputer systems. Included is an introductory presentation of computer operating systems, basic hardware components, microcomputer peripherals, and local area networks. Prerequisite: consent of department.

**258-1 to 30 Electronics Work Experience.** Credit granted for prior job skills, management-worker relations and supervisory experience while employed in the electronics industry. Credit will be established by departmental evaluation.

**259-1 to 60 Electronics Occupational Education.** A designation for credit granted for past occupational educational experiences related to electronics management. Credit will be established by departmental evaluation.

**298-1 Multicultural Applied Experience.** (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race, or class. The student can sign up for the one credit experience in the same semester he or she fulfills the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult the respective department for course specifications regarding grading, work requirements and supervision. Prerequisite: Approval of the site representative, faculty supervisor and department chair.

**299-1 to 16 Individual Study.** This course provides the student with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor and department chair.

**301-3 Introduction to Biomedical Instrumentation.** This course covers a broad range of material that will introduce the student to maintenance, calibration, safe application and management of biomedical equipment. This course will also provide basic knowledge about the theory of operation, terminology and the underlying principles associated with biomedical equipment. Prerequisite: Allied Health Careers Specialties 105 and 141 or equivalent or consent of department.

**302-3 Optical Electronics.** This course is designed to provide the theory and practice necessary to introduce the student to the broad fields of fiber optics and optoelectronics. Fiber optics is the optical technology concerned with the transmission of radiant power through transparent fibers and optoelectronics pertains to devices that emit, modify, or respond to optical radiation. Applications of fiber optics and optoelectronics to communications, imaging and sensing will be emphasized, with a concentration on communications applications. Prerequisite: departmental approval.

**303-3 Microcomputer Construction and Troubleshooting.** The student will be able to construct a microprocessor based system, make it operational and develop techniques used in software/hardware troubleshooting. Three credit hours. Prerequisite: 202 or 212 or consent of department and concurrent enrollment in 309 or consent of instructor.

**304-3 Communication Systems.** The non-calculus based theory of circuits used in modern AF, Video and RF communication systems; applicable to PA systems through satellite communications. Modulation, demodulation, multiplexing and conversion of both digital and analog signals will be covered. Receivers, transmitters and various interface devices will be studied. Lecture three credit hours. Prerequisite: consent of department and/or consent of instructor.

**305-3 Microcomputer Maintenance.** This course will provide the theory and practice necessary for the student to be able to diagnose and repair personal computers and peripheral devices to the component level using electronic test equipment. In addition, the student will be able to use interpersonal and communication skills in order to identify and satisfy customer needs. Three hour lecture/lab. Prerequisite: consent of department and/or consent of instructor.

**306-3 Computer Aided Drafting and Design for Electronics.** The theory and practice of computer-aided drawing and design encountered in the electronics industry. Course develops the competencies and skills necessary to produce the graphic designs encountered in the field. Application of computers to the synthesis of designs to practical realizations. Prerequisite: consent of department and/or consent of instructor.

**307-3 Advanced Industrial Electronics.** The theory and application of input and output field devices involved in data acquisition and computer based process control. Selection and application of computer based control equipment as it pertains to automatic monitoring, control and production. Primarily focused toward imbedded microcomputer control systems and commercial programmable controllers. Must be taken concurrently with 317. Prerequisite: 201 and 211, concurrent enrollment in 317, or consent of instructor.

**309-3 Microcomputer Programming.** This course is designed to familiarize the student with several microprocessor architectures and instruction sets with emphasis on the Intel series of processors. Microcomputer tools for programming and debugging will also be presented. The student will program in both machine language and assembly language with emphasis on programming techniques. Prerequisite: departmental approval and/or consent of instructor.

**311-3 Electronics Biomedical Instrumentation Laboratory.** This course provides hands-on experience with common biomedical instrumentation. The student will perform exercises that will teach maintenance, calibration safe application and management of biomedical instrumentation. This course will also provide basic

knowledge about the theory of operation, terminology and the underlying principles associated with biomedical equipment. Prerequisite: concurrent or prior enrollment in 301 or consent of department and/or consent of instructor.

**312-3 Optical Electronics Laboratory.** This laboratory is designed to reinforce the concepts of fiber optics, laser and light physics. Emphasis will be placed on the integration of laser, fiber optic and communication principles with electronics. Prerequisite: concurrent enrollment in 302 or consent of instructor.

**313-3 Microcomputer Construction and Troubleshooting Laboratory.** This laboratory is designed to reinforce the concepts of microcomputer construction, operation, troubleshooting, programming and interfacing through actual practice. Prerequisite: prior or concurrent enrollment in 303 and 309 or consent of instructor.

**314-3 Communication Systems Laboratory.** Designed to reinforce the concepts of modern AF, video and RF communication systems. AM, FM, SSB, PCM and complex modulation AF signals will be investigated in a laboratory environment. Prerequisite: concurrent enrollment in 304.

**317-3 Advanced Industrial Electronics Laboratory.** A laboratory course allowing hands-on experience with circuitry involved in data acquisition and compute based process control. Emphasis on the design and testing of signal conditioning circuitry, writing software, and programming imbedded microcomputer control systems and commercial programmable controllers. This is a three credit hour laboratory course to be taken concurrently with 307. Prerequisite: 201 and 211, concurrent enrollment in 307, or consent of instructor.

**319-1 to 15 Electronic Occupations Internship.** Students will be assigned to a University approved program to engage in activities related to the electronics management program and the student's career objectives. The student will perform duties as assigned by the work supervisor and the internship coordinator. Internships may be performed in one of the following areas: (a) Biomedical Equipment Technology, (b) Communications Technology, (c) Computer Technology, or (d) Industrial Technology. Mandatory Pass/Fail. Prerequisite: consent of instructor.

**320-1 to 12 Electronics Occupations Cooperative Education.** Each student will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career-related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluation, cooperative agency student performance evaluations and student reports are required. Hours and credit to be individually arranged. Mandatory Pass/Fail. Prerequisite: consent of instructor.

**337-3 Power Distribution and Motor Control.** The theory and application of electrical power distribution systems from plant substation to branch circuits. Emphasis on safety in working with these systems. Fundamental operation and application of various types of electric motors and transformers. The theory and application of electronic and electromechanical control systems for motors. Prerequisite: consent of department and/or consent of instructor.

**340-3 Application of Solid State Devices.** A technical and managerial approach to the practical application of discrete solid state devices and linear integrated circuits. The characteristics of these devices will be reviewed to assist the student in understanding their selection and application process. Prerequisite: Electronics Management major or consent of department.

**341-3 Digital Circuit Applications.** Applications of digital electronic devices and circuits in business and industry. Geared to the needs of the technical manager, this course builds upon the student's knowledge of basic electronics theory. Basic principles of subsystems are reviewed to assist the student in understanding their selection and application to business/industrial settings. Prerequisite: electronics management major or consent of department.

**342-3 Microcomputer Applications.** This course uses a microcomputer approach from the standpoint of the technical manager. The primary emphasis of this course is on the practical uses of microcomputer systems in business and industry. Basic characteristics and principles of microcomputers will be reviewed to provide an understanding of applications in specific business and industrial settings. Prerequisite: 341 or consent of department.

**343-3 Microcomputer Application Laboratory.** Laboratory experiences selected to reinforce microcomputer characteristics and practical applications in business and industry. Students sample applications of microcomputer systems on an operational microprocessor. Included is the theory of operation, basic hardware component blocks, software operating system, program development and entry. Prerequisite: 342 or concurrent enrollment in 342; may be independent study.

**350-1 to 32 Technical Career Subjects.** This course provides the student with in-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions and health service occupations offered through various workshops, special short courses, and seminars. Hours and credits to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**365-3 Electronics Industry Data Applications.** The application of statistical data within the electronics industry to include an introduction to the basic statistical treatment of data, data sources and the design of statistical studies. Emphasis in on the principles and techniques of data analysis, synthesis, and utilization as applied to decision making in the electronics field. Student will gain experience in applying data to decision making through case studies and class projects. Prerequisite: Mathematics 108 or consent of department.

**385-3 Fiscal Aspects of Electronics Management.** An introduction to the types of fiscal problems encountered in the electronics industry. The course will address the diverse sizes and types of business within the field and will include an introduction to the accounting process. Emphasis will be given to financial management systems, financial analysis tools, cash flow management and budgeting procedures. Prerequisite: electronics management major or consent of department.

**387-3 Electronics Industry Labor-Management relations.** A study of economic situations that affect labor-management relations in electronics-related career fields. Study will include the evolution of labor relations in the American electronics industry and interactive differences in labor-management relations from a global perspective. Laws that are common to both union and non-union employees will be emphasized. Prerequisite: electronics management major or consent of department.

**388-3 Legal Aspects of Electronics.** An introduction to the types of legal problems encountered in the electronics industry to include American legal heritage and legal rights. The course will emphasize the nature and classification of contracts, warranties, product liabilities, consumer protection and applicable employment laws. Prerequisite: electronics management major or consent of department.

**404-3 Communication Systems Management.** Coverage of a broad range of material that will introduce the student to maintenance, evaluation, installation, troubleshooting and management of communications equipment, with an emphasis on computer networks. This course will also provide advanced knowledge about the theory of operation, terminology and the underlying principles associated with the transmission of voice, data and video information through telephone, satellite and cellular radio communications equipment. Prerequisite: consent of department and/or consent of the instructor.

**414-3 Communication Systems Management Laboratory.** Coverage of a broad range of material that will allow the student to have hands-on experience with the maintenance, evaluation, installation, troubleshooting and management of local area networks (LANs) and telephone, satellite and cellular radio communications equipment. Prerequisite: consent of department and/or consent of instructor and concurrent enrollment in 404.

**420-1 to 12 Electronics Management Cooperative Education.** Students may participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career-related work experience. Students will receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluation, cooperative agency student performance evaluations and student reports are required. Hours and credit to be individually arranged. Mandatory Pass/Fail. Prerequisite: consent of instructor.

**441-3 Career Development for Electronics Managers.** A study of elements to consider when seeking employment in an electronics career field. These elements include personal inventories and resumes, placement service and employment agencies, interviewing techniques, letters of application, references and employment testing. Emphasis will be placed on the roles of mentoring, membership in professional organizations, continuing education and other opportunities for professional growth throughout a career in the electronics industry. Each student will develop a portfolio including personal and professional information related to individual career goals. Not for graduate credit. Prerequisite: electronics management major or consent of department.

**451-3 Current Trends in Electronics Management.** This course is designed to familiarize the student with current managerial trends that support the installation, evaluation, repair and maintenance of electronic systems. Topics may include but are not limited to economic justification and cost control, quality control and program improvement, compliance with codes, equipment control and evaluation and input to administration. Not for graduate credit. Prerequisite: senior status in electronics management or consent of department.

## Engineering, College (ENGR)

Safety glasses, a hand-held scientific calculator and textbooks are required for all engineering students.

**102-2 Computer-Aided Engineering Drawing.** Manual sketching and computer aided engineering drawings techniques. Lettering; orthographic projections, isometric projection, oblique projections, auxiliary views, dimensioning, sectioning, working drawings.

**222-4 (2,2) Computational Methods for Engineers and Technologists.** Introduces the student to the use of digital computers in the solution of technical problems that are specifically designed for the engineering and technology student. Problem analysis, flowcharting, coding, diagnostics, execution, and solution verification are discussed. (a) Programs written in FORTRAN. (b) Programs written in C language. Prerequisite: Mathematics 111.

**260-5 (2,3) Mechanics of Rigid Bodies.** (a) Principles of statics; force systems; equilibrium of particles and rigid bodies; trusses, frames and machines, centroids; friction; moments of inertia of areas. Prerequisite: 102 and Mathematics 150. (b) Principles of dynamics; mass moment of inertia; kinematics and kinetics of particles and rigid bodies; vibrations. Prerequisite: 260a or equivalent.

**300-3 Engineering Thermodynamics.** Study of the basic principles of thermodynamics. Engineering analysis of physical systems based on the first and second laws. Properties of pure substance (ideal gas behavior, non-ideal gas behavior, and equations of state.) Mixtures of ideal gases. Introduction to cycle analysis. Prerequisite: Mathematics 251, Physics 205a,b.

**3011-3 Humans and Their Environment.** (University Core Curriculum) An introduction to the study of the relationship between humans, resource consumption, pollution and the resulting environment. The effects of current human pollution and resource consumption on the environmental quality of the future. The interrelation of human population resource consumption and pollution. Methods of minimizing resource consumption and human pollution through both technological controls and changes in human behavior. Prerequisite: high school chemistry or equivalent.

**3031-3 The Role of Energy in Society.** (University Core Curriculum) Lectures, discussions and class projects directed at understanding the role of energy, power and related concepts in society; in the past, the present

and the future. Review of current energy resources and use patterns, as well as projections for new energy conservation techniques and the development of alternative energy technology. An overview of worldwide energy needs, seeking to identify future limits on energy use attributable to environmental, economic, political and other technological and evolutionary constraints. Prerequisite: satisfactory completion of three hours of University Core Curriculum science requirements.

**311-3 Mechanics of Deformable Bodies.** Introduction to the mechanics of deformable bodies. Forces and deformations. Torsion. Stresses in beams. Deflections of beams. Statically indeterminate beams. Columns. Laboratory supply fee: \$3. Prerequisite: 260a and concurrent enrollment in or completion of 222a and Mathematics 251.

**312-3 Materials Science Fundamentals.** Sub-microscopic structure of solids, including electronic states, atomic and molecular arrangement, structural imperfections and atomic diffusion, and their relationship to macroscopic properties; physical properties of semiconductors; metallic, organic and ceramic materials and their mechanical properties. Laboratory supply fee, \$5. Prerequisite: Physics 205a,b Chemistry 200 and 201, Mathematics 250.

**313-3 Fluid Mechanics.** A broad introduction to the concepts and principles of fluid statics, kinematics, and dynamics. The fundamental laws for fluid motion in the form of Euler's, Bernoulli's, impulse-momentum and work-energy equations. Dimensional analysis and dynamic similitude. Resistance to flow; deformation drag, surface drag, form drag. Introduction to compressible fluid flow. Laboratory supply fee, \$3. Prerequisite: 260b and concurrent enrollment in or completion of 222a and Mathematics 251.

**335-3 Electric Circuits.** Foundation course in electric circuits. Basic laws and concepts of linear circuits. Analysis of AC and DC circuits by mesh and nodal methods, Thevenin's and Norton's theorems, superposition principle, and phasor notation. Transients. Prerequisite: Mathematics 250.

**345-3 Electronics.** Functional electronics and basic signal processing. Characteristics and typical applications of analog and digital electronic modules. Operational amplifiers. Fundamentals of transistors. Use of basic instruments. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 335.

**351-3 Numerical Methods in Engineering.** Overview of numerical procedures such as root finding, curve fitting, integration, solutions of simultaneous equations, and solutions of ordinary differential equations. Emphasis will be on applications of these techniques to problems in engineering mechanics, and civil and mechanical engineering. Prerequisite: 102, 222a and concurrent enrollment or completion of Mathematics 305.

**361-2 Engineering Economics in Design.** Procedures for evaluating the relative economic merits of engineering projects and designs. Use of these procedures permits comparing alternate engineering estimates, evaluate engineering effectiveness, and proceed toward decision making based on economic and engineering optimization. Professional engineering examinations include these course materials. Prerequisite: Mathematics 111 or equivalent.

**385-3 Electromechanical Energy Conversion.** Principles of electromechanical energy-conversion and related circuitry. Magnetic circuits. Transformers. DC machines. Single-phase and polyphase machines. Polyphase circuits. Prerequisite: 335.

**400-1 Engineering Professionalism and Ethics.** The role of the engineer as a professional in society and in the corporate structure. Engineering registration. The basis and function of Engineering Codes of Ethics. Major ethical/philosophical value systems in our country. Ethics applied to specific engineering case studies. Not for graduate credit. Prerequisite: senior standing in the College of Engineering.

**455-3 Engineering Geology.** (See Geology 455.)

## Engineering Technology (ET)

A suitable calculator and textbooks are required for most of the following courses.

**103-3 Engineering Drawing I.** Principles and practices of engineering drawing. Orthographic (multiview) projection; sections and conventions; the spatial relationship of points, lines, and planes; and revolution.

**104-3 Engineering Drawing II.** Principles and practices of engineering drawing. Representation of mechanical components, dimensioning, tolerancing, and mechanical drawing symbols. Introduction to computer-aided drawing systems with applications to both micro-computer and mini-computer systems. Prerequisite: 103.

**202-3 Structural Detailing.** Principles and practices of engineering drawing as applied to structural design with emphasis on reinforced concrete and structural steel drawings. Drawing supplies required, cost \$8. Prerequisite: 103.

**209-3 Manufacturing Process Laboratory.** (Same as Industrial Technology 209) Laboratory experiments to familiarize the student with the theory and operation of manufacturing processes. Laboratory. Prerequisite: IT 208 or consent of instructor.

**236-2 Electrical Instrumentation.** Theory and use of D.C. and A.C. instruments; measurement and error, units, standards, meters, bridges, oscilloscopes, electronic instruments, instruments for generation and analysis of waveforms, counters, and transducers. Laboratory. Prerequisite: Mathematics 111.

**238-4 Digital Fundamentals.** Introduction to fundamental concepts of digital systems, logic gates, simulation of logic gates, combinational logic design, Karnaugh maps, number systems, flip-flops, sequential circuits, digital circuit fault analysis, and comparison of logic families. Laboratory. Prerequisite: Mathematics 111.

**245-8 (4,4) Electrical Systems for Industry.** (a) Electrical symbols and schematics, resistance, Ohm's Law, capacitance, inductance, Kirchhoff's Law, meters, A.C. fundamentals, transformers, power factor, and safety. Laboratory. Prerequisite: Mathematics 111. (b) Introduction to electronics: laboratory practices, oscilloscopes,

- meters, components, power supplies, amplifiers, and characteristics of semiconductor devices. Laboratory. Prerequisite: Mathematics 111.
- 260-6 (3,3) Principles of Mechanics.** (a) Statics. Concepts of force systems, moments, and equilibrium of rigid bodies, analysis of trusses and frames, determination of centroids, center of gravity, and moments of inertia, calculation of shear and moment diagrams in beams. Prerequisite: Mathematics 150 or concurrent enrollment. (b) Dynamics. Friction; particles and rigid bodies in translation, rotation, and plane motion; relative motion; impulse and momentum; work and energy. Prerequisite: 260a, Mathematics 150.
- 263-4 Basic Surveying.** Use and care of surveying instruments; principles of surveying practice and computation. Laboratory. Prerequisite: 103, Mathematics 111.
- 304-8 (4,4) Electrical Circuits.** (a) Solutions to D.C. steady-state networks by branch, equivalent circuit, loop circuit, and node voltage methods. Study of network theorems. Extension of these topics to A.C. steady-state by use of the phasor transform. Laboratory. Prerequisite: 245a, Mathematics 150 or concurrent enrollment. (b) Further topics in A.C. circuits; frequency response, resonance, filters, transformers and magnetic coupling, complex power, and dependent sources. Transient response by the classical solution of differential equations and by Laplace transform methods. Laboratory. Prerequisite: 304a, Engineering 222, Mathematics 250 or concurrent enrollment.
- 310-6 (3,3) Heavy Construction.** (a) The fundamental elements of heavy construction methods and equipment. Prerequisite: 260a or consent of instructor. (b) Construction planning, estimating, and management procedures and techniques. Civil engineer's scale required. Prerequisite: 310a.
- 311-3 Strength of Materials.** Stress and strain; torsion, bending, and combined stresses; beam deflections; behavior of columns. Laboratory. Prerequisite: 260a, Engineering 222 or concurrent enrollment.
- 312-3 Materials Fundamentals for Design and Manufacturing.** Applications and characteristics of metallic and nonmetallic materials used in design and manufacturing. Characteristics and properties of materials used in engineering applications. Prerequisite: Physics 203a,b; 253a,b.
- 313-3 Elementary Heat Power.** First and second law analysis, properties of systems, fluid phases and mixtures. Mass and energy balances of steady state systems. Psychrometrics, power and refrigeration cycles, and fundamentals of heat transfer. Prerequisite: Mathematics 150.
- 314-6 (3,3) Soil Mechanics.** (a) Laboratory determination of the basic properties of soils; components of soil surveys; engineering soil classifications; fundamental study of soil properties. Laboratory. Laboratory notebook required, costing approximately \$4. (b) Soil water and seepage; frost action in soils; soil stabilization; stress distribution in soils and introduction to foundation design. Prerequisite: 260a, 314a.
- 315-2 Elementary Structural Analysis.** Applications of the principles of mechanics to the determination of forces and deflections of statically determinate structures; approximate methods of determining member forces in indeterminate frames; study of various types of structures and loading conditions. Prerequisite: 260a, Engineering 222 or concurrent enrollment.
- 317-3 Fluid Mechanics.** Fundamentals of fluid statics, basic fluid flow concepts for idealized fluids, flow networks, and introduction to viscous fluids. Prerequisite: Mathematics 260b.
- 318-3 Hydraulics and Pneumatics.** Viscous flow in closed conduits, basic hydraulic machinery, and fluid power systems. Laboratory. Prerequisite: 317.
- 319-3 Municipal Hydraulics.** Flow measuring devices; collection, storage, and distribution of water; collection and transportation of sewage; pumps and pumping. Laboratory. Prerequisite: 317.
- 321-3 Instrumentation and Controls.** Analog and digital signal conditioning; thermal, mechanical, and optical transducers; electrical pneumatic and hydraulic actuators; and control loop dynamics. Laboratory. Prerequisite: 245a.
- 332-8 (4,4) Electromagnetic Principles and Devices.** (a) Introduction to D.C. and A.C. machinery. Theory and operating characteristics of D.C. generators and D.C. motors. Laboratory. Prerequisite: 304a or concurrent enrollment. (b) Theory and operating characteristics of polyphase and single-phase A.C. motors. Special applications of A.C. and D.C. motors. Laboratory. Prerequisite: 332a, 304a or concurrent enrollment.
- 342-2 Technology Design.** A design project on any technical subject selected by the student with advice from the instructor. Individual or group effort required to develop functional design. Report writing and oral presentation required. Prerequisite: 311, 312, 313, 318.
- 361-3 Project Surveying.** Surveying process for civil engineering projects; easements; precise surveying; related computations. Laboratory. Prerequisite: 263.
- 362-3 Land Surveying.** U.S. Public Land System and boundary surveys; survey laws; legal descriptions; title search; related computations; subdivision development. Laboratory. Prerequisite: 263.
- 363-3 Control Surveying.** Topographic surveying; geodesy; route surveying; construction stakeout; related computations. Laboratory. Prerequisite: 263.
- 364-7 (4,3) Highway Engineering Technology.** (a) Highway surveys, plans and computations. Highway design, drainage, roadside development and subgrade structure. Study of types of base courses, pavements, and surfaces. Highway construction and maintenance. Laboratory. Prerequisite: 263 or consent of instructor. (b) Highway administration, planning, economics, and finances. Traffic engineering. Introduction to railroad and airport design. Prerequisite: 364a.
- 365-3 Water Treatment and Sanitation.** Introduction, description, and design of potable water and wastewater facilities. Chemical coagulation, sedimentation, disinfection, and hardness removal of water. Sanitation measures and control of communicable diseases. Prerequisite: senior standing in civil engineering technology or consent of instructor.
- 390-3 Cost Estimating.** (Same as Industrial Technology 390.) Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Prerequisite: Mathematics 111.

- 392-2 (1.1) Engineering Technology Co-op.** Supervised work experience in Engineering Technology industry. Prerequisite: junior standing and consent of instructor. Mandatory Pass/Fail.
- 401-3 Refrigeration and Air Conditioning.** Applications of thermodynamics and heat flow to air conditioning systems. Heating and cooling load analysis. Principles of human comfort. Discussion of various refrigeration and air conditioning cycles and their application to laboratory simulators. Laboratory. Prerequisite: 313.
- 403-8 (4.4) Electronics Technology. (a)** Fundamental theory and operation of semiconductor diodes and bipolar transistors, incremental models for transistors, biasing, stability, and feedback of single and multistage amplifiers. Parameters and applications of field-effect transistors, opto-electronic devices, thyristors, unijunction transistors and amorphous semi-conductors. Laboratory. **(b)** Parameters and applications of operational amplifiers, linear integrated circuits, monolithic voltage regulators, and digital integrated circuits. Laboratory. Must be taken in a,b sequence. Prerequisite: 304b.
- 404-3 Machine Design Technology.** Strength and safety considerations in design of machine parts. Fatigue and stress concentrations, bearings, brakes, clutches, and springs. Applications of the principles of mechanics to problems of design and development, mechanisms. Laboratory. Not for graduate credit. Prerequisite: 260a, 311.
- 408-3 Computer Assisted Drawing and Design.** Theory and practice of computer graphics as applied to computer assisted design. Use of programming and commercial programs to assist in mechanical engineering technology design projects. Not for graduate credit. Prerequisite: 104, 260a, 313, 317, Engineering 222, and senior standing.
- 411-3 Legal Aspects of Surveying.** Topics covered include common and statute law; unwritten rights in land and their relationship to land surveying; restoration of lost corners; principles controlling multiple corners; rules of evidence to include classification of evidence, burden of proof, and weight of classes of evidence; and rights, duties, and liability of the professional land surveyor. Not for graduate credit. Prerequisite: 362.
- 412-3 Survey Design and Land Development.** Subdivision and land development principles, methods, and procedures, including laws relating to subdivision and land development. Scope will include rural and urban subdivisions, industrial parks, and major recreational developments. Laboratory. Not for graduate credit. Prerequisite: 263.
- 413-4 Field Survey Problems.** Perform extensive field projects in the areas of engineering, hydrographic, land and control surveying. To be held at Crab Orchard National Wildlife Refuge. Course must be taken concurrently with 414. Prerequisite: 263 and one of 361, 362, or 363.
- 414-2 Field Project Planning and Computations.** Planning, organization, computations, and drafting of field survey projects including the needed mapping utilizing calculators, computers, and CAD. This course must be taken concurrently with 413. Prerequisite: 263 and one of 361, 362, or 363.
- 415-4 Elementary Structural Design.** Introduction to structural properties of steel and reinforced concrete. Design of basic steel elements: tension members, beams, columns, and connections. Basic design of reinforced concrete elements: beams, columns, and footings. Use of AISC and ACI codes. Prerequisite: 202, 311 (or concurrent enrollment), 315.
- 424-6 (3, 3) Power Systems Technology. (a)** Fundamentals of basic power plant operation, economics and equipment. Advanced Rankine cycles and cogeneration. Fuel classification and combustion principles. Alternative energy sources and conversion. Students work concurrently on group design projects emphasizing written and oral deliverables. Prerequisite: 311, 312, 313, 317, 318. **(b)** Alternate energy systems, e.g., wind power, solar energy, geothermal energy, biomass. Extension of 424a with heavier emphasis on optimization of design. Prerequisite: 424a.
- 426-5 (3,2) Photogrammetry. (a)** Cameras and photography; flight planning; mathematical principles of vertical and tilted aerial photographs; ground control methods; extension of control; stereoscopy and parallax; basic instruments, stereo plotters, and latest developments. Laboratory. Prerequisite: 263 or consent of instructor. **(b)** Rectification of tilted photographs; stereoscopic plotting instruments; principles and use of oblique photography; analytic photogrammetry and new concepts. Laboratory. Prerequisite: 426a or consent of instructor.
- 437-8 (4.4) Communications Systems Technology. (a)** Theory and applications of radio frequency transmission lines, waveguides, optical fibers, wave propagation, and antennas. Laboratory. Prerequisite: 304b. **(b)** Theory and applications of analog and digital communications systems. Laboratory. Prerequisite: 403a, 437a.
- 438-8 (4.4) Continuous and Digital Control Systems. (a)** Fundamentals of continuous control systems; equation of electrical, hydraulic and thermal systems; application of Laplace transforms, transfer functions, block diagrams, and flow graphs. Computer implemented graphical analysis and design methods: root locus, frequency response. Nyquist diagrams and compensator design. Continuous systems laboratory. Prerequisite: 304b. **(b)** Fundamentals of digital control systems, Stepper motors, digital data acquisition and interface components, Fourier transforms, Z transforms, and applications of fast Fourier transform. Digital control laboratory. Prerequisite: 438a.
- 439-4 Microprocessor Applications and Hardware.** A study of microprocessor applications and hardware based on microprocessor manufacturer's literature. System configuration, hardware, requirements, typical instruction set, programming, input/output techniques, interfaces, and peripheral devices. Prerequisite: 238.
- 445-3 Computer-Aided Manufacturing.** (Same as Industrial Technology 445.) Introduction to the use of computers in the manufacturing of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control and quality control. Laboratory. Prerequisite: Engineering Technology 103 or Industrial Technology 105, Industrial Technology 208 or Engineering Technology 209, and computer programming.
- 455-3 Industrial Robotics.** (Same as Industrial Technology 455.) Study of industrial robots and their applications; pendant and numerical programming of robots. Robotics design including tactile and visual sensors.

Technical and psychological problems of justification, installation, and management of robotic systems. Prerequisite: 445.

**492-1 to 6 Special Problems in Industry and Technology.** Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected technical problems. Not for graduate credit. Prerequisite: consent of instructor.

## English (ENGL)

**101-3 English Composition I.** (University Core Curriculum) The first course in the two-course sequence of composition courses required of all students in the University. It is designed to give students practice and experience in writing and to help students write better and with greater confidence and enthusiasm. It teaches students the processes of writing, the final production of a text, and the strategies they need to write in different contexts and to produce texts which are appropriate to varying contexts. A minimum grade of C is required.

**102-3 English Composition II.** (University Core Curriculum) The second course in the two-course sequence of composition courses required of all students in the University. Using culturally diverse reading materials, the course focuses on the kinds of writing students will do in the University and in the world outside the University. The emphasis is on helping students understand the purpose of research, develop methods of research (using both primary and secondary sources), and report their findings in the appropriate form. Prerequisite: English 101 or equivalent with a minimum grade of C or better.

**119-3 Introduction to Creative Writing.** Practice in writing poetry and fiction. Prerequisite: 102.

**120-3 Freshman Honors Composition.** (University Core Curriculum) This course fulfills the Foundation Skills composition requirement. Prerequisite: top ten percent of the English section of ACT or the qualifying score on the CLEP test. Students will write critical essays on important books in the following categories: autobiography; politics; fiction; eyewitness reporting; and an intellectual discipline such as philosophy or science.

**121-3 The Western Literary Tradition.** (University Core Curriculum) The course offers a critical introduction to some of the most influential and representative work in the Western literary tradition. Emphasis is on the interconnections between literature and the philosophical and social thought that has helped to shape Western culture.

**201-3 Introduction to Drama.** Students will read and discuss plays of different types and periods. Prerequisite: 101 and 102; or 120; or equivalent.

**202-3 Introduction to Poetry.** Students will read and discuss poems of different types and periods. Prerequisite: 101 and 102; or 120; or equivalent.

**203-3 Film as Literary Art.** (University Core Curriculum) This course proposes to examine the influential role literature has on the cinematic tradition both in the past and present. It intends to emphasize the artistic and visual debt cinema owes to literature by concentrating on major achievements and analyzing them accordingly.

**204-3 Literary Perspective on the Modern World.** (University Core Curriculum) The course offers a critical introduction to literary works that convey the complexity and challenge of the social life in the Twentieth Century, using a set of representative topics as focal points: culture and community; gender and ethnicity; war and politics; and science and technology. Course may be taken as a sequence to 121, but 121 is not a prerequisite.

**205-3 The American Mosaic in Literature.** (University Core Curriculum) The course offers a reading and analysis of narratives of cross-cultural contact through representative topics: the first encounters between native Americans and Europeans; captivity, slavery and escape; immigration and city life; and cultures and families in transition. Emphasis is upon the various fictional and non-fictional literary forms in which the American pluralistic experience has been expressed.

**209-3 Introduction to the Forms of Literature.** Poetry, drama, and fiction. Statement and illustration of the techniques of the three genres over the range of American and English literature. Prerequisite: 101 and 102; or 120; or equivalent.

**210-3 Introduction to Fiction.** Students will read and discuss a variety of American and European short stories and novels. Prerequisite: 101 and 102; or 120; or equivalent.

**225-3 Women in Literature.** (Same as Women's Studies 225.) Examines the ways in which women are portrayed in literature, especially in twentieth-century novels, drama, short fiction, and poetry written by women. Prerequisite: 102; or 120.

**281-3 Creative Writing: Beginning Fiction.** Introduction to basic techniques of writing creative prose with emphasis on characterization, plot, and narrative devices. Study and application of various methods of short story writing. Exercises. Critiques. Prerequisite: 102 or 120; or consent of instructor.

**282-3 Creative Writing: Beginning Poetry.** Introduction to basic theories and techniques of poetry writing with emphasis on metrics, forms, and poetic stanzas. Study and application of each of these general aspects of writing poetry. Exercises. Critiques. Prerequisite: 102 or 120; or consent of instructor.

**284-3 Creative Writing: Introduction to Literary Nonfiction.** A survey of the major forms of literary nonfiction (biography, autobiography, popular science, the essay, literary journalism and travel narratives) and an introduction to the stylistic and rhetorical aspects of those forms through study and practice. Prerequisite: 102 or 120; or consent of instructor.

**290-3 Intermediate Expository Writing.** Designed for any University student, to improve writing skills beyond freshman composition. Based on individual needs and areas of specialization. Prerequisite: 101 and 102; or 120; or equivalent.

**291-3 Intermediate Technical Writing.** An intermediate course in technical and professional writing for sophomores, juniors, and seniors. Intended for students preparing for careers in applied technology, science, agriculture, business, and other fields where practical writing is a part of the daily routine. Prerequisite: 101 and 102; or 120; or equivalent.

**293-3 to 9 (3 per topic) Special Topics in Literature and Language.** Topics vary and are announced in advance. Both students and faculty suggest ideas. May be repeated as the topic varies. Prerequisite: departmental approval.

**300-3 Introduction to Language Analysis.** Nature of language and linguistic inquiry. Dialectology, usage, and chief grammatical descriptions of present day American English. Required of teacher training candidates. Prerequisite: 102 or 120 or equivalent.

**301-3 Introduction to Literary Analysis.** Intensive reading and writing, designed to acquaint students with basic terms, concepts and discourse of literary analysis. Satisfies CoLA Writing-Across-the-Curriculum requirement for English majors. Restricted to English majors, English minors and Elementary Education majors. Prerequisite: 102 or 120 or equivalent.

**302A-3 Literary History of England, Beowulf to 1800.** Social, historical, and intellectual backgrounds of English literature with selected readings from each period from Beowulf to 1800. Prerequisite: 102 or 120 or equivalent.

**302B-3 Literary History of England, 1800 to Present.** Social, historical, and intellectual backgrounds of English literature with selected readings from each period from 1800 to the present. Prerequisite: 102 or 120 or equivalent.

**308I-3 Interdisciplinary Studies in Literature.** (University Core Curriculum) The course offers seminars in the major works that have shaped our understanding of the modern world through interdisciplinary awareness and study. Seminar topics include Studies in Modernism; Irish Studies; The Politics of Empire; and Literary Studies of Film. The topics will be offered on a rotating basis.

**309A-3 American Literature Before 1865.** A survey of American literature from the beginning to the Civil War. Prerequisite: 102 or 120 or equivalent.

**309B-3 American Literature Since 1865.** A survey of American literature from the Civil War to the present. Prerequisite: 102 or 120 or equivalent.

**325-3 Black American Writers.** (Same as Black American Studies 399.) Poetry, drama, and fiction by Black American writers. Prerequisite: 101 and 102; or 120; or equivalent.

**332-3 Folktales and Mythology.** A survey of non-classical mythology and folktales, emphasizing its medieval and modern aspects as well as the use of folklore in major literary works. Readings will cover Norse, Celtic, and Middle Eastern mythology, their use by English and American writers, such as Tennyson, Irving, and Hawthorne and the popular folk-ballad. Students are encouraged to explore other aspects of world folklore in their independent research papers. Prerequisite: 102 or 120 or equivalent.

**333-3 The Bible as Literature.** To introduce students to types of literature in the Bible while familiarizing them with Biblical texts. Prerequisite: 102 or 120 or equivalent.

**335-3 The Short Story.** Reading and discussion of short stories by American and European authors. Prerequisite: 101 and 102; or 120; or equivalent.

**351-3 Forms of Fiction.** A study of fictional forms with special concentration on the most significant contemporary fiction including selected readings from current periodicals. This course is taught by a publishing fiction writer and designed for student fiction writers. Prerequisite: 281 or consent of instructor.

**352-3 Forms of Poetry.** A study of poetic forms with special concentration on the most significant contemporary poetry, including selected readings from current periodicals. This course is taught by a publishing poet and designed for student poets. Prerequisite: 282 or consent of instructor.

**365-3 Shakespeare.** Reading and discussion of the major plays. Prerequisite: 101 and 102; or 120; or equivalent.

**381-3 Creative Writing: Intermediate Fiction.** Emphasis on the long short story and novella with exercises and study oriented to more sustained forms of prose than the short story. Theories and techniques of extended fictional forms treated. Critiques. Prerequisite: 281 or consent of instructor.

**382-3 Creative Writing: Intermediate Poetry.** Concentration on modern forms and theories of poetry. Writing assignments and exercises in the application of various poetic techniques, primarily 20th century American. Critiques. Prerequisite: 282 or consent of instructor.

**390-3 Advanced Composition.** Expository writing. Prerequisite: C average in 120; or C average in 101 and 102; or equivalent. Open to English majors and minors or with consent of department.

**391-3 Precision in Reading and Writing.** To improve the student's ability to read and write with precision and clarity, depending on reading complex material (requiring no particular background for comprehension) and on writing precis of it. Prerequisite: grade of B in 102; or C in 120; or C in English 290.

**393-3 to 9 (3 per topic) Special Topics in Literature and Language.** Topics vary and are announced in advance. Both students and faculty suggest ideas. May be repeated as the topic varies. Prerequisite: departmental approval.

**401-3 Modern English Grammars.** Survey of the structure of English, with emphasis on phonetics and phonology, morphology, syntax, semantics, pragmatics, grammar instruction, stylistics and language variation. Specifically designed to meet the needs of prospective teachers of composition and language arts at the secondary and college levels.

**402-3 Old English Language and Literature.** Introduction to the language, literature and culture of Anglo-Saxon England, with emphasis on Old English heroic and elegiac poetry, exclusive of *Beowulf*.

- 403-3 History of the English Language.** The development of the language from its Indo-European roots through Early Modern English and selected American dialects. Emphasis on the geographical, historical and cultural causes of linguistic change.
- 404-3 Middle English Literature Excluding Chaucer.** Selected writings from A.D. 1200-1500 with emphasis on the High Middle Ages. Readings include such works as *The Owl and the Nightingale*, *Piers Plowman*, *Pearl*, *Sir Gawain and the Green Knight*, selection from Arthurian legend and medieval drama, lyric and ballad.
- 405-3 Middle English Literature: Chaucer.** Major works including *Troilus and Criseyde* and selections from *The Canterbury Tales*.
- 412-3 English Non-Dramatic Literature: The Renaissance.** Topics varies, but usually lyric poets, especially 17th-century metaphysical poets such as Donne, Herbert and Marvell.
- 413-3 English Non-Dramatic Literature: The Restoration and Earlier Eighteenth Century.** Major works of Dryden, Pope, and Swift, and the non-dramatic specialties of Behn, Addison and Steele.
- 414-3 English Non-Dramatic Literature: The Later Eighteenth Century.** Major poets from Thomson to Blake, and major prose writers, with emphasis on Johnson, Boswell and their circle.
- 421-3 English Romantic Literature.** Wordsworth, Coleridge, Byron, Shelley, Keats and other writers of the era.
- 422-3 Victorian Poetry.** Tennyson, Browning, Arnold and other poets in England.
- 423-3 Modern British Poetry.** Major modernists (Yeats, Eliot, Pound); with selected works of Auden, Owen, Thomas, Heaney and others.
- 425-3 Modern Continental Poetry.** Representative poems by major 20th century poets of France, Italy, Germany, Spain, Russia, and Greece.
- 426-3 American Poetry to 1900.** Trends and techniques in American poetry to 1900.
- 427-3 American Poetry from 1900 to the Present.** The more important poets since 1900.
- 433-3 Religion and Literature.** Introduce students to the study of religious meaning as it is found in literature.
- 436-3 Major American Writers.** Significant writers from the Puritans to the present. May be repeated only if topic varies and with consent of the department.
- 437-3 American Literature to 1800.** Representative works and authors from the period of exploration and settlement to the Federal period.
- 445-3 Cultural Backgrounds of Western Literature.** A study of ancient Greek and Roman literature, Dante's *Divine Comedy*, and Goethe's *Faust*, as to literary type and historical influence on later Western writers.
- 446-3 Caribbean Literature.** Representative texts from drama, poetry, and fiction that have shaped black diaspora aesthetics in the Caribbean, with special reference to black literature of the North American continent.
- 451-3 Eighteenth Century English Fiction.** The novel from Defoe to Jane Austen. Including works by Fielding, Richardson and others.
- 452-3 Nineteenth Century English Fiction.** The Victorian novel: from 1830, including works by the Brontes, Dickens, George Eliot, Thackeray and others.
- 453-3 Modern British Fiction.** Major writers (including Conrad, Joyce, Woolf and Lawrence), with selected fiction from Mid-Century and later.
- 455-3 Modern Continental Fiction.** Selected major works of Europe and authors such as Mann, Silone, Camus, Kafka, Malraux, Hesse.
- 458-3 American Fiction to 1900.** Trends and techniques in the American novel and short story.
- 459A-3 American Prose from 1900 to Mid-Century: The Modern Age.** Representative narratives from the turn of the century to the post-World War II period.
- 459B-3 American Prose from Mid-Century to the Present: The Postmodern Age.** Representative narratives from the post-World War II period to the present.
- 460-3 Elizabethan and Jacobean Drama.** Elizabethan drama excluding Shakespeare: such Elizabethan playwrights as Greene, Peele, Marlowe, Dekker; and Jacobean drama: such Jacobean and Caroline playwrights as Jonson, Webster, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford, Shirley.
- 462-3 English Restoration and 18th Century Drama.** After 1660, representative types of plays from Dryden to Sheridan.
- 464-3 Modern British Drama.** Major writers (including Shaw and Synge), with selected works of later dramatists such as Churchill and Bond.
- 465-3 Modern Continental Drama.** The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain and Portugal.
- 468-3 American Drama.** The rise of drama, with emphasis on the 20th century.
- 471-3 Shakespeare: The Early Plays, Histories, and Comedies.** Such plays as *A Midsummer Night's Dream*, *The Merchant of Venice*, *The Taming of the Shrew*, *Henry IV Part I*, *Henry V* and *Much Ado about Nothing*.
- 472-3 Shakespeare: The Major Tragedies, Dark Comedies, and Romances.** Such plays as *Hamlet*, *Macbeth*, *Othello*, *King Lear*, *Measure for Measure*, *The Winter's Tale* and *The Tempest*.
- 473-3 Milton.** A reading of a selection of the minor poems, of *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, and the major treatises.
- 481-3 Young Adult Literature in a Multicultural Society.** Introduction to the evaluation of literary materials for junior and senior high school, with emphasis on critical approaches and the multicultural features of schools and society. Prerequisite: enrollment in English degree program or consent of department.
- 485-3 Problems in Teaching Composition, Language, Literature and Reading in High School.** Prerequisite: enrollment in English degree program or consent of department.
- 490-3 Expository Writing.** Advanced composition with emphasis on a variety of rhetorical strategies. Prerequisite: English 290, 390 or equivalent.

**491-3 Technical Writing.** Introduction to technical communication; open to entire university community. Training also provided for students interested in teaching technical writing. Prerequisite: English 290, 291, 390, 391 or equivalent.

**492-3 to 9 Creative Writing Seminar.** Topic varies among the writing of poetry, fiction or literary nonfiction prose. A directed written project will be submitted at the end of the semester in fiction, poetry or literary nonfiction prose. A collection of short stories or poems, a novel or nonfiction work of what instructors consider to be acceptable quality will fulfill the seminar requirement. Prerequisite: consent of department.

**493-3 to 9 (3 per topic) Special Topics in Literature and Language.** Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies.

**494-3 Literary Theory Applied to Film.** Introduction to contemporary literary theory with emphasis on the literary features of cinema and their interpretation. A \$10 screening fee is required.

**495-3 A Survey of Literary Criticism.** Introduction to the history of criticism and major recent schools of literary criticism and theory.

**498-3 to 9 Internships.** For English majors only. Student may take up to nine semester hours to receive credit for internships with SIU Press, Special Collections, University Museum, Coal Center, and other academic units. Prerequisite: enrollment in English degree program. Written approval from department and academic unit.

**499-1 to 6 (1 to 3, 1 to 3) Readings in Literature and Language.** For English majors only. Prior written departmental approval required. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: enrollment in English degree program or consent of department.

## Finance (FIN)

**200-3 Personal Finance.** An introduction to the problems of personal financial asset management, including income and expense budgeting. Emphasis also placed on consumer credit, insurance, investments, home ownership, and taxation. Will not count toward a major in finance.

**270-3 The Legal and Social Environment of Business.** An examination of the legal, social, and political forces that influence business and businessmen. Particular attention to the role of law as an agency of social control in the modern business society. Prerequisite: sophomore standing.

**280-3 Business Law I.** Legal problems arising from situations involving contracts and agency and business organizations. Not pass/fail for business majors.

**310-3 Insurance.** Fundamentals of insurance and risk management including a study of selected insurance contracts and alternative methods of controlling risk exposures. Prerequisite: junior standing.

**320-3 Real Estate.** Problems of real estate ownership, management, financing, and development. Prerequisite: junior standing.

**321-3 Real Estate Finance.** A study of the instruments, techniques, and institutions of real estate finance; sources of and methods for obtaining funds for real estate investments; mortgage risk analyses. Prerequisite: 320 or consent of instructor and junior standing.

**322-3 Real Estate Appraisal.** The techniques and art of real estate valuation using market comparison, cost, and income approaches. Includes appraisal principles, procedures, and applications. Prerequisite: 320 or consent of instructor and junior standing.

**323-3 Real Estate Law.** A survey of legal principles applicable to real property, including the following: conveyances, titles, land descriptions, rights and duties of ownership, and the law of real estate brokerage. Prerequisite: 320 or consent of instructor and junior standing.

**330-3 Introduction to Finance.** Study of issuance, distribution, and purchase of financial claims including the topics of financial management, financial markets, and financial investments. Prerequisite: Accounting 230, Economics 240 and junior standing.

**331-3 Investments.** Survey of the problems and procedures of investment management; types of investment risks; investment problems of the individual as well as the corporation. Prerequisite: 330 with a grade of C or better; junior standing and must be business (not pre-business) major or consent of department.

**341-3 Financial Markets.** Operations of capital markets. Sources and uses of funds of financial institutions. Prerequisite: 330 or concurrent enrollment.

**350-3 Small Business Financing.** Financing problems involved in raising venture capital, debt type funds, expansion funds, and government sponsored funding. Budgeting, working capital management, and fixed asset planning are covered. Prerequisite: Accounting 230, Economics 240 and junior standing.

**361-3 Management of Business Finance.** The principal problems of managing the financial operations of an enterprise. Emphasis upon analysis and solutions of problems pertaining to policy decisions. Prerequisite: 330 with a grade of C or better and Management 208, business major (not prebusiness).

**380-3 Business Law II.** Legal problems arising from situations involving sales, commercial paper, secured transactions, suretyship, and bankruptcy. Prerequisite: junior standing.

**432-3 Options and Futures Markets.** Study of modern concepts and issues in financial options and futures markets. Emphasis on risk management in financial institutions, and applications in corporate finance and funds management. Prerequisite: 331 with a grade of C or better and 361 (361 may be taken concurrently).

**433-3 Portfolio Theory and Management.** Examination of modern concepts relating to management of security portfolios. Topics include security analysis, Markowitz Portfolio Theory, efficient market hypothesis, portfolio performance measurement, risk, and portfolio construction. Prerequisite: 331 with a grade of C or better, 361 (361 may be taken concurrently).

**449-3 Management of Financial Institutions.** Principal policies and problems which confront top management. Emphasis on liquidity, loans, investments, deposits, capital funds, financial statements, organization

structure, operations, personnel, cost analysis, and public relations. Not for graduate credit. Prerequisite: 330 and 341 with a grade of C or better.

**462-3 Working Capital Management.** Short-term budgeting and forecasting techniques used in business; alternative approaches to working capital management including consideration of certainty, risk and uncertainty; theory and applications of management of cash, marketable securities, accounts receivables, inventory, banking relationships, and short-term sources of funds. Prerequisite: 361 or concurrent enrollment.

**463-3 Forecasting and Capital Budgeting.** Long-term forecasting techniques used in business; alternative approaches to capital structure decisions, cost of capital measurement; and performance measurement for investment decisions including mergers and leasing; explicit consideration of certainty, risk, and uncertainty in investment analysis; theory and applications in private and public sectors. Prerequisite: 361 or concurrent enrollment.

**464-3 International Financial Management.** Financial behavior of multinational firms. Emphasis on the modification of conventional financial models to incorporate uniquely foreign variables. Prerequisite: 361 or concurrent enrollment.

**469-3 Managerial Financial Policy.** Development of financial strategies and policies based on an evaluation of alternative approaches. Emphasis upon application of financial concepts and techniques to real-life situations. Not for graduate credit. Prerequisite: 361.

**480-3 Problems in Labor Law.** Social, economic, and legal evaluations of recent labor problems, court decisions, and legislation. Concern is on long-run legislative impact on manpower planning, dispute settlement, and utilization of employment resources.

**491-1 to 6 Readings in Finance.** Readings in classical and current writing on selected topics in various areas in the field of finance not available through regularly scheduled courses. Not for graduate credit. Prerequisite: consent of department chair and outstanding record in finance and must be a business (not prebusiness) major or consent of department. Mandatory Pass/Fail.

**495-3 Internship in Finance.** Designed to provide an opportunity to relate certain types of work experience to the student's academic program and objectives. Approved internship assignments with cooperating companies in the fields of finance are coordinated by the faculty member. Not repeatable for credit. Not for graduate credit. Prerequisite: consent of department chair and outstanding record in finance and must be a business (not prebusiness) major or consent of department. Mandatory Pass/Fail.

## Fire Science Management (FSM)

**258-1 to 30 Fire Science Work Experience.** Credit granted for prior job skills, management-worker relations and supervisory experience while employed in the fire science industry. Credit will be established by departmental evaluation.

**259-1 to 60 Fire Science Occupational Education.** A designation for credit granted for past occupational educational experiences related to fire science management. Credit will be established by departmental evaluation.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**332-3 Labor-Management Problems.** The student will gain a general understanding of the economic situation of which labor/management problems represent a subset. Students will develop a perspective on the evolution of labor relations in the United States economy and how the interaction of labor and management differs throughout the world. The collective bargaining section introduces the student to the techniques of bargaining used by labor and management in their ongoing interactions.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**383-3 Data Interpretation.** A course designed for students beginning their major program of study to examine data use in their respective professions. Emphasis will be placed upon an understanding of the basic principles and techniques involved with analysis, synthesis and utilization of data.

**387-3 Fiscal Aspects of Fire Service.** An introduction to the fiscal problems encountered in the administration of fire service facilities.

**388-3 Legal Aspects of Fire Science Management.** The student will learn basic law principles, identify sources of American laws, and recognize the structural framework of American law. Additionally, the student will be able to identify the principles of law which relate to management of fire protection services and areas of law which impact on the operations of fire service management, including applicable laws and ordinances (Fire Fighter Bill of Rights, et al), collective bargaining, and state/local civil service Fire/Police Commission provisions hearing protocols. Further, the student is able to effectively participate in the conduct of a mock hearing, following applicable protocols for such, in accordance with due process and legal requirements and effectively document and enforce such findings.

**398-3 Risk Management in the Fire Service.** This course, designed for the middle-level fire service manager, introduces the concept of risk management and examines its applicability in the fire service. Particular emphasis is placed on developing and implementing a fire service risk management program in both career and paid on-call departments.

**402-3 Current Issues in Fire Science Services.** A review of the current problems affecting the fire service with particular emphasis on resource allocation, planning, and constraints. Not for graduate credit.

**410-3 Fire Prevention and Inspection.** Laws and regulations affecting fire prevention; administering building and fire codes; interpreting building, fire prevention, and state fire marshal codes; and inspection procedures. Not for graduate credit.

**411-3 Fire Insurance Rating.** Analysis of fire hazards for computing fire insurance rates. Actuarial basis of rating schedules with particular emphasis on the analytic system for measurement of relative fire hazard. Not for graduate credit.

**413-3 NFPA Standards on Fire Department Safety and Health.** This course provides an in-depth examination of the role of the National Fire Protection Association in establishing standards for the Fire Fighting field. Particular emphasis is placed on NFPA Standard 1500, Fire Department Occupation Safety and Health. Not for graduate credit.

**421-3 Professional Development.** Introduces students to the various elements involved in obtaining a position in their chosen fields. Topics included are: personal inventories, placement services, employment agencies, interviewing techniques, resumes, letters of application, references and employment tests. Each student will develop a portfolio, including personal and professional information related to career goals.

## Food and Nutrition (FN)

See also Animal Science for additional 400-level courses.

**100-1 Introduction to the Profession of Dietetics.** Reviews the history of the profession of dietetics; analyzes the impact of past as well as current societal influences on present and future development in the field of dietetics.

**101-2 Nutrition: Contemporary Health Issues.** (University Core Curriculum) This course integrates nutrition and promotion of health through prevention of disease and will answer questions found daily in the media regarding nutrition. Topics emphasized are functions of basic nutrients, impact of culture, gender, ethnicity, social environments and lifestyle on nutrition and health.

**156-3 Fundamentals of Foods.** An introduction to the basic principles and techniques of food preparation. A charge of \$15 will be made for laboratory.

**202-3 The Hospitality and Tourism Industries.** Introduction to the diverse aspects of the hospitality and tourism industries and the interrelationships between them. Historical development of the industries, trends, current issues and career opportunities will be examined.

**206-2 Food Service Sanitation.** Basic sanitation principles and application in food service. Employee sanitation training, sanitation standards and safety regulations in the food service industry will be part of the course. Upon completion of the course, students will be eligible for the sanitation certificate national exam. Prerequisite: 156 or equivalent.

**215-2 Introduction to Nutrition.** (Same as Animal Sciences 215.) An up-to-date study of basic principles of nutrition including classification of nutrients (physical and chemical properties) and their uses in order to provide the student a working knowledge of nutrition in today's environment.

**247-3 (1,1,1) The School Lunch Program.** (a) Food purchasing; (b) quantity food production; and (c) nutrition practices in the school lunchroom.

**256-5 Science of Food.** Application of scientific principles including preparation, chemistry, functions, and interrelationships in ingredients and their effects on physical, chemical, and sensory characteristics of foods. Three lectures and two three-hour laboratories per week. A charge of \$20 will be made for laboratory. Prerequisite: Chemistry 140a or 200 and 201.

**298-1 Multicultural Food Experience.** (Multicultural Applied Experience Course) This course is designed to provide multicultural experience in food selection, eating habits, meal patterns and food preparation. Students will interact with community members of various ethnicity throughout the semester. Shopping and cooking projects will provide firsthand experience. Prerequisite: concurrent or prior registration in one of the following: Anthropology 202, History 210, Philosophy 210, 211 or Sociology 215.

**302-3 Dimensions of Tourism.** In-depth examination of the components of the travel and tourism industry, motivators to travel, and the various market segments. Also covers analysis of the economic, social, cultural and environmental impacts to tourism. Prerequisite: 202 or consent of instructor.

**320-3 Foundations of Human Nutrition.** Principles of human nutrition in relation to intermediary metabolism and the role of vitamins and minerals. Prerequisite: 215, Chemistry 140a or equivalent.

**321-3 Food and Nutrition Assessments.** Demonstration and use of tools and practices in assessing food and nutrition behaviors of individuals and groups in clinical and community nutrition care settings. Includes merchandising food and nutrition services as part of marketing strategies. Prerequisites: 215, 256.

**335-3 Beverage Management.** Introduction to beers, wines and spirits. Legal responsibilities of alcohol service. Introduction to responsible beverage service and management. A charge of \$10 will be made for laboratory. Prerequisite: 156 or equivalent and must be a food and nutrition major.

**356-3 Experimental Foods.** Experimental approach to the study of factors influencing the behavior of foods. Individual problems. A charge of \$10 will be made for laboratory. Prerequisite: 256.

**360-4 Quantity Food Production.** Selection and use of institutional foodservice equipment including specifications, cost and care; use of standardized formulas, techniques of quantity preparation, and service of food to large groups. Prerequisite: 156 or 256 or equivalent.

**361-3 Hospitality Development.** Development issues in the hospitality industry. Case studies on purchase/construction issues, inflation and recession, fiscal management and expansion of hospitality firms. Family-owned and operated businesses and entrepreneurship will be addressed.

**363-3 Purchasing Management in the Hospitality Industry.** Managerial principles of purchasing in the hospitality industry, with emphasis on functions of purchasing agents, types of markets, and methods of purchasing. Prerequisite: 156 or equivalent.

**371-2 Field Experience.** Opportunity for supervised learning experiences in the student's major. Prerequisite: consent of instructor or chair.

**372-3 Front Office Management.** Principles and concepts of effective front office management in the lodging industry.

**373-3 Food and Beverage Cost Control.** Examination of the managerial responsibilities of the food and beverage manager in the hospitality operation. Management methods in budgeting, forecasting, cost control, and establishing operational policies and systems. A charge of \$15 will be made for laboratory.

**390-1 to 4 Special Studies in Food and Nutrition.** Enables students to pursue personal research interests in the food and nutrition area. Prerequisite: juniors and seniors only and consent of department.

**410-3 Nutrition Education.** Course provides principles, techniques and evaluation methods necessary to incorporate food and nutrition into the educational curriculum of schools, hospitals, out-patient clinics and health agencies. Principles of interviewing, counseling and education are discussed. Prerequisite: 321.

**420-3 Recent Developments in Nutrition.** Critical study of current scientific literature in nutrition. Prerequisite: 320 or equivalent.

**421-2 Recent Trends in Food.** Critical study of current scientific literature in food. Prerequisite: 320 or equivalent.

**425-3 Energy and Nutrition Utilization.** The interrelationship of cell physiology, metabolism and nutrition as related to energy and nutrient utilization, including host needs and biochemical disorders and diseases requiring specific nutrition therapy or consideration. Prerequisites: 320, Chemistry 140b, Physiology 310.

**435-3 Hospitality Marketing Management.** Marketing principles and practices from a hospitality management perspective. Develops the use of marketing tools as an integral part of any hospitality and tourism operation. Prerequisite: 202 and Marketing 304.

**460-4 Food Service Management.** The course includes practical experience in the operational administration of a foodservice facility. Provides students an opportunity to exercise their ability and creativity to manage a noon luncheon service for the Student Center Old Main Room. The lab involves situations in which students fill the different roles involved with food service management. Prerequisite: 360.

**461-3 Service Organization and Management in the Hospitality Industry.** Managerial aspects of the hospitality industry as related to the provision of quality service. Organizational structures, management techniques, decision-making abilities, ethics, leadership, and human resource issues are examined. Prerequisite: 435 and Management 304.

**470-3 Medical Nutrition Therapy.** Physiological and biochemical changes associated with certain diseases and the appropriate nutrition therapy. Prerequisite: 320, Chemistry 140b and Physiology 310.

**472-3 Applied Medical Nutrition Therapy.** Application of nutrition principles to the management of patients with altered physiological and biochemical states. Off-campus experiences may be required. Prerequisite: 470 or concurrent enrollment and consent of instructor.

**473-3 Hotel Administration.** An advanced hotel administration course covering contemporary management issues such as conference management, hotel security, strategic planning and hotel law. Prerequisite: 372 or consent of instructor.

**480-3 Community Nutrition.** Offers a study of the objectives, implementation strategies, and evaluation methods of nutrition programs in communities' health programs. Integration of nutrition into the health care delivery system at local, state, and federal levels is included.

**490-3 Nutrition and Growth.** The study of human nutrition during each phase of the life cycle, prenatal through geriatric. Students elect at least two phases for in-depth study. A general review of basic nutrition is included. Prerequisite: 320 or equivalent.

## Foreign Languages and Literatures (FL)

For other Foreign Language courses see Chinese, Classics, East Asia, French, German, Japanese, Russian and Spanish.

**101-3 Classical Civilization.** Same as Women's Studies 101.(University Core Curriculum) A survey of classical civilization from the Minoans to the Roman Empire with three foci: Homeric and Classical Greece, and the Roman Experience as seen by its artists.

**230-3 Classical Mythology.** (University Core Curriculum) (Same as Women's Studies 364.) An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans.

**258-1 to 4 Work Experience.** Ungraded credit for work experience which has taken place subsequent to admission to SIUC. Such experience must be related to student's major in a foreign language or FLIT. Mandatory Pass/Fail. Prerequisite: sophomore standing and approval by chair if foreign language major or by director if FLIT major.

**298-1 Multicultural Applied Experience.** (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up

for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision. Grade Pass/Fail.

**300-3 to 6 (3,3) Masterpieces of World Literature.** Readings from and discussions of both Western and Eastern literatures, taken from ancient to modern times. Occasional guest lectures by faculty of the department, who speak on their areas of special interest. All readings and lectures in English.

**310I-3 Classical Themes and Contemporary Life: Seminar Series.** (University Core Curriculum) Specific aspects of Classical Civilization are compared with aspects of our own society. In alternate years, the course will treat different themes, e.g., Drama's Birthplace: Classical Athens; Roman Heroes and Anti-Heroes, or Athletics, Sports and Games in the Ancient World. When offered in Europe, the course will focus on how these values are reflected in architecture, art, the military and the arena from ancient times through the Renaissance and beyond.

**313I-3 East Asian Civilization.** (University Core Curriculum) An introduction to East Asian cultural traditions, literature, philosophy, history, art and social organization of China and Japan.

**400A-3 to 12 Variable Elementary Languages.** Elementary conversational skills in a language not otherwise taught in this department. Since emphasis is on oral skills only, course does not fulfill any college or departmental language requirement. Language taught varies from year to year. Must be taken in a, b sequence.

**400B-3 to 12 Variable Elementary Languages.** Elementary conversational skills in a language not otherwise taught in this department. Since emphasis is on oral skills only, course does not fulfill any college or departmental language requirement. Language taught varies from year to year. Must be taken in a, b sequence.

**436-3 Methods in Teaching Foreign Languages.** Survey of general principles of second-language teaching, based upon insights of modern linguistics and learning-psychology. Followed by intensive practical work in classroom and language laboratory with teachers experienced in the student's specific language field. Required of prospective teachers of foreign languages in secondary schools. Prerequisite: concurrent or prior enrollment in 300-level course in French, German, Latin, Russian, or Spanish.

**475B-1 to 40 Study Abroad in Bregenz, Austria.** One or two semesters at SIUC's International Center in Bregenz, Austria. A combination of regular SIUC courses in history, political science, art history, business, etc., and program-specific courses in the area of European studies all taught in English as well as German language courses at all levels are offered in a European setting. No prior knowledge of German is required, but students are expected to take German language courses in Austria at their appropriate level. This course or 475V is highly recommended for German and/or FLIT majors. Not for graduate credit. Students will be charged on the basis of 15 hours per semester regardless of the hours of credit actually earned. Prerequisite: 2.75 overall grade point average.

**475V-1 to 40 Study Abroad in Vienna, Austria.** One or two semesters at the University of Vienna and the Economics University, Vienna, Austria. All courses taught in German. Students may obtain 30 to 40 semester hours of credit in German language, literature and civilization, and with prior approval, in elective areas of study including music, art, architecture, history, anthropology, political science, physical education, business, economics, and sociology. This course or 475B is highly recommended for German and/or FLIT majors. Not for graduate credit. Students will be charged on the basis of 15 hours per semester regardless of the hours of credit actually earned. Prerequisite: 5 semesters of college German or equivalent with a 3.0 grade point average.

**495-3 to 12 (3 to 6, 3 to 6) Internship.** Provides structure for application and expansion of knowledge gained through extensive preparatory course work in the subject area for the internship, as well as in the foreign language which has been studied. Normally taken abroad, in a country where the foreign language acquired by the student is universally used. Not for graduate credit. Prerequisite: senior standing and written approval from the director of Foreign Language and International Trade. This approval is subject to satisfactory completion of both oral and written language competency exams before the internship begins.

## French (FR)

**123-8 (4,4) Elementary French.** The basic skills of listening, speaking, reading, and writing. No previous knowledge of French is required. Must be taken in a,b sequence.

**124-2 Elementary French Conversation.** Conversation skills for beginners. Special emphasis on tourist vocabulary. Prerequisite: concurrent enrollment in 123b or consent of instructor.

**190-5 Review of Elementary French.** A review course on first year level for students who have had two or more years of high school French or equivalent.

**201-8 (4,4) Intermediate French.** Grammar review, translation, oral practice, written composition, and development of reading skills. Reading of material on contemporary France and selections from French literature. Prerequisite: 123b, 190, or two years of high school French, or equivalent.

**220-2 to 4 (2,2) Intermediate French Conversation.** Development of oral skills on the intermediate level. Not usually accepted toward major requirement. Prerequisite: 123b or 190 or equivalent.

**300-3 Image of Women in French Literature.** (Same as Womens Studies 352.) Female characters as they are represented in French literature through the centuries; the development of a psychological and sociological point of view of women through the examination of women's roles in French literature. Conducted in English. Counted toward major only with consent of adviser.

**310-4 Development of French Literature from the Middle Ages Through the Eighteenth Century.** Major literary movements and authors as exemplified in representative works.

**311-3 Modern French Literature.** The themes, structures, and language of some major works of poets, novelists, and playwrights from the early Romantics through the Existentialists and Robbe-Grillet.

**320-6 (3,3) Advanced Language Skills.** A review of grammar and syntax with extensive practice in translation and composition. Reading of French texts as basis for discussion and papers. Must be taken in a,b sequence. Prerequisite: grade of B or better in 201b or permission of instructor.

**321-3 Advanced Conversation.** Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms emphasized through classroom and language laboratory work. Highly recommended for those students with a major in French. Prerequisite: 201b.

**330-3 Introduction to Literary Analysis.** Examination of the basic elements of literary expression; practice of rudimentary *explications de textes*. Selections for study are taken from important works of French literature and analyses are directed toward developing the students' artistic sensibilities as well as improving their analytical skills.

**335-3 Business French.** An overview of cultural, economic, and commercial France. Study through readings and discussions of the following topics: government, agriculture, industry, and commerce; Common Market and foreign trade, financial institutions and taxation, social classes, and the world of work. France as a society of consumption. Translations and some commercial correspondence. Prerequisite: 320a or equivalent.

**350-3 French Phonetics.** Introduction to French phonetics involving perception and production of spoken French. Emphasis on corrective pronunciation and avoidance of English interference. Prerequisite: 201B or consent of faculty.

**375-1 to 6 Travel-Study in France.** Travel-Study project, planned under supervision of French faculty and carried out in France. Prerequisite: 201b, and consent of faculty.

**388-3 French as a Research Tool.** Intensive study of French as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

**390-1 to 6 Independent Study in French.** Individual exploration of some question, author, or theme of significance within the field of French literature, language, or culture. Prerequisite: consent of instructor.

**410-3 Advanced Language Study.** Designed to improve language skills beyond the level of 320. Selected grammar review intensive practice in effective use of the written and spoken language through translations and free compositions. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite 320b.

**411-3 Linguistic Structure of French.** (Same as Linguistics 413.) Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: 320a and 321 or equivalent.

**412-4 History of the French Language.** A survey of the phonological and morphological changes from Latin through Vulgar Latin and Old French to Modern French; study of an original Old French text, such as the *Chanson de Roland* or a romance of Chretien de Troyes. Knowledge of Latin not required.

**414-3 Translation Techniques.** Practice in oral translation — simultaneous and subsequent; written translation practice, from and into French, of materials from sources varying from technical, commercial, political, to general interest. Advanced grammar and syntax review as they relate to translation, with practice through exercises and translation. Prerequisite: 320a or equivalent.

**415-3 Literary Stylistics.** A study of the aesthetics and theory of French Literary expression. Disciplined stylistic analyses of excerpts from representative works of great French authors. Appreciation of distinctive qualities of each writer's genius. Consideration is given to various stylistic methods.

**419-3 Romance Philology.** (Same as Spanish 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax.

**420-3 Medieval and Renaissance Literature.** Study of the origins of French literature emphasizing the *Chanson de Roland*, *Tristan*, other courtly romances, and the lyric poetry of Villon, culminating with an examination of the development of the humanistic ideas and ideals of the French Renaissance.

**430-4 Baroque and Classicism.** An in-depth examination of artistic and social writings of baroque and classical literary figures such as Corneille, Racine, Moliere, La Fontaine, Descartes, Pascal, Mme de LaFayette, La Bruyere, and La Rochefoucauld. Discussion, reports, papers.

**435-3 Business French II.** Detailed treatment of postal facilities and services, types of banks and their operations, transport of goods, import-export, bills of exchange, billing and shipping, insurance, accounting, and the stock market. These topics will be the subject of translations and of commercial correspondence. Prerequisite: 320b or equivalent, may be taken independently of 335.

**440-3 Literature of the Enlightenment.** Study and discussion of the novel, theater, and philosophic writing of 18th century France as literature and as expressions of the Enlightenment. Major attention given to Montesquieu, Voltaire, Diderot, and Rousseau.

**450-4 Literary Movements of the 19th Century.** Romanticism, Realism, and Naturalism in the novel and theater followed by an examination of the reaction to these movements and of the influence of symbolism.

**460-4 Studies in Literature of the 20th Century.** Examination of the major themes, forms, techniques, and style of novelists from Gide and Proust to Robbe-Grillet and dramatists from Giraudoux to Ionesco and Beckett.

**470-4 French Culture and Civilization.** Study of contemporary France: values, attitudes, beliefs, and instructions. French civilization (history, literature, and the arts) will be treated mainly as a means of better understanding present day France. Offered in French. Prerequisite: 320a or permission of instructor.

**475-3 to 6 Travel-Study in France.** Travel-study project, planned under supervision of French faculty and carried out in France. Amount of credit depending on scope of study. Prerequisite: 320a or equivalent.

**476-3 to 6 (3,3) French Civilization Outside of France.** Encompasses a number of individual courses, each of which focuses on one of the many areas of the world in which France has played a significant role. Manifestations of French culture and civilization, past and present, are studied and evaluated within the framework of an evolving local and global historic context.

**488-3 Advanced French as a Research Tool.** Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as research tool. Prerequisite: 388 or one year of French, or equivalent.

**490-1 to 6 Advanced Independent Study in French.** Individual exploration of some question, author, or theme of significance within the field of French literature, language or culture. Prerequisite: 320a, 321 and consent of instructor.

## Forestry (FOR)

**200-1 Introduction to Forestry.** Acquaints students with the broad field of multiple-use forestry. Special emphasis is given to forestry as a profession. Required field trips cost \$15.

**201-3 Ecology of North American Forests.** An introduction to forest ecology concepts, site factors, and forests of North America. Emphasis is placed on the silvics of tree species and the impact of soil, climate, and topography on forest vegetation. Forest site-community relationships of selected major North American forest ecosystems will be studied. Saturday field trip may be required at a cost not to exceed \$10. Prerequisite: Plant Biology 200, Plant and Soil Science 240, Biology 307, or consent of instructor.

**202-2 (1,1) Tree Identification Laboratory.** A two-semester course that teaches field and laboratory identification of trees and shrubs using leaf, twig, bark, and fruit characteristics. Saturday field trips may be required. Extra costs total \$20 unless paid in 201. Must be taken in a,b sequence, unless otherwise arranged with consent of instructor. Prerequisite: Plant Biology 200.

**310-4 Practices of Silviculture.** Detailed study of classical concepts and recently developed techniques utilized in silviculture treatment of forests. Major emphasis is to be placed upon establishment, thinning, timber stand improvement, and regeneration of forest. Prerequisite: 331.

**310C-2 Silviculture Field Studies.** Field experience for the student in the various facets of silviculture including planning, thinning, harvesting, timber stand improvement, and site-growth relationships. Offered only at summer camp. Costs for students are given in forestry description. Prerequisite: 331 and 310.

**311-3 Resources Photogrammetry.** The science and art of obtaining reliable measurement by means of photographs, detection of disease, insects, and fire invasion by remote sensors; and delineation of resources boundaries through interpretation.

**313-3 Harvesting Forest Crops.** Emphasis is given to lumber sale layouts, sale contracts, and harvest engineering methods. Consideration is given to the environmental impacts of harvesting. Additional cost: \$25. Prerequisite: 310 and 312.

**314-3 Insect, Abiotic, and Other Stresses Within the Forest.** The impact, recognition, and control of destructive forces within the forest environment. Emphasis placed upon stresses due to climatic factors, macro-parasitic plants, chemical injury, pollution, animal damage, and forest insect pests. Prerequisite: 331, Plant Biology 200, and Zoology 118 or consent of instructor.

**314C-2 Forest Protection Field Studies.** The prevention and suppression of forest fires, the recognition and control of insect and disease organisms and other destructive agents in the forest. Summer camp only. Cost per student given in the forestry description. Requires additional expenses of approximately \$20 per student. Prerequisite: 331 and two of the following: 314, 315, Plant Biology 357.

**315-3 Fire in Wildland Management.** Fire as a phenomenon in wildland management. Topics covered are fire prevention, detection, suppression, behavior, effects, use, and economics. Major emphasis is on fire control and fire ecology. Prerequisite: 331.

**320-2 Recreation in Wildlands Environments.** Trends in recreational use of wildland environments and emphasis on state and federal parks and forests. Introductory concepts in recreation management, planning, and interpretation.

**320C-1 Forest and Wildlands Recreation Field Studies.** Recreation of forest and adjacent lands with emphasis on parks and national forests. Administration; interpretation; trends in use and development. Offered only at spring camp (costs per student are given in the forestry description). Requires supplemental purchases of approximately \$2 per student.

**331-3 Forest Ecosystems.** An analysis and integration of tree growth and of forest structure, material and energy flow, and classification in relation to climatic and edaphic factors to provide an ecological basis for management of forest ecosystems. Prerequisite: 201, 202, Biology 307, Plant and Soil Science 240.

**341-3 Forestry Practices.** The fundamentals of integrated resource management of timberlands. Management systems, tree stand measurements. Planting and harvesting methods, multiple-use aspects of forest lands. Field trips. Emphasis on small forest ownerships. Not for graduation credit in forest resource's management option.

**350-3 Woods as a Raw Material.** Structure, identification, and properties of wood. Important species, significance of properties to end-use and significance of wood to the environment.

**351-3 Forest Resources Measurements.** Introductory measurement, statistical and data processing concepts; volume, growth, and yield of forest products; methods of sampling forest resources. Field trips. Prerequisite: Mathematics 140 and 283.

**351C-1 Forest Resources Measurements Field Studies.** Methods of determining volume and quality of forest products, forest resource inventory procedures, growth, and productivity studies. Field trips. Prerequisite: 351.

**360C-1 Forest Industries Field Studies.** A study of primary and secondary forest product processing in the central hardwood region. Course requires field trips. Estimated trip costs \$50.

**381-1 Forestry Seminar.** Presentation of topics pertinent to multiple-use management and utilization of forest resources. Prerequisite: senior standing.

**391-1 to 4 Special Problems in Forest Resources.** Independent research sufficiently important to require three hours per week of productive work for each hour of credit.

**401-3 Fundamentals of Environmental Education.** (See Agriculture 401.)

**402-3 Wildland Hydrology.** Fundamentals of hydrology as related to forest and wildland water resources will be emphasized. Considerations will include the hydrologic cycle with emphasis on soil and groundwater regimes, evapotranspiration, surface and subsurface runoff, and the quantity and timing of water yield. Offered spring semester odd years.

**403-3 Intro to Agroforestry.** This introductory, lecture-discussion course will examine the various agroforestry concepts, systems, technologies and practices. Focus will be on the potential use and benefits of agroforestry, which involves the deliberate combining of woody perennials with herbaceous/agronomic crops and/or animals, on the same land management unit, in some form of spatial arrangement and/or temporal sequence to produce desirable ecological and economical interactions among the different components. Prerequisite: junior standing or consent of instructor.

**405-2 Forest Management for Wildlife.** Interrelations between forest practices and wildlife populations. Emphasis is on habitat requirements of different wildlife species and ways to manipulate the forest to improve wildlife habitats. Prerequisite: forestry major, or consent of instructor.

**408-4 Introduction to Remote Sensing and Geographic Information Systems.** Introduction to the important characteristics of platforms and sensor systems used in modern remote sensing applications to forestry and the storage, analysis and display of this information by micro computers using vector and raster GIS configurations. Prerequisite: 414 and advanced standing.

**409-3 Forest Resources Decision-Making.** Examines management planning decision-making for multiple-use forests particularly in the public sector. Reviews concepts useful for analyzing flow-resource problems, emphasizing systems approaches, introduces use of modern quantitative methods to evaluate resource use alternatives. Case studies. Prerequisite: 411, Mathematics 140.

**410-3 Forest Resources Administration and Policy.** Nature of administrative organizations and influences on behavior of organization members. Society influences causing changes in forestry related organizations. Policy formation and implementation, including roles of special interest groups.

**411-3 Forest Resources Economics.** Application of Micro- and Macro-economic principles to forest timber and non-timber production; capital theory, benefit-cost analysis; and economics of conservation. Prerequisite: Mathematics 140 and Economics 240 or Agribusiness Economics 204.

**412-2 Tree Improvement.** Basic theories and techniques of obtaining genetically superior trees for forest regeneration. Prerequisite: senior standing.

**414-3 Information Management.** The collection of physical, biological, and social variables in the field of forestry through sampling survey. The procedures of data manipulation and calculation and the presentation of graphs and tables.

**416-3 Forest Resource Management.** The application of business procedures and technical forestry principles to manage forest properties. Emphasis on integrated resource management for tangible and intangible benefits. Field trips and supplemental purchases approximately \$25 for student. Prerequisite: summer camp or consent of instructor.

**417-2 Forest Land-Use Planning.** Principles of location theory as a basis for determining land use; supply of forest land; population pressure and demand; conservation principles; determination of forest land values; institutional factors influencing forest land-use; forest taxation; special taxes, and capital gains. Taught in alternate years. Prerequisite: 411 or consent of instructor.

**418-2 Marketing of Forest Products.** The role of marketing in the forest industries; review of economic principles; product policy, planning the product line, pricing, marketing channels, marketing programs, marketing organization, and marketing research as influences on the marketing of lumber, wood products, pulp, and paper. Taught in alternate years. Prerequisite: 411 or consent of instructor.

**420-3 Park and Wildlands Management.** The management of state and federal parks and recreation areas. A systems approach toward management and decision-making will be emphasized. Requires supplemental purchases of approximately \$5 per student. Prerequisite: 320c.

**421-3 Recreation Land-Use Planning.** Principles and methods for land-use planning of park and recreation environments with emphasis on large regional parks. Focus on planning process and types of information to gather and organize. Application in group field projects. Prerequisite: 320, 420, or consent of instructor.

**422C-4 Park and Wildlands Management Camp.** A study of park conditions, visitors, and management practices at selected county, state, and federal park systems in the United States, including the federal wilderness preservation system. Course requires a field trip and supplemental purchases. Prerequisite: 320 and 320c and consent of instructor.

**423-3 Environmental Interpretation.** (See Agriculture 423.)

**430-3 Wildland Watershed Management.** Emphasis is placed on the principles, technical problems, procedures, alternatives, and consequences encountered in managing wildland watersheds for the production of quality water in harmony with other uses. Prerequisite: 331.

**431-3 Regional Silviculture.** Designed to evaluate the various silvicultural practices as they are commonly employed in various regions of the United States. Offered alternate years. Prerequisite: 310.

**451-2 Natural Resources Inventory.** Theory and practical problems in biometrics to obtain estimates of natural resource populations. Use of computers and other advanced techniques. Case studies of inventory procedures. Field trip cost — maximum \$20. Prerequisite: 351 or consent of instructor.

**452-2 Forest Soils.** Characterization and fundamental concepts of forest soils and their relationships to forest communities and forest management practices. Emphasis is on the origin of forest soil material, soil forming processes, and the chemical, physical, and biological properties of soils as related to forests and forest management. Prerequisite: Plant and Soil Science 240 and concurrent enrollment in Forestry 452L. Spring semester even years.

**452L-2 Forest Soils Laboratory.** Companion laboratory for 452. Emphasis is on methods to characterize and evaluate the chemical, physical, and biological properties of forest soils. Prerequisite: Plant and Soil Science 240 and concurrent registration in Forestry 452. Spring semester even years.

**453-2 Environmental Impact Assessment in Forestry.** Methods of assessing the environmental impact of land-use systems on forest resources and assessing the impact of forest management systems on environmental quality are presented. Case studies culminating in the preparation of environmental impact statements are emphasized. Field trips cost, \$20. Prerequisite: senior standing in a natural resource major.

**454-2 to 8 Forest Ecology Field Studies.** A study of forest communities, soils, and site conditions in one of the following ecosystems: (a) Boreal; (b) lake states; (c) Southern Appalachians; (d) Southern pine. Course requires a field trip of about 10 days. Each trip is two semester credits; a maximum of 6 credits may be applied toward graduate credit. Estimated cost \$125.00 per trip. Prerequisite: senior standing in natural resources or biological sciences, courses in tree identification, forest ecology, and soils, and consent of instructor.

**460-2 Forest Industries.** Analysis of raw material requirements, the processes and the products of forest industries. The environmental impact of each forest industry will also be discussed.

**470-2 Wilderness Management, Policy, and Ethics.** Study of current management philosophy and practice in America's wilderness. Analysis of current wilderness policy and its historical evolution. Discussion of the evolution of the wilderness idea and the individuals that have influenced it. Weekend field trip required. Prerequisite: 320 or consent of instructor.

**480-3 Natural Resource Advocacy.** Examines the role and methods of interest groups in influencing natural resource policies. Emphasis on applied methods, techniques and strategies for achieving interest group objectives in natural resource management. Prerequisite: junior standing or consent of instructor.

**485-3 Social Influences on Forestry.** Study of, and practice in, methods used for effecting social change in forestry and allied natural resource fields. Case studies, readings and survey research methodology are used to develop an understanding of the role of public opinion in ecologically sound natural resource decision making. Prerequisite: senior standing, and a course in statistics.

**490A-2 Resources Management Consortium.** Intensive field course in resources management decision making. Student serves as team member in solving resource problems in forestry, wildlife management, recreation, and interpretation at Land Between the Lakes. Enrollment is limited to six. Course taught at Land Between the Lakes. Cost of room and board not to exceed \$100. Not for graduate credit. Prerequisite: consent of instructor.

**492-1 to 4 Special Studies for Honor Students.** Research and individual problems in forestry. Not for graduate credit. Prerequisite: consent of the department chair and a 3.0 minimum grade point average.

**494-1 to 6 Practicum.** Supervised practicum in a professional setting. Emphasis on administration, supervision, teaching and program leadership in community, school, park, forest, institution, and public or private agencies. Students should enroll according to their curriculum specialization: (a) Forest environmental assessment, (b) outdoor recreation resource management, (c) forest resources management. Prerequisite: consent of instructor.

## Geography (GEOG)

**103-3 World Geography.** (University Core Curriculum) Examination of the world's major geographic patterns, the diversity of environments, cultures and economic activities, differences between developing and developed nations, interdependence of nations and regions through communication and trade and in-depth assessment of representative environmental issues.

**224-3 Geography of Natural Hazards.** Damage from natural hazards in the United States is on the rise while loss-of-life has been declining. Losses from earthquakes, floods, hurricanes, tornadoes, drought, hail, and urban snow in the United States are reviewed. The range of alternatives to cope with natural hazards are appraised; and special attention is given to problems characteristic of all natural hazards — warnings, relief and rehabilitation, insurance, and land-use management.

**300-3 Themes in Geography.** The nature of geography, the kinds of problems which it investigates, the methods it uses. This course satisfies the CoLA Writing Across the Curriculum requirement. Charges not to exceed \$5 for field trip.

**302-3 Physical Geography.** A study of the earth's physical surface, world distribution patterns of the physical elements, their relationship to each other and their importance to people. Field trip and laboratory work. Charges not to exceed \$5 for field trips. Prerequisite: 300 or consent.

**303I-3 The Earth's Biophysical Environments.** (University Core Curriculum) Deals with components of the biophysical environment, including weather and climate, tectonics and geomorphic, soil-forming and ecologic processes as they create dynamic landscapes. Environmental issues tied to landscapes are presented and de-

bated. Laboratories combine field studies, data analysis, computer simulations and discussions about issues related to environmental processes.

**304-3 Economic Geography.** Natural resources in the world economy. This course first introduces the structure of the world economy emphasizing interaction between the developed and underdeveloped nations. World production and trade in the agriculture and energy industries is analyzed from a world system perspective. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 300 or consent.

**306-3 Cultural Geography.** An overview of the geographic viewpoint in the study of the human occupancy of the earth. Aspects of population, settlement, and political geography are treated, and a generalized survey of major world cultural areas is used to integrate course elements. Prerequisite: 300 or consent.

**310-3 Introduction to Cartography.** An introduction to the study of maps and the techniques of map making. Concepts concerning scale, projection, generalization and design are discussed. Emphasis is placed on the use of maps as tools for the representation of spatial patterns and the solution of geographic problems. Students will construct both small scale statistical maps and large scale site maps using manual and computer-based techniques. Two hours of lecture, two hours of laboratory each week. Prerequisite: 300 or consent of instructor.

**320-3 Introduction to Environmental Planning.** Analysis of social responses to environmental challenges requiring policy action (air and water pollution, land use and ecosystem degradation, etc.). Particular focus is on the current legal framework for environmental regulation.

**326-3 Geography of Urban Environments.** Explores the historic and present relationship between people and the urban environment, and between urban places and the sites which they occupy. Systems of measuring environmental quality are reviewed along with methods of assessing and forecasting change in the total urban environment. This course satisfies the CoLA Writing Across the Curriculum requirement.

**330-3 Weather.** An examination of the natural processes which create weather and its temporal and geographic variations and an analysis of the basics of weather forecasting. Current tools and techniques of weather analysis will be applied to weather forecasting of storms, blizzards, hurricanes, tornadoes, drought and flooding. Follows a lecture/workshop-discussion format. Workshops will emphasize weather experiments and forecasting simulations. Satisfies CoLA science requirement.

**331-2 The Human Use of Climate.** Introduces the basic concepts in the functioning of the climatic environment at the earth's surfaces and develops a holistic view of the way parts and processes of the earth interact through exchanges of energy and water with reference to questions of the human use of the earth.

**332-3 Oceanography.** A systematic review of the world's oceans, with study of the nature of ocean water, the role of oceans in the Hydrologic Cycle, characteristics of ocean basins, the transport of ocean water, materials and energy exchanges in the oceans, and ocean management and resource problems.

**360-3 Geography of Illinois.** Introduces and explores some of the spatial elements of the physical and human geography of the State of Illinois through a comparative analysis of the urban and rural lifespaces. Specific geographic issues and problems are selected by the students for group discussion and analysis. Charges not to exceed \$5 for field trips.

**361-3 Regional Geography of the United States.** A survey of environmental, economic, and historical factors and problems in the development of the United States and its regions. Analysis of population trends, assessment of economic activities, and analysis of transportation networks from a geographic perspective are introduced. Some attention is given to the United States in the world economy.

**362-2 Regional Geography of Europe.** Introduces present-day Europe. Survey of the area and an investigation of problems and issues affecting the region.

**363-2 Regional Geography of Mediterranean Lands and Southwestern Asia.** Geography of northern Africa and the Near East in a systematic context. Settlement and land use patterns, cultural history and diversity, and contemporary problems.

**365-2 Regional Geography of Sub-Saharan Africa.** (Same as Black American Studies 380.) Analysis and explanation of emerging spatial pattern of socio-economic development in Africa as most meaningful to the geographer in assessing the continent's transition from traditional to modern political, social, and economic systems.

**366-2 Regional Geography: Eastern and Southern Asia.** Introduces present-day Eastern and Southern Asia. Survey of the area and an investigation of problems and issues affecting the region.

**367-2 Regional Geography of South America.** Analysis of the landscapes of tropical and Andean South America. Historical background of current patterns and problems. Present and future development problems in terms of natural resources, economic, and agricultural systems, and ethnic and settlement patterns.

**400-3 Geography of Outdoor Recreation.** Analysis of patterns of outdoor recreation with an emphasis on metropolitan areas. Selected topics include demand forecasting methods, cost-benefit analysis and the valuation of recreation resources, and an analysis of the socioeconomic and spatial impacts of recreation facility provision.

**404-3 Spatial Analysis.** The purpose of this course is to equip the student with a series of perspectives and tools with which to view spatial phenomena. Emphasis is placed on methodological approaches to the analysis of a real distributions and phenomena. Longitudinal analysis of data is included. Prerequisite: 300. Geography 410 is advisable or consent of instructor.

**406A-2 Introduction to Remote Sensing.** An introduction to remote sensing as applied to the study of environmental systems. This course will examine the theoretical and practical concerns associated with the use and analysis of aerial photography and satellite imagery. Geography majors must take 406a and 406b concurrently. Others may take an approved alternative course in another department as a substitute for 406b.

**406B-1 Introduction to Remote Sensing Laboratory.** A hands-on, laboratory-based class that introduces students to remote sensing techniques as applied to geographical analysis. Emphasis is placed on the manual interpretation and analysis of remotely sensed photographs and imagery. However, students will be introduced to state of the art digital image processing technology. Geography majors must take 406a and 406b concurrently. Others may take an approved alternative course in another department as a substitute for 406b.

**408-3 Advanced Remote Sensing.** Advanced techniques in the analysis of remotely sensed data. Emphasis is placed on digital image processing using state of the art technology. Students will be expected to develop individual problem-driven projects that use the knowledge, tools and techniques that are developed in this course. Two hours of lecture, two hours of laboratory each week. Prerequisite: 406a and 406b or consent of instructor.

**410-4 Techniques in Geography.** Geographic applications of basic and advanced statistical and mathematical techniques, including basic descriptive statistics, hypothesis testing, regression and correlation, analysis of variance, and nonparametric statistics. Special emphasis on a real measures: nearest neighbor analysis, etc. Prerequisite: 300 or consent.

**416-3 Analytical Cartography.** Introduction to computer and analytical cartography. Students examine techniques for the representation, manipulation and display of spatial data using computer mapping techniques and software. Emphasis will be placed on algorithmic solutions to common cartographic problems. Students will be expected to complete a team based project that uses automated cartographic techniques to address a geographic problem. Prerequisite: 310 or computer literacy, or consent of instructor.

**418A-2 Introduction to Geographic Information Systems.** An introduction to geographic information systems (GIS) as it is applied to environmental problem solving. Examines the theoretical and practical concerns associated with the representation and analysis of geographic phenomena using computer technology. Geography majors must take 418a and 418b concurrently. Others may take an approved alternative course in another department as a substitute for 418b. Prerequisite: 310 or consent of instructor.

**418B-1 Introduction to Geographic Information Systems Laboratory.** A laboratory-based class that introduces students to the use and application of geographic information systems (GIS) technology in geography. Students explore the utility of GIS through team-based projects that provide hands-on experience with commonly used GIS hardware and software. Geography majors must take 418a and 418b concurrently. Others may take an approved alternative course in another department as a substitute for 418b. Prerequisite: 310 or consent of instructor.

**420-3 Advanced Geographic Information Systems.** Advanced concepts and techniques for computer-based analyses of geographic information. Students will be expected to develop individual problem-driven projects that use the knowledge, tools and techniques that are developed in this course. Two hours of lecture, two hours of laboratory each week. Prerequisite: 418a and 418b or consent of instructor.

**421-2 Urban Geography.** Examination of extracity relationships — theory and structure; intra-city relationships — theory and structure, and selected urban problems. Offered once annually. Prerequisite: 300 or consent.

**422-4 Economics in Geography and Planning.** Concepts, symbols, language, theory, and elementary mathematics of economics and geography. Individual's preferences, production functions, the firm, markets, optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: 304 or consent of instructor.

**424-4 Natural Resources Planning.** Analysis of the human, technological, environmental and political dimensions of sustainable development focusing on public and private sector institutions that manage renewable and non-renewable natural resources. Prerequisite: 422 or Agribusiness Economics 440, or consent of instructor.

**425-4 Water Resource Planning Simulation.** A review of water resource planning theory and practice from a physical, technological, economic, social, and geographical viewpoint. Students design a comprehensive water resource plan including flood control, water supply, water quality, and recreation for a city of 175,000 population. This plan is played against a 50-year trace of hydrologic parameters in a computer simulation. Prerequisite: 424 or consent.

**426-4 Administration of Environmental Quality and Natural Resources.** (Same as Political Science 445.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act. Prerequisite: 300 or 326, or consent of instructor.

**427-3 Environmental Perception and Planning.** Deals with a description and assessment of the relevance of normative and descriptive theories of decision-making and theories of choice for public policy and environmental management. Studies of the perception of urban environments and other landscapes such as wilderness areas, and perception of and human response toward natural hazards will be considered. Prerequisite: 300 or consent.

**430-3 Environmental Systems Analysis.** Exploration of the major environmental systems relevant to environmental planning. Topics include concepts of systems and system behavior; basics of systems analysis and modeling environmental systems; environmental fluxes of energy and materials (e.g., hydrologic cycle, carbon cycle, energy budgets, erosion and sediment transport, role of biosphere in organizing fluxes); environmental variability. Prerequisite: 302 or consent.

**432-4 Physical Environments of Cities.** Energy and moisture budget concepts are developed from basic principles. Microclimatic data, instrumentation and applications stress urban examples. Models of climatic effects

and modeling of people's effects concern city climates mainly. Charge not to exceed \$5 for field trips. Prerequisite: 302 or 430 or consent.

**433-3 Advanced Physical Geography.** Topics may include landforms, climate, soil or water. Varies with the interest of the instructor. Prerequisite: 302 or consent.

**434-4 Water Resources Hydrology.** Microclimatic factors which affect the hydrologic events of various climatic regions are treated extensively. Methods of estimating geographic variations in hydrologic relations to climatic and microclimatic especially evapotranspiration, are compared and evaluated. Consequences of alternative land uses on climate and hydrology are considered regionally. Charges are not to exceed \$10 for field trips. Prerequisite: 302 or 430 or consent.

**435-3 Energy Planning.** Regional and national differences in energy supply and demand are reviewed followed by a study of current energy resources, the range of demands and environmental impacts. National and international planning strategies for dealing with changes in energy demand and supply are explored and assessed for present and future implementation probability.

**436-3 Environmental Disaster Planning.** Develops the skills and perspectives needed to plan effectively for natural and man-made disasters. The concepts of risk analysis, hazard mitigation and preparedness, response and recovery of the economic and social infrastructure in areas impacted by earthquakes, floods, droughts, radioactive and toxic material releases, and other catastrophic events.

**438-3 Applied Meteorology.** Analysis of meteorological patterns approached through study of several case histories. Evaluation of meteorological data, air mass and frontal analysis, development of weather forecasts, study of meteorological instruments, clouds, and precipitation patterns. Charges not to exceed \$5 for field trips. Prerequisite: Geography 303i or consent of instructor.

**439-3 Climatic Change – Inevitable and Inadvertent.** The geologic time-scale perspective of major natural events that have affected the theoretical steady-state climate, and factors in contemporary societal practices that have brought about inadvertent climatic modification. An assessment of the means and extremes of parameter values in the geologic time-scale perspective studied will be compared with the documented and present-day climatic parameter means and extremes. Approaches to prognoses for the Earth's future climatic state will be made. Charges not to exceed \$10 for field trips. Prerequisite: 331, Geography 303i, or consent of instructor.

**440-2 Tutorial in Geography.** Prerequisite: geography major, senior standing.

**443-3 Teaching of Geography.** Presentation and evaluation of methods of teaching geography. Emphasis upon geographic literature, illustrative materials, and teaching devices suitable to particular age levels. Charges not to exceed \$3 for field trips. Prerequisite: 300.

**452-3 Environment and Population.** Introduction to population geography. Emphasis is on the relationships between population trends, resource use patterns and environmental impacts. Topics include methods and data used to describe and predict populations, theories of population and policy issues that relate to the interaction between population, quality of life and environment quality. Prerequisite: 320 or consent of instructor.

**454-3 Conservation and Environmental Movements.** Emphasizes the ways in which humans view and interact with the environment. Conservation literature and the works of influential environmentalists are studied. Specific theories and environmental movements which help to explain society's current perception and use of the environment are studied. Prerequisite: 320 or consent of instructor.

**456-3 Community Development Perspectives on Environmental Problems.** Introduction to community development, a participatory strategy to social problems; grassroots, community based and non-governmental organizations as catalysts of development in the Third World, the environments in which they function, their ideologies, their methods and their effectiveness. Issues of popular participation in development provide the continuity in the course.

**458-3 International Environmental Movements and Organizations.** International environmental movements and organizations, e.g., the Greens, the United Nations; their approach to environmental issues, their organizational and communication patterns; their relationship with national governments and their impact on environmental policy at national and international levels. Prerequisite: 424 and 454, or consent of instructor.

**459-3 Culture, Political Economy and Sustainable Development.** An examination of: (1) the interaction of the elements that have shaped human actions towards environment in the modern period and which also account for most of the conflicts over the uses, use values and values of environment; (2) the effects of conventional development practices on particular populations, such as women and indigenous peoples; and (3) alternative development policies and the idea of sustainable development. Prerequisite: 424 and 456 or consent of instructor.

**470-3 Interdisciplinary Approaches to Environmental Issues.** Application of concepts for the Biological, physical and social sciences, economics, humanities and law, are used to understand the interdisciplinary complexities of environmental issues. Students will develop and demonstrate problem-solving skills as part of a team analyzing a regional environmental issue. Team-taught seminar style discussions. Prerequisite: Plant Biology 301i and admission to Environmental Studies minor program.

**471-3 Environmental Impact Analysis.** Techniques of assessing the impact of human activities on the environment, including weighting schemes, cost-benefit analysis, linear programming, ecological impact assessment. Emphasis is on placing NEPA and EIS writing in legal, economic, and environmental perspective. Prerequisite: 302 or 304 or consent.

**475-3 Natural Resources Analysis Techniques.** A study of procedures, analytical techniques, data sources and other aids for management and planning of environmental and other natural resources. Topics include techniques to promote public involvement in decision making, survey research methods, socio-economic forecasting methods, decision support techniques and project impact evaluation. Prerequisite: 410 and 422 or consent of instructor.

**480-3 to 6 Internship in Geography.** Supervised field work in private or public organization dealing with planning, environmental management, or cartography and geographic information management. A written proposal about the planned internship must be submitted to a faculty supervisor prior to beginning of internship. A faculty supervised report on the work is required after the internship. Courses may be repeated, but no more than 3 credit hours may be applied to an undergraduate major. A graduate student may enroll for 3 credit hours. Prerequisite: geography major and consent of department.

**481-6 to 12 Cooperative Work Experience in Geography.** Placement of advanced undergraduate or graduate student in private or public organization for one or more semesters in paid career-related position. Student gains professional experience, under faculty and on-site supervision. A written proposal about the planned cooperative work experience must be submitted to a faculty supervisor before it begins. A report summarizing the work experience is required after the work experience ends. Course may be repeated. Three credit hours may apply toward requirements for a Geography major; three additional credit hours may apply toward degree requirements as elective. Prerequisite: geography major and consent of department.

**487-6 (1,2,3) Honors in Geography.** (a) honors tutorial; (b) honors reading; (c) honors supervised research. Must be spread over the last two years of the undergraduate's career. May be taken in either a, b, c, or b, a, c sequence. Prerequisite: consent of department.

**490-2 to 4 Readings in Geography.** Supervised readings in selected subjects. Prerequisite: geography major, advanced standing.

## Geology (GEOL)

Courses with a laboratory may require purchase of a laboratory manual and a supply fee. All courses requiring field trips may have a field trip cost of approximately \$2 to \$7.

**110-3 Geology and the Environment.** (University Core Curriculum) Examines human interaction with geologic processes and hazards, including earthquakes, volcanoes, landslides and flooding; occurrences and availability of geologic resources, such as energy, water and minerals; and land-use planning waste disposal and environmental impact. Two lectures and one laboratory per week.

**220-3 The Dynamic Earth.** Introduction to the materials which form the Earth and the dynamic processes that change them. Three lectures per week. One Saturday field trip required. Prerequisite: high school or college chemistry; concurrent enrollment in 223 encouraged for Geology majors.

**221-3 Earth Through Time.** Concepts and methods of interpreting Earth history. Development of Earth's major features and environment systems. Emphasis on ancient environments and life forms, major changes in paleoclimate, paleocommunities and biodiversity.

**223-1 Introductory Geology Laboratory.** Understanding the Earth's processes, materials and environment through hands-on laboratory and field experience. One three-hour session per week. Prerequisite: completion of or concurrent enrollment in 220.

**224-1 Earth Through Time Laboratory.** Concepts and methods of interpreting Earth's history. One two-hour laboratory per week. Weekend day field trip required. Prerequisite: completion of or concurrent enrollment in 221.

**302-4 Fundamentals of Structural Geology I.** An introduction to structural geology including a study of the forces involved in the deformation of the earth's crust, with special emphasis on the recognition and interpretation of the resultant geologic features. Laboratory and two Saturday field trips required. Prerequisite: 220, Mathematics 111. Recommended: Physics 203, or 205 or concurrent enrollment.

**310-4 Mineralogy.** Rudiments of crystal structure, morphology and symmetry. Introduction to crystal chemistry. Study of the properties, chemistry, occurrence and identification of common rock-forming and economically important minerals. Lecture-laboratory. Prerequisite: 220, Chemistry 200, 201, 210, 211.

**315-4 Igneous and Metamorphic Petrology.** An introduction to the processes involved in forming igneous and metamorphic rocks, to the geological environments in which these rocks are located, and to their characteristics and classifications. Laboratory. Field trip required. Prerequisite: 310.

**325-4 Sedimentology and Stratigraphy.** The characteristic features of sedimentary rocks and the physical and chemical processes responsible for their origin and diagenesis. The classification of stratigraphic units, methods of correlation, and paleogeologic reconstruction. Laboratory and field trips required. Prerequisite: 220, 221, 310; 415 recommended.

**390-3 Introduction to Mining Geology.** Structure and composition of the earth as these impact specifically on mining engineering problems; geologic time, sequence of events, major geologic provinces, types of ore deposits, use of core data, preparation and interpretation of geologic cross-sections. Two lectures and one three-hour laboratory. Two Saturday field trips required. Prerequisite: 220.

**412-3 Topics in Igneous Petrology and Geology.** In-depth studies of selected topics in igneous petrology and igneous geology. The selected topics will emphasize theoretical considerations, experimental considerations, and field associations of a variety of igneous rock types. Lecture, discussion sessions, and laboratory. Prerequisite: 315, 415.

**413-3 Quantitative Methods of Geology.** An introduction to quantitative methods in a geological and earth sciences context. Topics introduced include sampling plans for geologic studies, non-parametric test of geological data, comparisons of geological samples, analysis of sequential geological data. Laboratories will deal with numerical examples from all areas of geology. Prerequisite: advanced standing and consent of instructor.

**414-3 Paleobotany.** (See Plant Biology 414.)

**415-3 Optical Mineralogy.** The optical properties of minerals and the use of the petrographic microscope for identification of crystals by the immersion method and by thin section. Lecture, laboratory. Prerequisite: 310, Physics 203b or 205b.

**417-3 Isotope Geochemistry.** Stable and radioactive isotopes and the applications of isotopic studies to igneous and metamorphic petrology, ore deposits, sedimentology, surface processes, geothermometry, and geochronology. Introduction to isotopic techniques and mass spectroscopy. Laboratory or research project required. Prerequisite: 310, 315, and 325 or consent. Recommended: Physics 203, Mathematics 150, and Geology 419.

**418-3 Low Temperature Geochemistry.** The application of chemical principles to geologic processes that occur on and near the earth's surface. Lecture, laboratory. Prerequisite: 310, Chemistry 200, 201, 210, 211 or equivalent.

**419-4 Ore Deposits.** The geological and other factors that govern the exploration for and occurrence of metaliferous mineral deposits. Study of the geological settings of the major types of ore deposits. Lecture, laboratories, and field trips. Prerequisite: 302, 315.

**420-3 Petroleum Geology.** The geological occurrences of petroleum including origin, migration, and accumulation; a survey of exploration methods, and production problems and techniques. Laboratory study applies geological knowledge to the search for and production of petroleum and natural gas. Prerequisite: 221, 302.

**421-3 Organic Geochemistry.** The nature, origin and fate of natural and artificial organic materials in rocks and sediments. Topics include characterization of fossil fuels using biological marker compounds, petroleum source rock evaluation, and organic pollutants in the environment. Prerequisite: 325 or consent of instructor.

**425-4 Invertebrate Paleontology.** Principles of paleontology and a survey of the important invertebrate phyla and their fossil representatives. Laboratory. Field trips required. Prerequisite: 221, a biology course.

**428-3 Paleocology and Environments of Deposition.** Characteristics, distribution, and classification of recent and ancient environments. Criteria for recognizing ancient environments. Sedimentological and paleoecological approaches. Recognition of ancient environments and environmental associations. Laboratory. Field trips required. Prerequisite: 425, 325, or concurrent enrollment.

**434-3 Engineering and Environmental Geophysics.** Geophysical methods used in engineering and environmental site characterization and assessment and the geophysical detection of environmental hazards. Field trips required. Prerequisite: Physics 203a or 205a, 203b or 205b, Mathematics 150.

**435-3 Solid-Earth Geophysics.** Earth's size, shape, mass, age, composition, and internal structure are reviewed in detail as understood from its volcanism, gravity and magnetic fields, seismicity, and motion of continents and ocean basins; plate tectonics. Prerequisite: 302, Mathematics 150, or consent of instructor.

**436-4 Elementary Exploration Geophysics.** Theory and practice of geophysics as applied to the exploration and development of natural resources. Laboratory involves use of geophysical instruments and interpretation of data. Field trips required. Prerequisite: 220, Mathematics 150.

**437-3 Field Course in Geophysics.** Use of geophysical equipment for collection, analysis and interpretation of seismic, gravity, magnetic, electrical, and other types of geophysical data. Prerequisite: 436 or consent.

**440-1 to 4 Advanced Topics in the Geological Sciences.** Individual study or research or advanced studies in various topics. Prerequisite: advanced standing and consent of instructor.

**445-3 Museum Studies in Geology.** History, nature and purpose of geology in museums, relationships of geology to other museum disciplines, application of geologic methods to museum functions, preparation and preservation of specimens; nature, acquisition and utilization of geologic collections in museums, role of research in museums.

**450-2 Introduction to Field Geology.** Introduction to field techniques, principles of geologic mapping and map interpretation. Field trip fee \$5.00. Prerequisite: 302, 315 or concurrent enrollment.

**454-6 Field Geology.** Advanced field mapping in the Rocky Mountains, including problems in stratigraphy, structure, petrology, paleontology, geomorphology, and economic geology. Transportation cost approximately \$150, supplies \$6. Prerequisite: 302, 315; 450 recommended.

**460-3 Geological Data Processing.** Computer applications to geological problems including the processing and programming of data and the interpretation and evaluation of results. Lecture, laboratory. Prerequisite: Engineering 222 or Computer Science 202.

**462-3 Fundamentals of Structural Geology II.** Intermediate topics in structural geology including strain theory, field strain analysis, geometry of complex mesoscopic structures and introduction to dislocations, deformation history, and microfabric analysis. Hypotheses and orogenesis are discussed and evaluated. Lecture and assigned problems only. Prerequisite: 302 or equivalent.

**466-3 Tectonics.** Fundamentals of geodynamics applied to plate tectonics: mantle composition and rheology, deformation of the lithosphere, structural characteristics of plate margins, stability of triple junctions, diachronous tectonics, and orogenesis will be examined in detail. Prerequisite: 302, Mathematics 150, or consent of instructor.

**470-3 Hydrogeology.** A problem-solving oriented course which covers the analysis and interpretation of the distribution, origin, movement, and chemistry of ground water. Laboratory. Prerequisite: 220, Mathematics 250.

**474-3 Geomorphology.** Study of erosional and depositional processes operating at the earth's surface and landforms resulting from these processes. Relationship of processes and landforms to the geologic framework is examined. Laboratory. Prerequisite: 220.

**476-3 Quaternary Geology.** Methods used to identify, map, date and correlate Quaternary deposits and interpret Quaternary history. Covers glacial, fluvial, coastal, lacustrine and eolian chronologies, oxygen-isotope records from ocean sediments and continental ice cores, volcanic activity, and Quaternary climate change. Field trips required. Prerequisite: 220, 221 or consent of instructor; 474 recommended.

**478-4 Environmental Geology.** Application of principles of geomorphology and Quaternary to environmental problems and geologic hazards. Lectures and case studies emphasize neotectonics, volcanic hazards, landslides and other mass movements, floods river channel changes, and coastal erosion. Laboratory exercises focus on techniques for identification, mapping, and analysis of geologic hazards. Prerequisite: 474; 476 recommended.

**480-3 Geology of Coal.** Geology as related to exploration, development and mining of coal; stratigraphy, sedimentation and structure of coal deposits; type of coal basins and their tectonic setting; concepts of cyclical deposition in coal basins; origin of splits and partings in coal seams; relationship of modern environments and ancient coal-forming environments; structural problems relevant to exploration and mining of coal; methods of resource evaluation. Three 1-hour lectures/week; five half-day field trips.

**481-3 Sedimentary Basin Analysis.** The use of stratigraphy, structure, sedimentology and geophysics to determine the paleogeographic evolution of sedimentary basins. Topics include the study of the relationships between host strata and both primary and post-depositional non-renewable resources, plate tectonics and basin evolution and subsurface geologic methods. Prerequisite: consent of instructor.

**482-3 Coal Petrology.** Structural features and microscopy of coal seams. Origin and alteration of coal constituents. Includes field trips, study of coal specimens, and techniques. Prerequisite: 220 and 221 or consent of instructor.

**490-1 to 3 Internship.** Credit for supervised practical experience with an external geological agency or company; prior approval of the sponsoring agency and the department is required. Not for graduate credit. Prerequisite: advanced standing; minimum 2.70 cumulative gpa.

## German (GER)

**126-8 (4,4) Elementary German.** The course emphasizes German culture as it is expressed in the language. It concentrates on the four language skills of understanding, speaking, reading, and writing. No previous knowledge of German required. Must be taken in a,b sequence. Purchase of a workbook is required.

**201-8 (4,4) Intermediate German.** Intensification of the four basic language skills. Study of the culture and everyday living situations in the German-speaking countries. Must be taken in a,b sequence. Prerequisite: 126b or equivalent.

**201C-6 (3,3) German Language Workshop.** This intensive (15 days), total-immersion (exclusively in German) program combines formal classwork with informal seminars, group activities (folk singing, skits, play readings, films, talent shows, etc.) and individual assignments (daily compositions, diaries). May be repeated once but only three hours will count toward major or minor. Prerequisite: 201b or consent of instructor.

**202-2 (1,1) Intermediate German Conversation.** Designed to improve the student's speaking ability through use of modern media. Must be taken in a,b sequence or as companion course to 201a or b or with consent of instructor. Prerequisite: 126b or equivalent.

**320-7 (4,3) Advanced Composition and Conversation.** Devoted to increasing the student's command of German. Intensive practice in oral and written composition. Beginning with rather controlled subject matter and progressing to a wider choice of topics. Conducted primarily in German. To be taken in sequence. Prerequisite: grade of B or better in 201b or permission of instructor.

**330-3 Introduction to German Literature.** Survey of masterpieces of German literature including works from various genres and from the major periods of German literary history. Student projects will include demonstration of various techniques of literary criticism. Course is taught primarily in German. Prerequisite: 201b or equivalent.

**335-3 Survey of German Literature.** A survey of German literature from its beginning in the early Middle Ages to the present. Focusing on the major periods, authors, and works of German literature, this course will provide the students with an initial encounter with literature in an historical context and help train them to read both extensively and intensively. Prerequisite: 201b or equivalent.

**345-3 Introduction to Business German.** An overview of the business communities of Germany and Austria with respect to communications, trade, industry, government, the European Union, culture and the educational system. Prerequisite: 320a or concurrent registration.

**370-3 Contemporary Germany.** Study of life in Germany since World War II including the customs and habits, thoughts and beliefs, as well as the broad complex of traditions basic to everyday life. Readings include literary and journalistic materials as well as written and filmed documentaries. Taught primarily in German. Prerequisite: 201b or equivalent and/or consent of instructor.

**371-3 Cultural History of Germany.** An overview of geographic facts and the intertwining economic, political, social, and cultural developments in the German-speaking countries from the time of the Germanic tribes to the present. Taught primarily in German. Prerequisite: 201b or equivalent.

**380-3 Modern German Prose.** Introduction to outstanding German prose literature of the 19th and 20th centuries. Attention to historical and social backgrounds. Extensive readings supplemented by lectures and discussions. Conducted in German. Prerequisite: 201b or equivalent.

**390-1 to 6 (1 to 3, 1 to 3) Directed Language Learning Activity.** Special projects such as translation practicum, German play production, German newsletter, instructional assistance, special presentations, or internship in a business firm in Germany. May count as the fifth semester required for Foreign Languages and Literatures 475a. Prerequisite: consent of instructor.

**410-3 Advanced Language Study.** Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of written and spoken language through translations and free compositions. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 320b or equivalent.

**411-3 Linguistic Structure of Modern German.** (Same as Linguistics 409.) The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

**412-3 History of the German Language.** Development of German from its Indo-European origin to the present in political and cultural context. The main linguistic aspects dealt with are lexical and semantic changes. Appropriate for students with at least two years of German. Readings in German. Conducted in English.

**435-3 Business German.** An overview of German business, presented through lectures, readings, and discussions. Coursework with textbook and supplementary materials will focus on the major aspects of German business. Exercises will include vocabulary building, listening and reading comprehension, oral and written summarization, role playing in typical situations, mock telephone conversations, and business correspondence. Prerequisite: 320b or consent of instructor.

**440-3 Studies in Early German Literature.** The literature of the German-speaking countries from the early Middle Ages through the seventeenth century, with varying emphasis on authors, themes, genres, periods. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

**450-3 Studies in 18th Century Literature.** Examination of the major writers and movements with their social, historical, and intellectual background during the 18th century in Germany and Austria. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

**455-3 Studies in 19th Century Literature.** Detailed focus on specific aspects rather than a general survey of 19th century literature, e.g., major periods and movements, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

**480-3 Studies in 20th Century Literature.** Detailed focus on specific aspects rather than a general survey of 20th century literature, e.g., major periods, movements, and tendencies, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

**488-3 Advanced German as a Research Tool.** Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for reading and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: Passing of CLEP test in German; or one year of college-level German; or consent of instructor (as determined by examination).

**490-1 to 6 (1 to 3, 1 to 3) Independent Study in German.** Project-study under supervision of German faculty. Amount of credit depends on scope of study. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: senior or graduate standing and approval of supervising instructor.

**493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language.** Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies. Primarily for undergraduates. Prerequisite: consent of instructor.

## Health Care Management (HCM)

**258-1 to 30 Work Experience Credit.** Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by departmental evaluation. Prerequisite: health care professions majors.

**259-1 to 60 Occupational Education Credit.** A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation. Prerequisite: health care professions majors.

**298-1 Multicultural Applied Experience.** (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race or class. The student can sign up for the one credit experience in the same semester he or she fulfills the multicultural requirement for the University Core Curriculum or the credit can be coordinated with a particular core course on American diversity, although neither is a requirement. Students should consult the Department of Health Care Professions for course specifications regarding grading, work requirements and supervision. Prerequisite: Health Care Professions major only and junior standing.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**360-3 The U.S. Health Care System.** A study of the major components which comprise the U.S. health care system. This course will focus primarily on basic terminology, history, settings, personnel and utilization of services.

**364-3 Health Care Supervision.** A course dealing with the problems of management of the small working unit (division, department, section, etc.) within a larger health care agency. Included items will be unit goals, identification of problems, staffing needs, monitoring of work progress, unit communications and interpersonal relations within the unit. Prerequisite: health care professions majors.

**365-3 Data Applications for Health Professions.** A course designed for students beginning their major in health care to examine and apply data to their profession. Emphasis will be placed upon the understanding of the basic principles, techniques and applications involved with analysis, synthesis and utilization of data. Prerequisite: Mathematics 108 and health care major.

**366-3 Technical Information for Health Managers.** A course designed to increase student competence in utilization and analysis of the various types of technical information encountered in the health professions. Prerequisite: health care professions majors only.

**380-3 Seminar in Health Care Services.** Seminar on the various existing and emerging issues which affect control and implementation of health care services to consumers. Topics include but are not limited to ethics, professionalism, credentialing, marketing, and future trends. Senior status or consent of instructor is required for registration.

**381-3 Health Care Management.** A study of the principles of effective management techniques including planning, decision making, organizing, budgeting, communication, and direction.

**382-3 Health Economics.** An analysis of the economics of health care in the United States and its effect on society and the health care profession.

**384-3 Equipment and Materials Management in Health Facilities.** A focus on the preparation of health care administrators with the necessary management tools to assure comfort, safety, and well-being of patients, hospital personnel, and visitors, and to focus their attention on sound maintenance management practices, materials procurement, storage and preservation, records keeping, and the utilities systems needed in a health care facility.

**385-3 Fiscal Aspects of Health Facilities.** An introduction to the fiscal problems encountered in the administration of health care facilities.

**388-3 Legal Aspects of Health Care.** A study of the legal requirements affecting health care facilities. The course will emphasize the basic law of contracts, consents, records, personnel, liabilities, privacy, and other routine functions. Successful students acquire an understanding of the need for legal counsel. Lecture three hours.

**390-3 Labor/Management Relationships.** The student will gain a general understanding of labor and management relationships as they apply to the health care setting. The student will develop a perspective on the evolution of health care labor relations in the United States economy and how the interaction of labor and management differs throughout the world and work setting. The student will be introduced to collective bargaining as it applies to both health care providers and support personnel. Prerequisite: health care professions majors only.

**398-3 Risk Management in Health Care Organizations.** A study of the process and principles of risk management in health facilities. This course demonstrates methods used in controlling, reducing, or eliminating financial loss in health care facilities due to employee negligence, medical mal-practice, workman's compensation and property loss. It examines pertinent legal principles, occupational health and safety, insurance, and related case studies. Prerequisite: junior standing and permission of instructor. Restricted to Health Care Management majors.

**413-3 Nursing Home Management.** A study of the principles of nursing home management which examines administrative and staffing functions relating to clients, community, public policy, programming, and financing. Not for graduate credit. Prerequisite: junior standing or consent of department.

**421-3 Professional Practice in Health Care Management.** Introduces the students to topics of professionalism, with emphasis on the elements involved in obtaining a position within the health care industry and professional ethics. Job development activities will include: personal inventories, placement services, interviewing techniques, resumes, letters of application, references and employment tests. Each student will develop a portfolio of professional information related to career goals. Students will also develop an approach to ethical problems from Who Am I? to the types of ethical problems in health care and how to apply decision making principles. Prerequisite: enrollment in College of Applied Sciences and Arts baccalaureate program or consent of instructor.

**422-1 to 12 Occupational Internship.** Each student will be assigned to a University approved health care organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor or coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be arranged individually. Mandatory Pass/Fail. Not for graduate credit. Prerequisite: Health Care Management 421 and a minimum grade of C in all Health Care Management courses.

## Health Education (HED)

**101-2 Foundations of Human Health.** (University Core Curriculum) This course is designed to examine contemporary health-related issues for all dimensions of the individual — physical, mental, social, emotional and spiritual — through focus on health promotion and disease prevention. Emphasis is placed on maintaining or improving quality of life by developing personal and social skills (decision-making, communication, stress management, goal setting) across health education content areas, as well as identifying and accessing appropriate health-related resources.

**301-3 Advanced Concepts of Health.** Interrelatedness and interdependence of health as a total concept. Concepts of health and health education within the context of an option-expanding world are examined. Emphasizes role of the individual in assuming responsibility for one's own health behavior as well as education for a health-activated citizenry.

**302S-3 Driver and Traffic Safety Education — Introduction.** A beginning course that deals with the highway transportation system, traffic problems, the driving task, perception and implementation of the driver education classroom program. Observation of the teaching environment is included. Prerequisite: a valid driver's license.

**305-3 Principles and Foundations of Health Education.** An introductory professional course in the field, designed to implement the evolving concept that health education is both content and process; major concepts for a variety of teaching-learning approaches in school and other community settings are considered; health careers and opportunities in field are described.

**310-6 Emergency Medical Technician.** Upon successful completion of a national examination, meets the formal requirements and certification for those who want to become an Emergency Medical Technician. The course is concerned with cognitive and practical experiences. Triage, vehicle extrication, emergency room observation, and driving an ambulance experiences conducted outside the normal class meeting times are required. Students will be required to pay a laboratory fee of approximately \$25. Prerequisite: restricted to written consent of course coordinator.

**311-3 Human Growth and Development.** An overview of human development from conception through senescence. Designed for professional personnel who will be concerned with planning health programs for groups representing broad age ranges. Emphasis will be on physical, mental, and social dimensions of growth and development.

**312-3 Emotional Health.** Concepts of positive emotional development in terms of influence in the classroom and other community settings.

**313S-3 Introduction to Safety Education.** Introduces the principles and fundamentals of safety education. Concerns safety as a social problem and considers major accident areas, accident causes, liability, and analyzes possible solutions to accident problems.

**326-3 Evaluation in Health Education.** Principles and methods for monitoring the implementation of health education and for assessing its impact. Development and selection of valid and reliable measures. Use of standardized scores and other appropriate statistics. Applications in classroom and community settings.

**330-3 Consumer Health.** Federal and state legislation affecting consumer health; official watchdog agencies on consumer health; non-official agencies (AMA, CU, etc.); health and advertising in health and medicine; cultists' and faddists' effect on consumer health.

**334-3 First Aid and CPR.** Provides students with first aid and cardiopulmonary resuscitation knowledge and skill competencies necessary to care for injuries and provide assistance in emergencies. The course can lead to certification in American Red Cross Standard First Aid Responding to Emergencies (RTE) and Cardiopulmonary Resuscitation. American Red Cross services and materials fee payable to local Red Cross chapter collected in class. Students will be required to pay a laboratory fee of \$5.

**350-3 Health Education in the Elementary School Curriculum.** Acquaints the prospective teacher in the elementary school with fundamental processes, techniques and instructional materials related to health education.

**355-3 Introduction to Community Health.** Organization and administration in local, state, and national official and non-official health agencies, their purposes and functions, and an overview of methods for meeting community health needs and for solving community health problems.

**400E-2 to 3 Health Appraisal of School Children - Special Topics.** Includes the screening, testing, and evaluation for numerous health conditions related to hearing, vision, the cardiovascular system, skin, spine, and such diseases as diabetes, tuberculosis, herpes, and other such ailments. Included will be classroom lectures and presentations, a supervised practicum, and all students will develop a viable program in a particular problem area in a public school program.

**401-3 Epidemiological Approaches to Disease Prevention and Control.** Principles and practices in the cause, prevention, and control of diseases in various community settings.

**402-3 Death Education.** Designed to prepare educators to conduct learning experiences about death and dying in a variety of school, college, medical care, and community settings. Stress will be placed on developing brief, functional curricula and usable, imaginative teaching-learning materials, and on evaluating resource materials for use in educating at various levels of maturity.

**403-3 Health Advocate Training.** Provides students with knowledge and skills in the areas of peer health education, health advocacy, and referral. Instruction includes health care information from a wellness point of view. Prepares students for practicum in health advocate program. Credit will not count toward a master's degree in health education. Prerequisite: consent of instructor.

**405-3 Sex Education.** Examines various programs of sex and family life education in schools, recognizing a range of community attitudes.

**407-3 Drug Education.** Meets requirements of Illinois state law for education concerning drugs including alcohol for grades K-12. Explores motivations behind use and abuse of drugs. Offers experiences in development of curriculum and teaching approaches and material.

**410-3 Human Sexuality.** Provides detailed in-depth information on such topics as philosophical views of sexual behavior, sex techniques, sex therapy, sexual variations, sexual anatomy and physiology, including the sexual response and changes with age and sexual development in childhood.

**411-6 Emergency Medical Technician in the Wilderness.** Placement of trained emergency medical technicians into a wilderness situation and having them adopt previously learned skills and newly developed skills. Prerequisite: 310 or 434.

**430-3 Health and Injury Control in A Work Setting.** (Same as Industrial Technology 430.) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included.

**434-4 Advanced First Aid and Emergency Care.** Meets the needs of those in positions where a complexity of first aid emergency care procedures are needed. American Red Cross and American Heart Association certification may be obtained. Materials purchased from the American Red Cross and/or the American Heart Association are required in this course. Consent of instructor required.

**440-3 Health Issues in Aging.** Students enrolled in the course will be involved in a wide variety of learning activities focusing on health needs of the elderly. The course is designed for students who have a special interest in health implications of aging.

**441-3 Women's Health.** The course deals with a wide variety of health concerns of American women as consumer in the current health marketplace. Major categories of topics include health products, health services, and sources of health information of particular interest to women. Emphasis is also placed on current health related issues of women. The major purpose of the course is to provide a basis for informed decision-making by the female consumer.

**442S-5 Driver and Traffic Safety Education – Practicum.** Provides prospective teachers with simulation, range, and on-road teaching experience with beginning drivers. Students may be required to purchase materials not to exceed \$15. Prerequisite: 302s.

**443S-3 Driver and Traffic Safety Education – Program Administration.** Emphasizes administration, reimbursement, scheduling, public relations, planning, and evaluation of driver education. Prerequisite: 442s or consent of instructor.

**444-3 Modern Gerontology.** This multidisciplinary course in Gerontology is a survey of various disciplines which contribute to a body of knowledge vital to working, performing research, and teaching in an aging society.

**445-3 Advanced Driver Education Instructor Training.** Prepares prospective instructors of advanced driving techniques. Emphasis is placed upon safe driving practices, vehicle dynamics, emergency vehicle operation, in-car response to simulated driving emergencies, and instructional techniques. Prerequisite: consent of instructor.

**446-4 Motorcycle Rider Education Instructor Training.** Provides prospective teachers with on-cycle teaching experience with beginner riders. Addresses program administration, scheduling, public information techniques, equipment procurement, evaluation and instructional technology. Certification as Motorcycle Rider Course Instructor can be obtained. Materials purchased from the Motorcycle Safety Foundation are required in this course. Prerequisite: consent of instructor.

**450-3 Health Programs in Elementary Schools.** Orientation of teachers to health programs and learning strategies. Designed for elementary education majors.

**455-3 Computer Applications in Health Education.** Designed for students with little or no previous experience with computers. The course will be applications oriented, with an introduction to the potential uses of computers in the field of health education.

**461-1 to 12 Health Education Workshop.** A different focal theme each year; e.g., mood modifying substances, ecology, human sexuality, emotional and social health dimensions. Information, ideas, and concepts are translated into teaching-learning materials and approaches; continuing opportunity for interaction between prospective and experienced teachers.

**470S-3 Highway Safety as Related to Alcohol and Other Drugs.** Relationship between alcohol and other drugs and traffic accident causes. A review of education programs designed to minimize drug related accidents. Prerequisite: advanced standing or consent of instructor.

**471-2 Health Education Instructional Strategies.** This course is designed for graduate students who are teaching assistants in Health Education. The purpose of the course is to enhance professional skills of those who are responsible for teaching health education, general education, and first aid.

**480S-3 Traffic and Driver Education Program Development.** Acquaints students with curriculum innovation, current philosophy, learning and teaching theories, and instructional designs. Students will develop learning packages and modules. Prerequisite: 443s or consent of instructor.

**483-3 Community Health Administration in the United States.** Background and development of community health administration structures in the United States; the dynamics and trends evolving from current health and medical care programs and practices. Prerequisite: 355.

**485-3 International Health.** Health beliefs, values, and practices of peoples in various cultures as related to a total way of life of potential value to both prospective teachers and students in other fields.

**488-3 Environmental Dimensions of Health Education.** Application of the principles of learning to understanding people interacting with their environment. Emphasis placed upon individual and community responsibilities for promoting environmental health. Rural and municipal sanitation programs and practices are included.

**489-3 Introduction to Vital Statistics.** An introduction to bio-statistics; examination of theories of population projections; collection, organization, interpretation, summarization, and evaluation of data relative to biological happenings with emphasis on graphic presentation.

**490-2 to 6 Field Experiences in School, Community Health or Safety Education.** Field observation, participation, and evaluation of current school or community health education or safety programs in agencies relevant to student interests. Prerequisite: consent of instructor.

**491-3 Health Teaching/Learning: School and Community.** Teaching and learning strategies at secondary school levels and in other community group settings. Opportunities to examine and observe a variety of educational strategies applicable to health education.

**496-4 Industrial Hygiene.** Provides a background in the recognition, evaluation, and control of toxic materials and hazardous physical agents in the work environment. Prerequisite: consent of instructor.

**499-3 Rx: Education in Health Care Settings.** Designed for members and potential members of the health care team to explore educational concepts and strategies applicable to a variety of health care settings. Includes rights and responsibilities of consumer and professional, determinants of health behavior, contrasting models of health care, communication skills, media and materials and planning, implementing and evaluating educa-

tional programs. Open to medical and dental personnel, nurses, health educators, dieticians, therapists, pharmacists, social workers, and related professionals.

## History (HIST)

**101-6 (3,3) The History of World Civilization.** (University Core Curriculum) (a) To Industrialization; (b) Since the Age of Encounter. A survey of various civilizations in the world from prehistory to the present with particular attention to non-western cultures.

**110-3 Twentieth Century America.** (University Core Curriculum) The history of the United States since 1900. Surveys cultural, social, economic and political development, with special emphasis on domestic pluralism and changing international roles.

**112-3 The Twentieth Century World.** (University Core Curriculum) The history of Europe, Asia, Africa and Latin America since 1900. Emphasis on political conflict, economic development, social change and cultural transformation in an increasingly integrated world.

**201-3 Art, Music and Ideas in the Western World.** (University Core Curriculum) The historical evolution of the visual arts, architecture and music in the context of society and literature, from ancient Greece to the present. It emphasizes the fundamental historical relationship of the different genres of human expression in Western culture.

**202-3 America's Religious Diversity.** (University Core Curriculum) An introduction to the basic concepts and histories of the world's religions and their place in American society. The purpose is to increase our understanding of cultural and religious diversity and how the various religious traditions inform our worldviews.

**205-6 (3,3) History of Western Civilization.** (a) From ancient times through the sixteenth century; (b) The seventeenth century to the present. A brief survey of the major developments and trends in European history from ancient times through the 20th Century.

**210-3 American Heritages** (University Core Curriculum) The American experience as expressed in key texts written prior to the Twentieth Century. Emphasis on American pluralism and controversies related to race, ethnicity, gender and class.

**300-3 The Origins of Modern America, 1492-1877.** A general survey of political, social, and economic development of the United States from 1492 to 1877.

**301-3 Modern American from 1877 to the Present.** A general survey of the political, social and economic development of the United States from 1877 to the present.

**303-1 to 3 Topics in Comparative History.** A comparative study of recurring themes in the history of diverse societies and civilizations. Topics will vary and will be announced in advance. Topics to be covered include the problem of slavery, technology and society, war, and civilization.

**304I-3 Islamic Religion and Culture.** (University Core Curriculum) Examines religious, cultural and socio-political developments in the Islamic world from the Prophet Muhammad to the present. Includes modernization and current problems in global contexts.

**311-3 Ancient Civilizations.** A comparative study of ancient near eastern and classical civilizations of the Fertile Crescent and the Mediterranean Basin: Mesopotamia, Egypt, Palestine, Greece and Rome.

**315-3 Medieval Europe.** The emergence of Europe from the Age of Constantine to the Black Death, with emphasis on the political, socio-economic, and cultural forces which were at work creating Europe.

**320-3 Early Modern Europe.** The development of Europe from the Renaissance through the Age of the French Revolution.

**323-3 History and Artistic Creativity.** A selected exploration of the specific conditions in Western history, from the Renaissance to the present, which have encouraged and given direction to creativity in the arts.

**324-3 Women in Western Society: 1600 to Present.** (Same as Women's Studies 348.) The legal, social, economic, and political position of women in Western society during the past 350 years are examined against the backdrop of industrialization, political democratization, world wars, and totalitarianism. Emphasis is on women in England, France, and the US.

**325-3 Europe Since 1815.** The development of Europe from the Age of the French Revolution to the present day.

**330-6 (3,3) English History.** (a) England to 1688; (b) England since 1688. Political, social, economic, and cultural history of England.

**336-3 Twentieth-Century Dictatorships and Global Conflict 1919-1945.** The emergence of the Axis dictatorships in Europe and the Far East, their ideology, expansion, aggression and their defeat in World War II.

**338-3 Eastern Europe.** An historical survey of the East European area from the Baltic to the Balkans, with emphasis on the modern era.

**339-3 Twentieth-Century Russian Culture and Society.** A survey of intellectual, literary and socio-economic trends in late imperial Russia and the Soviet Union. Discussion of the non-Russian peoples of the Empire and USSR and nationalism.

**350-2 The Revolution and the Constitution in American History.** An introduction to the causes and consequences of the American Revolution with special focus on the political principles contained in the Declaration of Independence and the Constitution and the effects these documents have had on American history.

**354-3 The Contemporary United States.** A survey of the social, economic, political and cultural changes in the United States since the end of World War II, focusing on such topics as the Cold War, changes in the lives of women and minorities, the Vietnam War, the social movements of the 1960s, the imperial presidency, and the Reagan revolution.

**355-3 The Radical View in American History.** A survey of American radicalism from the revolution to the present, with an emphasis on twentieth century movements for social change.

**361-3 Race and History in the United States.** (Same as Black American Studies 360.) This account of racial attitudes and race relations begins with the 16th century European racial experience and covers subsequent developments in the U.S. to the present time. The problem of race is treated in its several dimensions, but principal emphasis falls upon the historical consequences of Caucasian confrontations with blacks, Hispanics, and native Americans.

**362-6 (3,3) Black American History.** (Same as Black American Studies 311.) (a) Black American history to 1865; (b) black American history since 1865. The role of blacks and contribution in the building of America and their ongoing fight for equality.

**364-3 The Great Depression in the United States.** Causes and effects of the Great Depression and of governmental measures for relief, recovery, and reform during the years 1929-1942.

**365-3 American Immigration.** A history of American immigration and ethnicity from colonial times to the present, with primary attention upon the peoples of the United States and the diverse lands from which they have come.

**366-3 American Indian History.** A comprehensive history of American Indians from prehistoric times to the present.

**367-3 History of Illinois.** The history of the state from 1818 to the present.

**369-3 History of the American Family.** (Same as Women's Studies 346.) A survey of the American family from its origins to the present, focusing on the variety of families — English, African, later immigrants, middle class, and poor. During the course students will write their own family histories, thereby applying what they have learned to their own lives.

**370-6 (3,3) History of Latin America.** (a) Colonial Latin America. (b) Independent Latin America. An introduction to the political, economic, social, and cultural development of Latin America from Precolumbian times to the present.

**380-6 (3,3) History of East and South Asia.** (a) China and Japan; (b) India and Southeast Asia. The first semester focuses on China and Japan from early times to the present; the second semester concentrates on India and Southeast Asia in modern times.

**385-3 Islam and the West.** A history of the religious and cultural interaction between the Islamic and Western world. Surveys the changing image of Islam in western literature, the Muslim response to secularism, and the Islamic presence in Europe and America.

**387-6 (3,3) History of Africa.** (a) To 1800; (b) Since 1800. A chronological study of African peoples from earliest times to the present, including ancient Egypt, Ethiopia, the Era of the African Kingdoms, the role of Islam, the slave trade, African-European relations, colonialism, African nationalism and independence.

**390-3 History in Fiction.** A comparative study of fictional accounts and of analyses written by historians over selected periods or topics.

**392-3 Historical Research and Writing.** Methods of historical investigation, criticism and composition. Restricted to undergraduate majors in history. Fulfills the CoLA WAC requirement.

**393-3 Twentieth Century Military History.** An introduction to the problems of armed conflict throughout history with particular emphasis on the twentieth century and the transformation of warfare during the era of the World Wars. Prerequisite: sophomore standing or consent of instructor.

**395-3 Honors.** Great ideas and works of history, with discussion of conflicting interpretation of major historical problems. Prerequisite: junior standing and consent of department.

**411-3 World of Ancient Greece.** An investigation into the societies, cultures and governments of Greece and the Eastern Mediterranean from the time of the Trojan War to the conquests of Alexander the Great. The course will focus on primary sources and modern analyses pertaining to such issues as slavery, democracy, religion, Athenian imperialism and cultural difference.

**412-3 World of Ancient Rome.** An investigation into the society, culture and government of the Romans and the peoples they conquered from the time of Romulus and Remus to the barbarian invasions. The course will focus on primary sources and modern analyses pertaining to such issues as imperial expansion and decline, Roman law and politics, social conflict and cultural difference.

**413-6 (3,3) Medieval Society.** (a) The Early Middle Ages. A.D. 400-1000; (b) The Late Middle Ages, A.D. 1000-1400. An examination of the distinctive elements of medieval European civilization. The first semester will consider the transition from ancient to medieval society and the gradual development of a new social and economic regime. The second semester will be devoted to a study of the full development of that new regime, its flowering in the 13th century and the crisis of the 14th century.

**418-3 Renaissance.** The focus on the Renaissance in Italy and in particular on its relation to the social and economic context in which it developed. The spread of humanism and humanistic values to other areas of Europe will also be considered.

**420-3 Reformation.** Concentrates on the movement of religious reforms in the 16th Century. Emphasis on its roots in the past, particularly in earlier expressions of popular piety and to the wider social and political effects in the 16th and 17th centuries.

**421-6 (3,3) Absolutism and Revolution: Europe 1600-1815.** (a) 1600-1715; (b) 1715-1815. The development of enlightened despotism, the rise of the revolutionary movement, and the Napoleonic period.

**422-6 (3,3) Intellectual History of Modern Europe.** (a) 1600-1815; (b) Since 1815. The first semester will cover the Age of Reason, the Enlightenment, and Early 19th Century Romanticism. The second semester will cover the period from Marx and Darwin to the Contemporary World.

**423-3 Diplomatic History of Modern Europe.** A study of the European state system and the diplomacy of the major powers, with emphasis on events since 1870.

**424-6 (3,3) Social and Revolutionary Movements in Nineteenth Century Europe.** (a) 1815-1871; (b) 1871-1914. Changing social and political structure of Europe caused by the impact of industrialization and the French

Revolution. The consequences of these developments in terms of the emergence of new social forces and the development of movements for social and political revolution.

**425-6 (3,3) Twentieth Century Europe.** (a) Era of the World Wars; (b) Since 1945. Political, social, cultural and economic development of the major European states during the present century.

**432-3 History of France.** Social, economic, political, and intellectual evolution from medieval origins to the present day. French contributions to western culture.

**433-6 (3,3) History of Germany.** German state and society from antiquity to the present. (a) to 1866; (b) since 1866.

**434-3 History of Scandinavia.** Denmark, Norway, Sweden, Finland, and Iceland. Related history of the Baltic and North Sea regions, from prehistoric times to the present.

**437-6 (3,3) History of Russia.** (a) Russia from the beginnings to the 1860s: Kievan Rus, Muscovy, and Imperial Russia to the emancipation of the serfs; (b) Imperial Russia and the Soviet Union from 1865 to the present day. Emphasis on political history.

**440-3 Tudor-Stuart England.** England from 1485 to 1714. The social, economic and political development of Britain during the crucial two centuries from late feudal anarchy to world power.

**442-6 (3,3) English History and Culture.** (a) from 1660 to 1780; (b) 1780 to 1914. An examination of English society and values in novels, essays, memoirs and paintings. The first semester analyzes social and political stability, secularization, economic transformations, and foundations of empire. The second semester investigates industrialization, urbanization, the democratization of politics, the growth of empire and changing roles for women and the family. Prerequisite: 330b or consent of instructor.

**443-3 Twentieth Century England.** The social, economic and political development of England in the twentieth century.

**450-6 (3,3) Early America.** The evolution of American society from European settlement through the Age of Jefferson, with special emphasis on social and political institutions and thought.

**451-3 United States History, 1815-1850.** The struggle for democratic institutions and the emergence of sectional conflict in the Jacksonian Era.

**452-6 (3,3) United States History 1850-1896.** (a) Civil War era; (b) the origins of modern America; reconstruction and nationalization; 1865-1896. The study of the background to the Civil War, the Civil War, Reconstruction, and the Gilded Age.

**453-6 (3,3) United States History, 1896-1945.** (a) 1896-1921; (b) 1921-1945. The history of the United States since the 1890's with emphasis upon politics, political ideas and diplomacy.

**454-6 (3,3) Cold War United States, 1945-1990.** (a) 1945-1963; (b) 1963-1990. Topical course emphasizing the impact of the Cold War on United States society. (a) Focuses on foreign policy debates, domestic anti-communism and cultural effects of the Cold War. (b) Focuses on the Vietnam War, the arms race and the effects of the Cold War on economic and social issues (poverty, civil rights, the environment).

**460-6 (3,3) Social History of the United States.** (a) to 1860; (b) since 1860. The historical development of relationships among America's various ethnic, religious, racial, economic, and sexual groups.

**461-6 (3,3) Constitutional History of the United States.** (a) To 1877; (b) from 1877. Origin and development of the American Constitution from the English background to the present time. Stress is placed on the political, social, and economic forces which influenced the American constitutional system.

**462-3 History of American Health and Medicine.** Readings and discussion about the development of modern medicine as it affected patients and doctors in the United States. Health care will be traced historically, with discussions of the development of medical science as well as medical organizations and institutions.

**463-6 (3,3) History of American Diplomacy.** (a) To 1900; (b) Since 1900. General consideration of American foreign policy and the emergence of the United States as world power.

**464-3 American Economic Business History.** A survey of economic trends and business developments in American history, from colonial times to the present.

**465-6 (3,3) History of the South.** (a) The Old South; (b) The New South. Social, economic, political, and cultural development of the South.

**466-6 (3,3) History of the American West.** (a) Trans-Appalachian Frontier; (b) Trans-Mississippi Frontier. The American frontier and its impact on American society from the colonial period to the 20th century.

**467-3 History of American Thought to 1860.** The principal intellectual currents in American thought and culture from the 17th Century through the mid-19th Century. Major themes include the intellectual origins and manifestations of Puritanism, the Enlightenment, and Romanticism.

**469-3 Darwin and the Darwinian World.** Readings and discussion on the impact of Charles Darwin on American thought and culture. Focus areas include religion, social ethics, political criticism, social critics, economics, the genteel tradition, utopian writers, race, and imperialism.

**470-6 (3,3) Continuity and Change in Latin America.** (a) To 1825; (b) Since 1825. The interaction of economic forces and intellectual currents with Latin American social structures and political institutions, from pre-Columbian times to the present.

**474-3 Andean South America.** The political, economic, social, and cultural development of the Andean nations from pre-Columbian times to the present.

**480-6 (3,3) History of Chinese Civilization.** (a) Traditional China; (b) Modern China. The first semester provides a full coverage of traditional China and emphasis on classical philosophies, religions, historical writings, literature, arts, and science. The second semester deals with the transformation of China into the modern ages.

**484-3 History of Central Asia.** Tribes, migrations, wars, and power politics in Central Asia and outlying areas of China from Han times through 19th century rivalries to latest developments along the Sino-Soviet frontier.

**485-3 Islamic World to 712.** A study of the formative years of Islam, and of events which led to the establishment of the first Muslim empire, extending from Spain in the West to India in the East.

**487-3 Modern Islamic World.** Surveys the cultural, social and political impact of Islam on world civilization since the 18th century, with an emphasis on the internal changes within Islam as a result of cross-cultural contact. The impact of colonization on the Muslim world and subsequent reform movements are examined.

**490-1 to 4 Special Readings in History.** Supervised readings for students with sufficient background. Prerequisite: registration by special permission only.

**491-3 Historiography.** Writings of historians from Herodotus to the present.

**493-1 to 6 Problems in History.** Topics vary with instructor. May be repeated for a maximum of six semester hours provided registrations cover different topics. Topics announced in advance.

**494-3 Quantitative Research in History.** An introduction to the application of quantitative data and social science methods to historical research.

**495-4 History Honors.** Principles of historical method, research, and writing for senior honor students only. Not for graduate credit. Prerequisite: consent of department.

**496-1 to 9 Internship in History.** Supervised field work in public or private agencies or operation where history majors are frequently employed, such as archives and libraries, government offices, communications media, historic sites, and museums. Only three hours may be applied to the major and six hours toward the M.A. degree. Prerequisite: consent of department.

**497-3 Historical Museums, Sites, Restorations and Archives.** The development of museums from antiquity to the present, with emphasis on the United States. Additional topics include historical sites such as battlefields, historic buildings, restorations, monuments and archives. Also examines the purposes and functions of the museum and the tasks of professionals employed in museums or interpretative centers. Given in cooperation with the University Museum.

## Industrial Technology (IT)

Safety glasses, a suitable scientific calculator, and textbooks are required for most of the following courses.

**105-3 Computer-Aided Drafting.** Basic principles of technical sketching including freehand sketching techniques, lettering, orthographic projection, pictorial sketching, auxiliary views, sectional views, dimensioning, tolerancing, fasteners, working drawing interpretation, and computer-aided drafting.

**208-3 Fundamentals of Manufacturing Processes.** Introduction to the basic processes, equipment, and material used in manufacturing. Includes plastics, metal removal, materials joining, casting, and some of the newer processes.

**209-3 Manufacturing Process Laboratory.** (Same as Engineering Technology 209.) Laboratory experiments to familiarize the student with the theory and operation of manufacturing processes. Laboratory. Prerequisite: 208 or consent of instructor.

**240-3 First-Line Supervision.** Analysis of problems of first-line supervisors. Topics include leadership, motivation, communication, grievances, training, discipline, group and individual effectiveness, and labor relations.

**258-2 to 30 Work Experience Credit.** Credit granted for past work experience while employed in fields related to the student's educational objective. Credit is established by departmental evaluation.

**259-2 to 60 Occupational Credit.** For occupational credit earned at junior colleges and technical institutes. Credit is established by departmental evaluation.

**270-3 Computational Methods for Industrial Technologists.** Introduces the student to a problem-oriented computer language that is used to solve relevant problems that occur in industry.

**305-3 Industrial Safety.** Principles of industrial accident prevention; accident statistics and costs; appraising safety performance; recognizing industrial hazards and recommending safeguards. Includes a study of the Occupational Safety and Health Act and the Coal Mine Health and Safety Act.

**307-3 Applied Calculus for Technology.** Applying mathematical techniques to technology problems, including the analysis, formulation, and problem solutions. Techniques of differentiation, max-min problems, and elementary techniques of integration. Prerequisite: Mathematics 111 or equivalent.

**319-2 to 16 Industrial Internship.** Industrial experience includes job skills, manufacturing processes, technical information, and labor-management relationships with supervised instruction, conferences, and examinations. Prerequisite: consent of instructor. Mandatory Pass/Fail.

**320-3 Surface Mining Operations.** The elements of surface mining, methods and equipment, surface mine terminology, pit development, and equipment selection. Field trips. Prerequisite: appropriate background.

**321-3 Underground Mining.** Study of terminology, mining methods, equipment selection, ventilation, haulage, coal handling, and safety parameters associated with underground coal extraction technology.

**330-1 Current Mining Problems.** Guest lecturers provide timely information on current mining technology problems. Special investigations of mining techniques. Emphasis on state and federal regulations.

**341-3 Maintenance.** Principles and practices of maintenance department organization, preventative procedures, and typical equipment problems. Also, includes related topics such as plant protection, custodial services, and maintenance of powerplants.

**342-1 to 12 Industrial Technology Cooperative Education.** Supervised work experience in industry with an emphasis on manufacturing. Students will gain first-hand knowledge of the various aspects of Industrial Technology. Work experience is supervised by a faculty. Reports will be required from the student and employer. Hours may count toward technical electives. Mandatory Pass/Fail. Prerequisite: junior standing.

**351-3 Industrial Metrology.** Methods and equipment of industrial measurement and inspection. Includes 3-D measuring machines, lasers, and non-destructive testing.

**360-3 Mine Production and Inventory Control.** Study of mine production and inventory control through the exploration, development, and production phases. Includes topics in planning, process control equipment, scheduling, inventory control, and cost analysis.

**362-3 Industrial Packaging.** Analysis of packing principles, equipment, and processes such as paper, glass, metal containers, and plastics.

**375-3 Production and Inventory Control.** Production and inventory control systems. Includes topics in forecasting, master production scheduling, material requirements planning, capacity requirements planning, inventory management, production activity control, and applicable operations research techniques.

**382-3 Motion and Time Study.** Principles and practices of motion and time study including process charts, operation charts, motion summary, and time standards.

**386-3 Total Quality.** Application of quantitative methods and human resources to improve product quality, enhance productivity, customer satisfaction, manufacturing organizational effectiveness and ability to compete in a global market.

**390-3 Cost Estimating.** (Same as Engineering Technology 390.) Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Prerequisite: Mathematics 111.

**392-3 Facilities Planning.** The analysis of data to produce a complex facilities plan which maximizes the efficiency of the operation. Methods and equipment of material handling are an important part of the course. Students are assigned an extensive facilities planning project. Prerequisite: 208 and 382 or consent of instructor.

**395-3 Technology Design.** An elective project on a technical subject selected by the student with advice from the instructor. Stimulates original thought and creativity. Prerequisite: consent of instructor.

**410-3 Mining Reclamation.** Study of reclamation techniques associated with underground and surface coal mining. Emphasis is placed on the integration and cost trade-offs associated with coal extraction and reclamation as well as federal, state, and local regulations. Prerequisite: consent of instructor.

**420-3 Coal Preparation and Analysis.** Study of coal preparation and blending in association with coal analysis. Design and operation of preparation plants including water management, waste management, coal storage, loading, and transportation.

**425-3 Advanced Process Design and Control.** Extension of other process courses offered. Meets the need of those students who enter the field of manufacturing by giving more emphasis on planning, estimating, and control of industrial processes. Laboratory. Prerequisite: 208, 209.

**430-3 Health and Injury Control in A Work Setting.** (Same as Health Education 430.) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included.

**439-3 Bulk Materials Handling.** Study of the various types of equipment used in the mining industry. Estimation of costs and output of equipment used for excavating and transporting earth materials. Prerequisite: appropriate background.

**440-3 Manufacturing Policy.** Review of all areas covered by the industrial technology program. Includes problems which simulate existing conditions in industry. Students present their solutions to the class and to the instructor in a formal manner. Prerequisite: 375, 382, 392 and 475.

**441-3 Mine-Safety Technology.** An in-depth study of the technological implications of the Federal Coal Mine Health and Safety Act. Emphasis is placed on the technology required to operate safely underground coal mines. Prerequisite: appropriate background.

**445-3 Computer-Aided Manufacturing.** (Same as Engineering Technology 445.) Introduction to the use of computers in the manufacture of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control, and quality control. Laboratory. Prerequisite: Engineering Technology 103 or Industrial Technology 105, Industrial Technology 208 or Engineering Technology 209 and computer programming.

**455-3 Industrial Robotics.** (Same as Engineering Technology 455.) Study of industrial robots and their applications; pendant and numerical programming of robots. Robotics design including tactile and visual sensors. Technical and psychological problems of justification, installation, and management of robotic systems. Prerequisite: 445.

**460-3 Mining Technology.** A capstone course to include all aspects of coal mining. Group projects are assigned on the design and development of a mine with emphasis on cost, productivity, yield, equipment, and staffing. Prerequisite: 320, 321, 420, or consent of instructor.

**475-3 Quality Control.** Use of statistical quality control to improve work product quality. Topics include histogram, Pareto diagrams, control charts, acceptance sampling, process capability, cause and effect diagrams, and reliability. Prerequisite: senior standing.

**492-1 to 6 Special Problems in Industry.** Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected industrial problems. Not for graduate credit. Prerequisite: consent of instructor.

**494-1 to 9 (1 hour per section) Applied Project.** Selected applied project. Requires the students to apply knowledge learned in various courses to the solution of industrial problems. (a) Motion and time study, (b) Cost estimating, (c) Materials handling and plant layout, (d) Production and inventory control, (e) Quality control, (f) Manufacturing policy, (h) Fundamentals of industrials processes, (i) Industrial safety, (k) Computer-aided manufacturing. Not for graduate credit. Prerequisite: consent of instructor.

## Information Management Systems (IMS)

The Department of Information Management Systems in the College of Applied Sciences and Arts offers the following core curriculum substitutions and technically-related courses. These courses serve as common requirements for various majors. Selected courses are available to students enrolled in other academic units.

**101-3 Introduction to Information Processing.** The successful student should be able to demonstrate an understanding of basic terminology, procedures, applications, and equipment used in information processing. Topics covered will range from simple computer processing techniques to advanced contemporary applications. Credit cannot be given for both 101 and Information Management Systems 109. Lecture three hours. Restricted to majors and minors.

**102-3 Introduction to Programming.** The successful student should be able to flowchart and code logical solutions to business data processing problems using general approaches to totaling, table processing and file updating. Lecture three hours. Prerequisite: 109. May be taken concurrently or consent of department.

**105-4 (2,2) Technical Mathematics.** Will enable the student to solve problems within the context of engineering technologies. Lecture-discussion, four hours per week for eight weeks. The use of an electronic calculator with scientific functions is required. (a) Emphasizes the use of algebraic equations and geometric relationships and formulas, and right triangle trigonometry. Prerequisite: one year of high school algebra or equivalent as determined by department. (b) Emphasizes the application of trigonometric relationships to problems in applied technologies and contains additional topics in algebra, including linear systems, quadratic equations and exponential and logarithmic functions. Prerequisite: 105a or equivalent as determined by department.

**107-4 (2,2) Applied Physics.** Places emphasis on basic and applied physics at a level consistent with technical education objectives. The student will learn laws and principles and solve problems pertaining to (a) mechanics and the structure of matter, (b) heat and electricity. Lecture-discussion four hours per week for eight weeks for both (a) and (b). Prerequisite: 105a or equivalent as determined by department. 107a is prerequisite to 107b.

**109-3 Information Processing Concepts.** The successful student should be able to demonstrate an understanding of basic terminology, procedures, applications and equipment used in information processing. Topics covered will range from simple computer processing techniques to advanced contemporary applications. Credit cannot be given for both Computer Information Processing 101 and 109. Lecture three hours. Intended for non-majors.

**111-3 Cobol Programming I.** The successful student should be able to flowchart, code, and run a variety of simple problems using disk input, disk and printer output, control breaks, and one dimensional tables. Lecture three hours. Prerequisite: Information Management Systems 102.

**120-3 Fiscal Aspects of Applied Sciences and Arts I.** An individualized program of instruction designed to acquaint students enrolled in the various technical programs of the College of Applied Sciences and Arts with applications and procedures common to their area of specialization. Students will be able to demonstrate a basic working knowledge of the standard documents and procedures related to their specific area through the use of business working papers and practice sets. Open to students in the College of Applied Sciences and Arts and other with consent of instructor. Lecture three hours.

**121-3 RPG Programming.** The successful student should be able to code and run a variety of business problems in the Report Program Generator language with disk and printer files, multiple record formats, multiple file input, tables, arrays, matching records, and selected special features. Lecture three hours. Prerequisite: Information Management Systems 102.

**125-4 Technical Mathematics with Application.** Emphasizes the application of algebra and trigonometry in technical fields. Topics in algebra to include functions and graphs, systems of linear equations, quadratic equations, higher degree equations and variation. Topics in trigonometry to include the trigonometric functions, complex numbers, exponential and logarithmic functions. Prerequisite: two years of high school algebra or equivalent as determined by department.

**131-3 Information Processing Applications.** The successful student will demonstrate by examination a general knowledge of processing procedures and terminology for basic business applications such as billing, accounts payable and receivable, inventory control, and payroll. In addition, the successful student will implement selected business procedures on microcomputers using appropriate applications software packages, such as word processing, data base, and spread sheets. Lecture three hours.

**212-3 COBOL Programming II.** The successful student should be able to flowchart, code, and run a variety of complex problems using disk and printer files and advanced COBOL language features. Lecture three hours. Prerequisite: 111 or equivalent with a grade of C or better.

**213-6 Information Processing Project.** The successful student will design and implement a minisystem for a problem approximating the type encountered in industry by entry-level programmers. The student draws upon knowledge gained in previous courses and develops an understanding of how the various subject matter fits together. Lecture three hours. Independent laboratory four hours. Prerequisite: 212 with a grade of C or better, 232, 233 or consent of instructor.

**220-3 Fiscal Aspects of Applied Sciences and Arts II.** A continuation of 120 for selected curriculum areas. Emphasis on continued development of knowledge and skills typically involved in small business management, ownership, partnerships and corporations. New areas of study will include automated data processing, cost estimating and payroll tax procedures through the use of business working papers and a practice set. Prerequisite: 120.

**222-4 Assembler Programming.** The successful student should be able to code and run a variety of business oriented problems using disk and printer files, character, decimal, and binary instruction sets, table/array processing, and subroutines. Lecture four hours. Prerequisite: two prior programming classes or consent of instructor.

**229-3 Computing for Business Administration.** The successful student will acquire an understanding of information systems concepts and of the use of computers to process business data through solving a variety of business related problems. Emphasis is on the computer as a management tool. Lecture three hours.

**232-3 Systems Design and Development.** The successful student will demonstrate in class discussion, on examinations and by preparing a case study the ability to design an effective business information processing system, including system flow chart, specifications, feasibility, implementation procedure, and essential documentation. Lecture three hours. Prerequisite: 111 and 131 or consent of instructor.

**233-4 Job Control Language and Utilities.** The successful student will demonstrate by examination an understanding of operating systems, and should be able to code and run problems involving JCL statements and utility programs to create, edit, sort, copy, and execute files. Lecture four hours. Prerequisite: 111 or consent of instructor.

**258-1 to 30 Work Experience Credit.** Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by departmental evaluation.

**259-1 to 60 Occupational Education Credit.** A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.

**291-1 Introduction to VM/CMS.** A short course introduction to the terminology and procedures necessary to create and modify files in CMS. Execs, macros and IBM manual notation are included. Lecture one hour. Mandatory Pass/Fail.

**292-1 Introduction to Microcomputers.** A short course introduction to concepts and procedures related to using microcomputer hardware and software. Lecture one hour. Mandatory Pass/Fail.

**293-1 Introduction to Spreadsheets.** A short course introduction to the main features of a spreadsheet to solve a variety of problems. Lecture one hour. Mandatory Pass/Fail.

**294-1 Introduction to Databases.** A short course introduction to the main features of a data base to solve a variety of problems. Lecture one hour. Mandatory Pass/Fail.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to individually arranged. Mandatory Pass/Fail.

**323-3 Pascal Programming.** The successful student should be able to code and run a variety of business problems in Pascal with disk and printer files. Programs range from simple to complex problems employing a variety of language features and business related programming techniques. Lecture three hours. Prerequisite: two programming courses or consent of instructor.

**334-3 Database Processing.** The successful student will demonstrate by examination an understanding of database terminology, structure, languages, implementation, and administration. Lecture three hours. Prerequisite: 212 or consent of instructor.

**335-3 Data Communications.** The successful student will demonstrate by examination an understanding of concepts and vocabulary related to designing, implementing, and maintaining communication networks. Lecture three hours. Prerequisite: 101 and 111 or equivalent or consent of instructor.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credits to individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**381-1 to 9 Special Topics.** Intensive study of selected topics relevant to the contemporary business information processing environment. Offered as need exists, and as time and interests permit. May be repeated for credit up to nine hours total. Prerequisite: CIP/ATS major or consent of department.

## Interior Design (ID)

**111-4 Basic Design Studio I.** Introduction to the elements and principles of design: point, line, balance, form, rhythm, and texture through the application of purposeful experiments in 2D/3D models, both traditionally created and computer generated. Lecture and studio.

**112-4 Basic Design Studio II.** Introduction to the elements and principles of design: scale, proportion, emphasis, light, color, and unity. Elements and principles previously learned will be used extensively. Experimentation using 2D and 3D models, both traditionally created and computer generated, will be applied to course work. Lecture and Studio. Prerequisite: 111, 121.

**121-3 Basic Interior Design Drawing I.** The development of drawing skills for interior spaces to include lettering, linework, geometric construction, orthographic projections, sections, axonometric drawings, shades and shadows, systems graphics, interior elevations and computer-aided design. Lecture and studio.

**122-3 Basic Interior Design Drawing II.** Three dimensional visualization drawing methods, both interior and exterior, with an emphasis on spacial quality. Various methods of visualization will be studied, to include both manual and computer assisted. Lecture and studio. Prerequisite: 111 and 121.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of

facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

**211-3 Color Theory in Design Applications.** The study of color theory and application relative to the interior environment. Emphasis will be placed on human response to color, science of color/light and color/pigment, principles of color design, and implementation through design projects. Prerequisite: 111, 112, 252.

**231-3 History of Interior Design and Architecture I.** Summary of interiors, their furnishings and buildings from antiquity to 19th century including the socio-economic, psychological and philosophical rationales. Lecture. Prerequisite: Art and Design 101.

**232-3 History of Interior Design and Architecture II.** Summary of interiors, their furnishings, and buildings from the 19th Century to the present from the point-of-view of socio-economic, psychological and philosophical rationales. Lecture. Prerequisite: 231.

**251-3 Presentation, Media and Technique.** The use of drawing as a means to communicate concepts and ideas and the methods, materials and media used to present interior design projects. Lecture and studio. Prerequisite: 112, 122, AD 120.

**252-3 Interior Design Programming I.** Introduction to the design process used in interior design with an emphasis on the study of the methods for gathering data and analysis of project information for design synthesis. Lecture and studio. Prerequisite: 112 and 122 or concurrent enrollment.

**271-3 Interior Construction I.** Introduction and development of the construction knowledge and drafting skills needed to produce a set of architectural drawings for a single-story structure. Emphasis will be placed upon materials and methods of interior construction in addition to the preparation of working drawings. Lecture and studio. Prerequisite: 112 and 122.

**272-3 Interior Construction II.** The development of interior construction knowledge and drafting skills to solve interior architectural problems in new construction with an emphasis upon highrise structures. Special concern in the adherence to building, fire and handicapped accessibility codes are to be observed in the preparation of the working drawings. The use of computer-aided drafting and systems drafting will be utilized. Lecture and studio. Prerequisite: 271 and concurrent enrollment in 274.

**274-3 Materials and Specifications.** A study of materials and finishes applicable to the interior environment including production methods, limitations, quality control, application, and uses. Emphasis is on specification for commercial interiors and liability issues for interior designers. Lecture. Prerequisite: concurrent enrollment in 272.

**299-1 to 16 Individual Study.** Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

**300-1 to 3 Resources in Practice.** Participation in the operation of the division resource library provides students the opportunity to become familiar with resources used in the profession. Emphasis is placed on gaining knowledge of practices necessary to competently organize and maintain a professional working resource facility. Prerequisite: consent of instructor.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**351-3 Furniture Design.** Study of furniture through evaluation of historic furnishings as well as contemporary furnishings. Issues include ergonomics, anthropometrics, quality of materials and methods of construction. Lecture. Prerequisite: 232, 272, 274, and Workforce Education and Development 335.

**370-1 to 3 Special Topics in Lighting Design.** A seminar course which explores current issues in the area of lighting design. Emphasis is placed upon supervised readings, discussion and creative projects directed toward individual research. Prerequisite: 371 and consent of instructor.

**371-3 Lighting and Acoustical Systems.** The study of lighting and acoustics as major tools in designing interior spaces through actual problem solving. Emphasis is on task, ambient and specialty lighting as well as sound control within and between spaces. Lecture. Prerequisite: Mathematics 140 or University core mathematics and Interior Design 272 or concurrent enrollment in Interior Design 272 or Architectural Studies 324.

**372-3 Mechanical and Plumbing Systems.** Study of interior architectural mechanical equipment as it relates to the proximate environment. Emphasis is on heating, cooling, ventilation and plumbing systems with attendant building codes. Lecture. Prerequisite: Mathematics 140 or University core mathematics and Interior Design 272 or concurrent enrollment in Interior Design 272 or Architectural Studies 324.

**390-1 to 4 Special Project in Interior Design.** Investigation of a project-type specialization. Includes application of design process principles with emphasis on programming and preliminary design. Studio. Prerequisite: 391 and consent of instructor.

**391-4 Interior Design Studio I.** Interior design of the personal environment at the individual level. Emphasis is on residential design. Lecture and studio. Prerequisite: 251, 252, 272, 274 or consent of department chair.

**392-4 Interior Design Studio II.** Interior design of the environment at the multi-user level when client/owner and client/user are different. Emphasis is on public access spaces, e.g., restaurants, stores, museums, professional offices, and future facilities. Lecture and studio. Prerequisite: 391.

**432-3 Interior Design Seminar.** Study of the current trends and topics in interior design. Not for graduate credit. Prerequisite: 351, 371, 491.

**451-3 Interior Design Programming II.** Preliminary stage of senior design project includes project research, data gathering, and analysis. Lecture and studio. Not for graduate credit. Prerequisite: 392.

**471-3 Professional Practice.** Introduction to the organization, management, and practice of Architecture and Interior Design as a business and profession. Emphasis is placed on the range of services provided, professional ethics, business management, marketing, contracts and negotiations, design cost analysis/control, and other aspects of professional practice. Lecture three hours. Not for graduate credit. Prerequisite: 392 or Architectural Studies 215 or consent of department chair.

**491-4 Interior Design Studio III.** Interior design of the environment at the corporate or institutional level where client/owner and client/user are significantly different. Emphasis is on design. Furniture systems, particularly in the area of office planning, are to be included. Facility types include financial institutions and institutional facilities. Lecture and studio. Not for graduate credit. Prerequisite: 351, 371 and 392 or concurrent enrollment.

**492-4 Interior Design Studio IV.** Completion of an interior design project of approximately 5,000 square feet as initiated in Interior Design 451. Emphasis is on design process from schematic design through completion of annotated construction document with estimate of cost. Facility types include Health Care or Recreation/Hospitality. Lecture and studio. Not for graduate credit. Prerequisite: 451 and 491.

## Japanese (JPN)

**131-8 (4,4) Elementary Japanese.** Emphasis on basic skills of listening, speaking, reading, and writing. No previous knowledge of Japanese is required. Must be taken in a,b sequence.

**201-8 (4,4) Intermediate Japanese.** Development of listening, speaking, reading, and writing skills on the intermediate level. Must be taken in a,b sequence. Prerequisite: 131b or equivalent.

**305-2 to 4 (2,2) Individualized Language Study.** Designed to improve language skill beyond the intermediate level. Tailored to the particular needs of students. Prerequisite: 201b or equivalent.

**320-8 (4,4) Advanced Japanese.** Further development of listening, speaking, reading, and writing skills on the advanced level. Emphasis on developing proficiency in reading modern Japanese through cultural readings. Must be taken in a,b sequence. Prerequisite: 201b or equivalent.

**321-2 Conversational Japanese.** Practice in spoken Japanese and practical writing skills (e.g., writing memos, letters, notes). Activities include practice of routines of Japanese etiquette, discussions of Japanese television and film, prepared and impromptu group discussion and speeches, writing and performing a play in Japanese. Not open to native speakers without permission. Prerequisite: 201a or consent of instructor.

**360-3 Reading and Writing Japanese.** Practice in reading Japanese for comprehension and writing for practical communication. Introduces a variety of written media (e.g., Japanese comic books, newspaper, magazines, children's books, school textbook) and teaches the fundamentals of Japanese word processing. Taught primarily in Japanese. Prerequisite: 201b or the equivalent.

**370-3 Contemporary Japan.** A study of customs, habits, beliefs, values and etiquette in Japanese culture. Instruction in English. Prerequisite: Foreign Languages and Literatures 313i or consent of instructor.

**375-1 to 6 Travel Study in Japan.** Supervised travel-study in Japan. Prerequisite: consent of faculty.

**390-1 to 6 Independent Study in Japanese.** Directed individual study of some question, author, or theme of significance in the field of Japanese literature, language, or culture. Prerequisite: consent of instructor.

**410-3 The Linguistic Structure of Japanese.** (Same as Linguistics 412.) Inductive approach to the analysis of various aspects (such as phonology, morphology, syntax) of Japanese grammar with emphasis on syntactic structures within any of the current theoretical frameworks such as pragmatics, functionalism and formal linguistics. May include contrastive analysis between Japanese and English, and close examination of theories of comparative-historical linguistics of Japanese and Korean. Prerequisite: One year of Japanese or one previous course in linguistics or consent of instructor.

**435-3 Business Japanese.** An introduction to the language and culture of the Japanese business world and to the structure of the Japanese business economy. The emphasis will be on learning appropriate levels of formality and politeness in oral communication and on achieving competency in the specialized language of business. Prerequisite: 320a,b or equivalent.

**490-1 to 6 Advanced Independent Study in Japanese.** Directed individual study of some questions, author, or theme of significance in the field of Japanese literature, language, or culture. Prerequisite: consent of instructor.

## Journalism (JRNL)

**160-3 Mass Communication in Society.** Acquaints non-journalism students with the history and development of the American mass media. Examines media roles in society, potential for development, weak points, and the roles consumers can and should play regarding the media. This course may not be applied toward major or minor credit in Journalism.

**300-3 Mass Media in Modern Society.** Develops an awareness of the pervasive nature of the mass media in our society and an understanding of how the media operate, with emphasis on contemporary social and economic problems in the media.

**301-3 Principles of Advertising/IMC.** (Formerly 370) An introduction to integrated marketing communications elements, including advertising, direct response, sales promotion and marketing public relations, and their functions in today's communication environment. Explores research, media and message elements in-

volved in the creation of a campaign; governmental regulations; and social and economic consideration. Prerequisite: 303, 304, 305

**302-3 Copywriting for Advertising/IMC.** (Formerly 309) Study of the principles and practice in the writing of copy and visual design of persuasive messages such as advertising, sales promotion, direct response, marketing public relations and others. Includes writing for print and broadcast media, across products and services, and oral presentation of materials. Prerequisite: ACTE English subscore of 20 or higher or grade of C or higher in English 290 or Linguistics 290 and typing speed of at least 30 words per minute.

**303-3 Creating Advertising/IMC Messages.** (Formerly 374) Examination of and practice in the development of persuasive message strategies and the writing and design of messages for all media advertising, direct response, sales promotion and marketing public relations, and oral presentations of IMC materials. Prerequisite: 301, 302 and ACTE English subscore of 20 or higher, or grade of C or higher in English 290 or Linguistics 290.

**304-3 Placing Advertising/IMC.** (Formerly 372) Examination of the various media systems/types available to carry advertising/IMC creative messages. Emphasis is given to both the development of advertising/IMC media objectives and strategies in the context of a media plan, as well as the steps involved in the actual negotiation of specific media vehicles. Prerequisite: ACTE English subscore of 20 or higher or minimum grade of C in English 290 or Linguistics 290 and Journalism 301 and Marketing 304.

**305-3 Direct Response Advertising/IMC.** Overview of direct response advertising and its measurability; the media involved; and the strategic, tactical and creative approaches. Introduces topics such as database management, mailing lists, telemarketing, lead generation program, catalog marketing, sales promotion and business-to-business marketing communications. Prerequisite: 301, 302 and Marketing 304.

**310-3 Writing for the Mass Media.** Study in the fundamentals of news writing, the techniques of news gathering and reporting, and the principles of editing with experience in the gathering, writing, rewriting, and editing of news copy. Prerequisite: typing speed of at least 30 words per minute and ACTE English subscore of 20 or higher or minimum grade of C in English 290 or Linguistics 290.

**311-3 Reporting and News Writing.** Purposes and effects of different orientations to the information gathering and news writing processes; information sources, interviewing, writing, and editing practices; laboratory in reporting, writing, and editing for the news media. Prerequisite: 310 and an ACTE English subscore of 20 or higher or minimum grade of C in English 290 or Linguistics 290.

**312-3 Editing and Makeup.** Principles of editing are combined with graphic concepts and techniques which interrelate printing processes, photography, writing of cutlines, picture page preparation, and page makeup, copyfitting, head schedules, newspaper organization, and the work flow on the ad and editorial sides.

**313-3 Introduction to Photojournalism.** Fundamentals of publications photography. Includes basic camera technique, black and white film and print processing methods, selection and display of photographs, and evaluation of pictorial communication effects. Student supplies own photographic materials and, where possible, an adjustable camera. Prerequisite: consent of department. Open only to journalism majors. Students are responsible for purchase of supplies. Laboratory fee.

**315-3 Graphic Communication.** History of printing and typographic development, modern reproduction processes, technological developments, selection and use of appropriate graphic images in communication, and production techniques for publications. Students are responsible for purchase of supplies.

**360-3 Magazine Management and Production.** The day-to-day operations of a magazine and the techniques involved in producing a magazine. A combination of lectures and workshops in which the professor will deal individually with student projects. Each student will produce an original magazine idea and bring it to, at least, the semi-comprehensive stage of development.

**391-3 Feature Writing.** Identification, research, and application of creative writing techniques with emphasis on newspaper articles. Analysis of reader appeal; study of feature story structure; development of style by practice in writing feature stories. Prerequisite: 311 or consent of instructor. Not open to students with credit in 462.

**400-3 History of Journalism.** Development of American newspapers, magazines, and radio-television with emphasis on cultural, technological, and economic backgrounds of press development. Current press structures and policies will be placed in historical perspective.

**401-3 International Communication.** An analysis of the development, structure, functions, and current status of media systems in other countries. Emphasis given to studying factors that facilitate or restrict the flow of intranational and international communication.

**405-3 Introduction to Mass Communication Research.** Overview of communication research methods including practical training in interpretation and presentation of social science data. Introduction to survey research methods, experimental design, and use of computers for analysis of data. Presentation of data in journalistic forms and social science reports. Not for graduate credit. Prerequisite: 309 or 310 or consent of instructor.

**406-3 Advertising/IMC Campaigns.** (Formerly 476) Conceptual synthesis and practical application of business, research, media and creative principles used in the formulation of persuasive messages. Includes the development of a complete integrated marketing communications (IMC) campaign for a specific advertiser. Includes all relevant target audience contact points (e.g., advertising, sales promotion, marketing public relations, event marketing, packaging) and both written and oral presentation of the campaign.

**407-3 Social Issues and Advertising/IMC.** (Formerly 479) Analysis of social issues involving advertising and integrated marketing communications (IMC); economic relationships, government and self-regulation, cultural effects, influence on media content and structure, role in democratic processes, international comparisons and the stereotyping of women, minorities and other audience segments. Prerequisite: senior standing.

**411-3 Public Affairs Reporting.** Covering government and other public agencies, including the city hall, courts, county offices, business, finance, agriculture, labor, and other specialized beats. Prerequisite: 311.

**416-3 Critical and Persuasive Writing.** (Formerly 390) The roles and responsibilities of the editor, editorial writer, and opinion columnist with emphasis upon editorial writing and critical thinking. Editorial problems, methods, policies, style and the fundamentals of persuasion and attitude change form the basis for study. Prerequisite: 311.

**442-3 The Law of Journalism.** Legal limitations and privileges affecting the mass media to include the law of libel, development of obscenity law, free press and fair trial, contempt of court, right of privacy, advertising and antitrust regulations, copyright, and access to the press. Prerequisite: senior standing.

**452-3 Ethics and News Media.** An exploration of ethical problems confronting journalists and an evaluation of how these problems are handled by the media through a focus on current examples. The implications to the media and to society of successes and failures in meeting ethical concerns are discussed. Prerequisite: senior standing.

**461-3 Specialized Publications.** Functions, operations, and problems of industrial, trade, business, professional, literary, and other specialized publications. Management, personnel, and production practices. Use of research in solving problems and setting policies.

**462-3 Magazine Article Writing.** Principles, problems, and techniques involved in producing free-lance and staff-written magazine articles with an emphasis on determining the relationship between article content and audience market. Prerequisite: 311.

**490-1 to 6 (1 to 3, 1 to 3, 1 to 3) Readings.** Supervised readings on subject matter not covered in regularly scheduled courses. Undergraduates limited to maximum 2 credits per semester. Graduates limited to maximum 3 credits per semester. Prerequisite: written consent of instructor and area head.

**494-1 to 3 Practicum.** Study, observation, and participation in publication or broadcast activities. Prerequisite: consent of instructor and area head. Mandatory Pass/Fail for undergraduates.

**495-1 to 12 (1 to 6, 1 to 6) Proseminar.** Selected seminars investigating media problems or other subjects of topical importance to advanced journalism majors. Seminars will be offered as the need and the interest of students demand. Prerequisite: senior standing.

## Liberal Arts, College (LAC)

**300I-3 Social Perspectives on Environmental Issues.** (University Core Curriculum) Case studies (e.g., rural village in developing nation; small town in the United States; city in developing nation) are used to learn how different societies and groups deal with their specific environmental issues, and how culture and economic factors affect their perspectives and actions.

**301-2 Professional Development.** This course is designed to prepare liberal arts students for the transition from the academic community into the workforce. Students will develop a personal career development strategy, learn how to conduct a job search in their chosen career field, and acquire professional development skills needed to succeed in various work environments.

**303-1 to 9 (1 to 3 per semester) Interdisciplinary Studies.** Offered in a variety of forms, including lectures, readings, research, or field study. Initiated by at least two faculty members from different departments. Approval by the dean is required during the semester prior to its offering. May be repeated to equal a total of nine credits.

**310-3 Values in the Living World — Life, Normalcy, and the Natural.** Intended for students who are interested in examining individual and social values which pertain to those professions based upon the biological sciences; e.g., medicine, nursing, zoology, forestry, etc.

**311-3 Values in the Communication Arts.** The aim of this course is to examine, by means of readings, films and guest lecturers, some value perspectives of contemporary American life. This will be done in terms of ethical-aesthetic ideals and actual practices to be encountered in the public's most accessible and influential media; i.e., cinema, radio, television, and journalism.

**312-3 Applied Values in Society.** A consideration of value problems and dilemmas faced by individuals in social science-based professions such as counseling, social welfare, administration of justice, etc. Among the problems to be considered are agency or corporate loyalty vs. individual conscience; individual good vs. social good; and professional ethics vs. individual ethics.

**388-1 to 36 Study Abroad.** Provides credit toward the undergraduate degree for study at accredited foreign institutions or approved overseas programs. Final determination of credit is made on the student's completion of the work. One to eighteen hours may be earned per semester, one to nine hours may be earned for summer session. Prerequisite: one year of residence at Southern Illinois University at Carbondale, good academic standing, and prior approval of the major department and the College of Liberal Arts.

## Linguistics (LING)

**100-3 Speaking and Listening in English as a Second Language.** Oral conversational and academic English. An elective for students who do not speak English as their first language. Classes are offered at beginning, intermediate and advanced levels. May be repeated at three different levels for a maximum of 9 credit hours. Mandatory Pass/Fail.

**101-3 Basic English Composition for Foreign Students.** (University Core Curriculum) Instruction in the basic methods of English composition, focusing on the particular problems of non-native speakers of English. Basic English grammar, and techniques of analyzing, summarizing, outlining, documenting, synthesizing, and revising. Equivalent to University Core Curriculum English 101. Credit may be given on passing a proficiency exam. A service charge of not more than \$5 may be made.

**104-2 Grammar in Language.** Description and explanation of the major grammatical categories and structures found in a wide variety of languages, including English. Consideration of the role of language structures in such topics as the nature, origin, acquisition, and variation of language. Course is designed to give students insight into the basic concepts of grammar and show their interrelationship, importance, and functioning in human language.

**105-3 Intermediate English Composition for Foreign Students.** (University Core Curriculum) Instruction in academic and technical writing for students whose native language is not English. Includes practice in library research, analyzing, summarizing, business and technical writing, and writing of reports, research papers, and projects. A service charge of not more than \$5 may be made. Prerequisite: 101 or equivalent with a minimum grade of C, or pass the Linguistic 101 proficiency exam. Equivalent to University Core Curriculum English 102.

**200-3 Introduction to the Nature of Language.** An exploration of social and psychological dimensions of language. Topics include first and second language learning, change in language, the interaction of language and culture, and the importance of language for human development and communication. A variety of the world's languages is examined with particular emphasis on English and its role in international science, trade, technology, and government.

**201-3 Language Diversity in the USA.** (University Core Curriculum) An examination of different varieties of English and the growing presence of other languages in the United States. Local, regional and national perspectives are used to review current patterns of language diversity and to explore the impact of language issues on policies and practices in education, the legal system and the work place.

**290-3 Advanced English Composition for Foreign Students.** Designed for students whose native language is not English who need further work in English composition. Includes practice in library research, and focuses on writing research papers. A service charge of not more than \$5 may be made. Prerequisite: 105 or equivalent with a minimum grade of C; graduate students by placement test.

**298-1 Multicultural Applied Experience.** (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision. Graded Pass/Fail.

**300-3 Introduction to Descriptive Linguistics.** An introductory survey of descriptive linguistics: assumptions, methods, goals, terminology, and data manipulation. Prerequisite: 200 or consent of instructor.

**330-3 Language and Behavior.** A wide-ranging examination of the implications of language study for people's view of themselves and their place in the world. Topics deal with the pervasiveness of verbal and non-verbal language in various aspects of modern society.

**341-3 Introduction to Intercultural Communication.** (See Speech Communication 341.)

**402-3 Phonetics.** Theory and practice of articulatory phonetics.

**403-3 English Phonology.** Study of English phonology, including phonetics, phonemics and prosodics. Prerequisite: 300 or 401, 402 or consent of department.

**404-3 American Dialects.** Regional variation and social stratification of American English. Phonological and syntactic differences among the major dialects of American English. Prerequisite: one previous course in linguistics.

**405-4 Phonological Theories.** A survey of various phonological theories from the 19th century up to the present, including theoretical issues arising therefrom and relationships among the theories. Limited data analysis within the perspectives of the different theories. Prerequisite: 300 or 401, and 402.

**406-3 Introduction to Historical Linguistics.** An introductory survey of historical and comparative linguistics, including terminology, assumptions and methods of investigation. Satisfies the CoLA Writing-Across-the-Curriculum requirement. Prerequisite: 405 or consent of instructor; 408 recommended.

**408-4 Syntactic Theory.** This course is an introduction to the major concepts and issues in generative grammar. Data from English and other languages will be examined and students will be provided with numerous opportunities to solve problems in syntax. Students will also be given an opportunity to carry out an individual project in syntax. Prerequisite: 300 or 401 or consent of instructor.

**409-3 Linguistic Structure of Modern German.** (Same as German 411.) The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

**411-3 The Linguistic Structure of Chinese.** (Same as Chinese 410.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or Linguistics 401.

**412-3 The Linguistic Structure of Japanese.** (Same as Linguistics 412.) Inductive approach to the analysis of various aspects (such as phonology, morphology, syntax) of Japanese grammar with emphasis on syntactic structures within any of the current theoretical frameworks such as pragmatics, functionalism and formal linguistics. May include contrastive analysis between Japanese and English, and close examination of theories of comparative-historical linguistics of Japanese and Korean. Prerequisite: one year of Japanese or one previous course in linguistics and consent of instructor.

**413-3 Linguistic Structure of French.** (Same as French 411.) Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: French 320a and 321 or equivalent.

**414-3 Linguistic Structure of Spanish.** (Same as Spanish 411.) Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching.

**415-3 Sociolinguistics.** History, methodology, and future prospects in the study of social dialectology, linguistic geography, multilingualism, languages in contact, pidgin and creole languages, and language planning. Prerequisite: one previous course in linguistics or consent of instructor.

**425-3 Philosophy of Language.** (Same as Philosophy 425.) An investigation into the way language is based on the nature of human cognitive structures, including metaphor, prototypes, frames, and various kinds of imaginative structures. Central topics include the grounding of meaning and conceptual structure in bodily experience, the role of imagination in reasoning, and the metaphorical nature of thought.

**430-3 to 6 (3,3) Grammatical Structures.** Detailed analysis of the structure of particular languages. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of instructor.

**440-1 to 6 (1 to 3 per topic) Topics in Linguistics.** Selected topics in theoretical and applied linguistics. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of instructor.

**442-3 Language Planning.** Survey of the field of language planning: definitions and typologies, language problems, language treatment, attitudes and beliefs about language, relations between language planning processes and other kinds of social and economic planning, linguistic innovations and other processes of language change, implementation of language policies. Prerequisite: 300 and 401.

**445-4 Psycholinguistics.** (Same as Psychology 445.) A broad spectrum introduction to psycholinguistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems and language and the brain.

**450-3 to 6 (3,3) Language Families.** A synchronic survey of particular language families or sub-families. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of instructor.

**453-4 Methods in Teaching English to Speakers of Other Languages.** Introduces the basic methods of TESOL in teaching/learning situations both in the US and abroad. Presents theoretical premises and background from the fields of general linguistics, second language acquisition, psycholinguistics, sociolinguistics, and education. Not for graduate credit. Prerequisite: 200 or consent of instructor and undergraduate status.

**454-3 Observation and Practice in Teaching English to Speakers of Other Languages.** Focused observations of a wide variety of classes in English as a second language and in foreign languages. Some supervised teaching or tutoring. Analysis of textbooks for TESOL. Not for graduate credit. Prerequisite: 453 or consent of instructor, and undergraduate status.

**455-3 Materials in Teaching English to Speakers of Other Languages.** A review of principles underlying the use and development of materials for TESOL. Class activities and individual projects deal with evaluation, adaptation, and design of materials. Not for graduate credit. Prerequisite: 453 or consent of instructor and undergraduate status.

**456-3 Contrastive and Error Analysis.** Examination of the interference of other languages into the English of ESL learners on the levels of phonetics, phonology, morphology, syntax, lexicon, semantics, and orthography. Study of written and spoken errors, diagnosis of errors, and development of techniques for correction. Not for graduate credit. Prerequisite: 453 or consent of instructor.

**497-1 to 8 Readings in Linguistics.** Directed readings in selected topics. Prerequisite: consent of instructor and undergraduate status.

## Management (MGMT)

**170-3 Introduction to Business.** Survey of business. General knowledge of the modern business world, the composition and functions of the business organization, as well as business as a social institution. Open only to freshmen and sophomores. Does not satisfy a College of Business and Administration requirement.

**202-3 Business Communications.** Creating and managing written and oral administrative communications including the analysis, planning and practice of composing different types of internal and external communications in various administrative and business contexts. To successfully complete this course, a communication competency examination (additional fee required) must be passed with at least 70% accuracy prior to University course drop date. Prerequisite: English 101 and 102 or equivalent.

**208-3 Business Data Analysis.** Uses of business data in policy formulation are discussed. Emphasis is placed on the conversion of raw information into statistics which are useful to the decision maker. Problems stress solution to questions typically raised in businesses. Prerequisite: Mathematics 139 or equivalent.

**301-3 Global 2000.** Global 2000 examines a broad range of international topics, such as global competition, comparative business management, economic and technological change, investment and trade. Each year it concentrates on specific regions, such as the Pacific Rim, Europe, Eastern Europe and Russia, North America, or Africa.

**304-3 Introduction to Management.** Basic concepts of the administrative process are considered with emphasis on executive action to develop policy, direction and control based on traditional and behavioral science approaches to decision making. Prerequisite: junior standing.

**318-3 Production-Operations Management.** An introduction to the design, planning and control of manufacturing and service operations. Topical coverage includes Material Requirements Planning, Total Quality Management, Just-in-Time, and operations strategy, as well as traditional techniques for facility layout, scheduling and inventory control. Prerequisite: junior standing.

**341-3 Organizational Behavior.** The study of human problems in administration including the analyses of individual, group, and inter-group relations under a broad range of organizational settings. Theory and case analyses. Prerequisite: 208, 304, and junior standing or consent of department.

**345-3 Computer Information Systems.** Integrates topics of management and organization, information, computers and the systems approach. Emphasizes planning, design and implementation of information systems to aid management decision making. Application of computer techniques to develop, manipulate and analyze system models. Prerequisite: Mathematics 140, Computer Science 212 or Information Management Systems 229 and junior standing.

**350-3 Small Business Management.** Identification of small business, its importance and relationship to the United States economy and the opportunities and requirements unique to operation and management. Personal characteristics, interpersonal relationships, organizational systems, and decision-making processes are examined for their contribution to the success or failure of the firm. Prerequisite: junior standing or consent of department.

**352-3 Management Science.** An introduction to mathematical model building in organizations and the solution techniques commonly used to solve such models. Topical coverage includes decision theory, mathematical programming, project management, queuing models and simulation. Prerequisite: 208, 318, Mathematics 140 or equivalent and Computer Science 212 or Information Management Systems 229 or equivalent, junior standing or consent of department.

**361-3 Applied Managerial Research.** Design of research to assist managerial decision making. Concepts, tools, sources, and methods of research. Planning, collecting, organizing, evaluating, and presenting research data. Prerequisite: 202, 208, 304, and junior standing or consent of department.

**385-3 Personnel and Human Resources Management.** An introduction to the development, application, and evaluation of policies, procedures, and programs for the recruitment, selection, development, and utilization of human resources in an organization. Prerequisite: 304 or equivalent, introductory statistics, and junior standing or consent of department.

**420-3 Database Management.** Database planning; entity-relationship diagrams; relationed, network, and hierarchical data models; normalization theory; query languages; distributed databases; applications development.

**421-3 Automated Information System Applications Development.** Principles of information engineering; information strategy planning; business area analysis and design; construction; quality assurance; use of CASE technology. Prerequisite: 420.

**431-3 Organizational Design and Structures.** The study of modern theories of complex organizations. Particular emphasis is placed on open-systems perspectives of administrative theory and the adaption of the organization to a changing environment. Prerequisite: 341 and junior standing or consent of department.

**453-3 Advanced Quantitative Models for Systems Analysis.** A continuation of 352. Mathematical model building in organizations and solution techniques commonly used to solve such models. An extension of topics in deterministic and probabilistic modeling introduced in 352. Prerequisite: 352, junior standing or consent of department.

**456-3 Building Decision Support and Expert Systems.** Investigation of selected systems and computer based methods for aiding management decision-making. Topics include systems analysis applications, simulation, and decision models. Prerequisite: 345.

**471-3 Seminar in Entrepreneurship.** Investigation of selected special or advanced topics in seminar format. Topics may include but are not limited to entrepreneurship, small business analysis, or topics related to the ownership and management of a business. Activities will include library and field research, data analysis, report writing, and active participation in seminar presentations and discussions. Designed particularly for the student who has completed the three small business courses numbered 350 and has discussed personal small business or entrepreneurial objectives with the instructor prior to registration. Prerequisite: consent of department.

**474-3 Management's Responsibility in Society.** Analysis of the cultural, social, political, economic, and immediate environment of the organization. Particular emphasis is given to the manner in which the manager adapts to and is influenced by the environment and its conflicting demands. Prerequisite: senior standing or consent of department.

**481-3 Administrative Policy.** Development of organizational strategies and policies within environmental and resource limitations. Emphasis upon the application and integration of basic principles from all areas of business by case problem analysis, simulation exercises, and group participation. Not for graduate credit. Prerequisite: senior standing, 304, 318, Finance 330, Marketing 304, or equivalent and must be a business (not pre-business) major.

**483-3 Advanced Production-Operations Management.** An in-depth study of production and inventory management with a focus on preparation for the American Production and Inventory Control Society (APICS) certification examinations. Topics covered include planning for material and capacity requirements, scheduling, Theory of Constraints, Just-in-Time and Total Quality Management. Not for graduate credit. Prerequisite: 318 and junior standing or consent of department.

**485-3 Organizational Change and Development.** Analysis of problems in personnel management with emphasis on current trends and techniques. Case problems, special reports and experiential approaches are used

as a basis for examining ways of using an organizations' human resources to best advantage. Not for graduate credit. Prerequisite: 341, junior standing.

**489-3 Seminar.** Investigation of selected special or advanced topics in seminar format. Topics may include, but are not limited to: management responsibility in society, wage and salary administration, health services administration, data processing management, current issues in management, etc. Prerequisite: consent of department and must be a business (not prebusiness) major.

**491-1 to 6 Independent Study.** Utilizes special faculty resources to enable individually, the exploration of an advanced area of study through research by means of data analysis and/or literature search. Prerequisite: consent of department and must be a business (not prebusiness) major.

**495-3 Internship in Management.** Supervised work experience that relates to the student's academic program and career objectives. Not repeatable for credit. Prerequisite: junior standing and consent of department and must be a business (not prebusiness) major. Mandatory Pass/Fail.

## Marketing (MKTG)

**304-3 Marketing Management.** Management of the firm's marketing function within a dynamic operating environment. Includes study of such functions as product development, promotion, channel selection, logistics, and market research. A C or better grade required in 304 before enrolling in any course for which 304 is a prerequisite. Prerequisite: junior standing or higher.

**305-3 Consumer Behavior.** Examines underlying psychological, sociological, and economic factors which influence consumer behavior. Studies the impact of marketing activities on society, consumerism and legislation affecting the marketplace. Prerequisite: junior standing or higher.

**329-3 Marketing Channels.** The methods and processes used in the distribution of consumer and industrial products and services. Emphasis is upon the ways in which certain basic distribution functions are carried out in the integrated channel system. The role of a variety of manufacturers, wholesalers and retailers as parts of this system is analyzed. Prerequisite: 304 and junior standing or higher.

**336-3 International Business.** Business activities of firms and social organizations are examined in an international environment. The course will examine the fundamental concepts, and principles of international business. It will focus on the international environment as the international dimension of marketing, financial, accounting, managerial, and production functions. Prerequisite: 304, junior standing or higher.

**350-3 Small Business Marketing.** Deals with principles involved in locating market opportunities and developing growth plans for businesses requiring a relatively low initial capital investment. Taught from the point of view of the owner-manager relying heavily upon case examples of successful entrepreneurship. Not approved as elective for marketing majors. Prerequisite: junior standing or higher.

**363-3 Promotional Concepts.** The role of promotional activities in the firm's marketing function: advertising, personal selling, sales promotion, and publicity. The relationship of consumer behavior to the area of promotion. Prerequisite: 304 and junior standing or higher.

**380-3 Professional Sales.** Analysis of professional selling activities and how they fit into the firm's promotional efforts. The course examines the dynamics of selling and the different settings in which selling occurs. The course emphasizes preparing the student to make sales presentations in business settings. Prerequisite: 304.

**390-3 Marketing Research and Analysis.** The basic procedures and theories appropriate to solving various types of marketing problems in the context of business organization and decision models. Prerequisite: 304 and Management 208 or equivalent and junior standing or higher and must be a business (not prebusiness) major or consent of department.

**401-3 Retail Management.** Designed to present the basic principles in decision areas such as location, layout, organization, personnel, merchandise control, sales promotion, advertising, etc. Retail merchandising through managerial perspective. Prerequisite: 304 and junior standing or higher.

**435-3 International Marketing.** Analysis of international operations. Emphasis on the factors influencing marketing to and within foreign countries and the alternative methods of operations open to international firms. Prerequisite: 304 and junior standing or higher.

**438-3 Sales Management.** Analysis of the management of the sales effort within the marketing system. Philosophies, concepts, and judgment criteria of the sales function in relationship to the total marketing program. Prerequisite: 304, Management 304, junior standing or higher.

**439-3 Business to Business Marketing.** Analysis of decision criteria related to the marketing of business to business products. Emphasis on team marketing, team selling, formulation of marketing mix factors and the behavioral relationships in contemporary organizations. Prerequisite: 304 and junior standing or consent of department.

**452-3 Physical Distribution Management.** Integration of physical distribution activities of the firm into a system. Transportation and location as elements of the system. Inventories and service as constraints upon the system. Planning, operation, organization, and management of the system. Prerequisite: 304 and junior standing or higher.

**463-3 Advertising Management.** Advertising from the viewpoint of business management. Develops an understanding of the role of advertising under various conditions. Problems of integrating advertising strategy into the firm's total marketing program. Prerequisite: 304 and 363 and junior standing or higher.

**493-3 Marketing Policies.** A comprehensive and integrative view of marketing policy formulation. Marketing decisions analyzed and discussed. Prerequisite: 329, 363, and 390 (not more than one to be taken concurrently) and junior standing or higher and must be a business (not prebusiness) major or consent of department.

**495-3 Internship in Marketing.** Provides the student an opportunity to participate in an internship program coinciding with areas of interest. Not for graduate credit. Mandatory Pass/Fail. Prerequisite: 304, 305, 363 and consent of department.

**499-1 to 6 (1 to 3, 1 to 3) Marketing Insights.** Provides the student an opportunity to participate in an independent study, or seminar coinciding with areas of interest. May be repeated for credit only when topics vary. Not for graduate credit. Prerequisite: junior standing or higher, and approval of the instructor and the department chair in the semester prior to enrollment and must be a business (not prebusiness) major or consent of department.

## Mass Communication and Media Arts, College (MCMA)

**101-1 Exploring Mass Communication and Media Arts.** A special course designed for freshmen, new majors and students interested in the options open to them in the College of Mass Communication and Media Arts. Taught by the chairs, directors and the dean, this course will use demonstrations, guest speakers and discussions to detail the activities and opportunities available in the college. Students will do a career analysis of the options available within their chosen area of interest.

**197-3 Learning to Learn.** A college-level freshman-sophomore seminar to stress the necessity of communication skills and the development of professional attitudes and work habits.

**201-3 Media in Society.** Provides a critical basis for understanding the interrelationships between societal needs, communication institutions, and economic, political and cultural processes. Beginning with early communication systems, the course examines developments leading to our multi-media environment and how these developments impact our lives.

**202-3 Visual Literacy.** Students learn to interpret visual images, compose visual messages and evaluate the cultural impact of visual communication on contemporary society.

**203-3 Critical Thinking Through Media Writing.** Students will be asked to apply reasoning skills as they analyze examples of media writing. Students will also be asked to apply these reasoning skills to their own writing as they develop their ability to compose effective sentences, to construct sound arguments and to adapt their writing for different purposes and audiences. Prerequisite: successfully completing English 101 and 102, restricted to Mass Communication and Media Arts majors.

**204-3 Alternative Media in a Diverse Society.** (University Core Curriculum) The freedoms guaranteed in the First Amendment have resulted in a multitude of alternatives to the establishment media. These alternative media give voice to a range of communities ignored or suppressed by the dominant culture. Publications, alternative art spaces, film, radio and television messages and the groups and individuals who create them are examined. Not for graduate credit.

**397-1 to 6 Special Interdisciplinary Study.** Designed to offer and test new and experimental courses and series of courses within the College of Mass Communication and Media Arts. Prerequisite: consent of instructor.

**497-1 to 6 Special Interdisciplinary Study.** Designed to offer and test new and experimental courses and series of courses within the College of Mass Communication and Media Arts. Prerequisite: consent of instructor.

## Mathematics (MATH)

A hand-held calculator with function keys appropriate to the course is required of each student in 108, 109, 111, 114, 139, 140, 141, 150, 250, 251, 282, and 283. The student should consult the instructor of the course about appropriate calculators.

**107-3 Intermediate Algebra.** Properties and operations of the number system. Elementary operations with polynomials and factoring. Elementary operations with algebraic fractions. Exponents, roots, and radicals. First and second degree equations and inequalities. Functions and graphing. Systems of equations and inequalities. Exponential and logarithmic functions. This course does not satisfy the University Core Curriculum mathematics requirement and it does not count toward the 120 hours needed for graduation. Mandatory Pass/Fail.

**108-3 College Algebra.** The algebra of functions (polynomials, rational, exponential, logarithmic), graphing, conic sections, solving equations including systems. Credit is not given for both 108 and 111. Prerequisite: 107 or two years of college preparatory mathematics including the content of algebra I and II. Students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

**109-3 Trigonometry and Analytic Geometry.** Trigonometric and inverse trigonometric functions, complex numbers, conic sections, polar coordinates. Credit is not given for both 109 and 111. Prerequisite: 108 or equivalent. Students must present satisfactory placement score or obtain the permission of the Department of Mathematics.

**110-3 Non-Technical Calculus.** (University Core Curriculum) The elements of differentiation and integration. The emphasis is on the concepts and the power of the calculus rather than on technique. It is intended to provide an introduction to calculus for non-technical students. Does not count towards the major in mathematics. No credit hours may be applied to fulfillment of any degree requirements if there is prior credit in Mathematics 140, 141 or 150. Prerequisite: 3 years of college preparatory mathematics including algebra I, algebra II and geometry. Students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

**111-5 Precalculus.** An intensive course in college algebra and trigonometry for students who plan to take Calculus I. The algebra of functions (polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric), graphing, conic sections, solving equations including systems, complex numbers, polar coordinates. Not open to students with credit in 108 or 109. Prerequisite: three years of college preparatory mathematics, including algebra I, algebra II, and geometry. Students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

**113-3 Introduction to Contemporary Mathematics.** (University Core Curriculum) Elementary mathematical principles as they relate to a variety of applications in contemporary society. Exponential growth, probability, geometrical ideas and other topics. This course does not count towards the major in mathematics. Prerequisite: Mathematics 107 or 3 years of college preparatory high school mathematics including geometry and Algebra II. Students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

**114-4 Algebraic and Arithmetic Systems.** Whole numbers, integers, rational numbers, real numbers, numeration systems, algorithms, number theory, metric system, elementary algebra, probability. Successful completion of this course requires a passing grade on a basic skills test of minimal mathematical proficiency. Does not count towards the major in mathematics. Can not be used to satisfy the University Core Curriculum mathematics requirement. Prerequisite: Intermediate algebra or a second year of high school algebra or equivalent.

**125-4 Technical Mathematics with Applications.** Emphasizes the applications of algebra and trigonometry in technical fields. Topics in algebra include functions and graphs, systems of linear equations, quadratic equations, higher degree equations and variation. Topics in trigonometry include the trigonometric functions, laws of sines and cosines, complex numbers, exponential and logarithmic functions. Meets University Core Curriculum requirement in mathematics for Applied Sciences and Arts students. Prerequisite: Mathematics 107 or two years of high school algebra or equivalent.

**139-3 Finite Mathematics.** Set concepts and operations, combinations, permutations, elementary probability theory including Bayes formula, linear systems of equations, matrix algebra, Gauss-Jordan row reduction, introduction to linear programming. This course does not count towards the major in mathematics. Prerequisite: Mathematics 107 or two years of high school algebra. Student must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

**140-4 Short Course in Calculus.** Techniques of differentiation, increasing and decreasing functions, curve sketching, max-min problems in business and social science; partial derivatives, LaGrange multipliers, elementary techniques of integration. Credit hours for both 140 and 141 may not be applied to fulfillment of degree requirements. No credit hours for 140 may be applied to fulfillment of degree requirements if there is prior credit in 150. This course does not count towards the major in mathematics. Prerequisite: Mathematics 107 or two years of high school algebra. Student must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

**141-3 Short Course in Calculus for Biological Sciences.** Basic techniques of differentiation and integration. Population and organism growth problems solved by using calculus. Translation of problems in the biological sciences into mathematical problems. Credit hours for both 141 and 140 may not be applied to fulfillment of degree requirements. No credit hours for 141 may be applied to fulfillment of degree requirements if there is prior credit in 150. This course does not count towards the major in mathematics. Prerequisite: 111 or equivalent. Students must present satisfactory placement scores or obtain the permission of the department.

**150-4 Calculus I.** Treatment of the major concepts and techniques of single-variable calculus, with careful statements but few proofs. Differential and integral calculus of the elementary functions with associated analytic geometry. If there is prior credit in 140 or 141 only 2 hours credit for 150 may be applied to graduation requirements. Prerequisite: 111 or equivalent with a grade of C or better. Students must present satisfactory placement scores or obtain the permission of the department.

**215-3 Discrete Structures I.** (Same as Computer Science 215.) Number systems and computer arithmetic. Sets, relations, and functions. Boolean algebra with applications to computer logic design. Elementary matrix operations. Combinations, permutations, and counting techniques. Prerequisite: 108 or equivalent.

**221-3 Introduction to Linear Algebra.** Vector spaces, linear functions, systems of equations, dimensions, determinants, eigenvalues, quadratic forms. Prerequisite: 150 with a grade of C or better.

**250-4 Calculus II.** Develops the techniques of single-variable calculus begun in Calculus I and extends the concepts of function, limit, derivative and integral to functions of more than one variable. The treatment is intuitive, as in Calculus I. Techniques of integration, introduction to multivariate calculus, elements of infinite series. Prerequisite: 150 with a grade of C or better. Students must present satisfactory placement score or obtain the permission of the department.

**251-3 Calculus III.** Further topics in calculus. Definite integrals over solid regions, applications of partial derivatives, vectors and vector operations, derivatives of vector functions, line integrals. Green's theorem. Prerequisite: 250 with a grade of C or better.

**257-1 to 12 Concurrent Work Experience.** As an instructional aide, the student will do tutoring under the direction of an established teacher and under the supervision of a representative of the Department of Mathematics. Prerequisite: consent of department. Mandatory Pass/Fail.

**282-3 Introduction to Statistics.** Designed to introduce beginning students to basic concepts, techniques, and applications of statistics. Topics include the following: organization and display of data, measures of location and dispersion, elementary probability, statistical estimation, and parametric and nonparametric tests of hypotheses. Prerequisite: 108 or equivalent.

**283-3 Introduction to Applied Statistics.** This course is experiment motivated, uses real-work data, and computer analysis of data. Statistical concepts discussed are descriptive statistics, elementary probability, expect-

tation, sampling distributions, statistical estimation and testing, confidence intervals, correlation and regression, and contingency tables. The student is given experience in writing reports of experiments. Prerequisite: 140.

**302-3 Mathematical Communication and the Transition to Higher Mathematics.** A course in communicating mathematical ideas with a special emphasis on reading, writing, and critiquing mathematical proofs. Topics covered include logic, proofs, set theory, relations, functions. Additional illustrative topics will be drawn from linear algebra, number theory, complex variables, and geometry. Prerequisite: Mathematics 221 and 250.

**305-3 Introduction to Ordinary Differential Equations I.** Solution techniques for differential equations with emphasis on second order equations, applications to physical sciences, series solutions. Prerequisite: 250 with a grade of C or better.

**306-3 Introduction to Ordinary Differential Equations II.** Laplace transforms and Fourier series with applications to ordinary and partial differential equations. Systems of first order differential equations, stability. Prerequisite: 305 or consent of instructor.

**311-4 Teaching of Secondary Mathematics.** The nature and objectives of the secondary mathematics curriculum. Particular attention is given to the means of introducing new ideas into the high school program. For students preparing to be certified teachers of secondary mathematics. Three lectures and two laboratory hours per week. Does not count toward a mathematics major in the College of Liberal Arts or in the College of the Science. Prerequisite: 319, 319e, and 335.

**314-3 Geometry for Elementary Teachers.** Congruence, similarity; parallelism, perpendicularity; measurement; area, volume; ratio and proportion; constructions; proof. May not be used to satisfy requirements for a mathematics major. Prerequisite: 114 and a passing grade on a basic skills test of minimal mathematical proficiency.

**319-3 Introduction to Abstract Algebra.** Basic properties of groups and rings: Binary operations, groups, subgroups, permutations, cyclic groups, isomorphisms, Cayley's theorem, direct products, cosets, normal subgroups, factor groups, homomorphisms, rings, integral domains. Prerequisite: 221; plus for secondary education majors, 302 or concurrent enrollment in 319e.

**319E-1 Modern Algebra as Applied to the Secondary Schools.** Two hours per week. The applicability of the concepts of modern algebra, particularly the field axioms and the function concept, to the secondary curriculum. Prerequisite: concurrent enrollment in 319. Mandatory Pass/Fail.

**335-3 Concepts of Geometry.** Introduction to the foundations of Euclidean and non-Euclidean geometry with an emphasis on axiom systems, models, and counterexamples. Topics include metric geometry, betweenness, plane separation, congruence, absolute plane geometry, the critical function, and parallelism. Prerequisite: 221 or 250; for secondary education majors concurrent enrollment in Mathematics 302 is highly recommended.

**349-3 Introduction to Discrete Mathematics.** Numbers, sets, relations and functions; elementary enumeration; introduction to graph theory; logic, partially ordered sets and Boolean algebra; mathematical induction; recurrence relations. Prerequisite: 221.

**352-3 Theory of Calculus.** An introduction to understanding and writing proofs in mathematical analysis, through a careful study of limits, continuity, the derivative, and the integral. Prerequisite: 221, 250; plus for secondary education majors, 302 or concurrent enrollment in 352e.

**352E-1 Analysis as Applied to the Secondary Schools.** Two hours per week. Sequences, series, infinite decimals, continuity. Applications to the secondary curriculum. Prerequisite: concurrent enrollment in 352. Mandatory Pass/Fail.

**361-3 Numerical Calculus.** (Same as Computer Science 361.) Algorithms for the solution of numerical problems encountered in scientific research work with special emphasis on the use of digital computers. Includes an elementary discussion of error, polynomial interpolation, quadrature, solution of nonlinear equations and linear systems, solution of differential equations. Prerequisite: 221 and 250 and Computer Science 202 or equivalent programming proficiency.

**380-3 Elements of Probability.** Probability as a mathematical system. Axioms, permutations and combinations, random variables, generating functions, limit theorems, and Monte Carlo procedure. Prerequisite: 250 and Computer Science 202.

**390-3 to 6 Topics in Contemporary Mathematics.** Content will vary according to the instructor. The seminar will introduce students to new and developing areas of mathematics, such as Chaos, Fractals, Algorithms, Fourier Analysis, Difference Equations, etc. Prerequisite: intended for students who have completed Mathematics 150, 221, 250 and either 251 or 305. Other prerequisites may apply. May be repeated as topics vary.

**395-1 to 6 Readings in Mathematics.** Supervised reading in selected subjects. Prerequisite: 3.00 grade point average in mathematics and consent of chair.

**400-3 History of Mathematics.** An introduction to the development of major mathematics concepts. Particular attention given to the evolution of the abstract concept of space, to the evolution of abstract algebra, to the evolution of the function concept, and to the changes in the concept of rigor in mathematics from 600 B.C. Does not count toward a mathematics major in the College of Liberal Arts or in the College of Science. Prerequisite: 319 and 352 or consent of instructor.

**405-3 Intermediate Ordinary Differential Equations.** Topics selected from linear systems, existence and uniqueness for initial value and boundary value problems, oscillation, and stability. Prerequisite: 305.

**406-3 Eigenfunction Analysis.** Discrete and continuous models for the vibrating string; separation of variables and eigenfunction analysis; inner product spaces; operators on inner product spaces; the spectral theorem for Hermitian operators on finite dimensional spaces with applications; the Courant-Fisher max-min characterization of eigenvalues; the spectral theorem for compact Hermitian operators with applications to Sturm-Liouville boundary value problems and Fredholm integral equations. Prerequisite: 221 and 305.

**407-3 Introduction to Partial Differential Equations.** First order linear and quasilinear partial differential equations, characteristics, second order linear partial differential equations, classification of types, boundary value and initial value problems, well posed problems, the wave equation, domain of dependence, range of influence, Laplace's equation and Dirichlet problems, the maximum principle. Poisson's integral, fundamental solution of the heat equation. Prerequisite: 251, 305.

**409-3 Introduction to Fourier Analysis.** The Fourier synthesis and analysis equations for periodic functions on the reals and the integers; convolution; the calculus for finding Fourier transforms; operators associated with Fourier analysis; the FFT and FHT algorithms and fast convolution; generalized functions; the sampling theorem; wavelets; selected applications of Fourier analysis to partial differential equations, probability, music synthesis, time series, image processing, diffraction. Prerequisite: 221 and 305.

**411-1 to 6 (1 to 3, 1 to 3) Mathematical Topics for Teachers.** Variety of short courses in mathematical ideas useful in curriculum enrichment in elementary and secondary mathematics. May be repeated as topics vary. Does not count toward a mathematics major.

**412-3 Problem Solving Approaches to Basic Mathematical Skills.** Content of basic skills at all levels of education and the development of these skills from elementary school through college; emphasis on problem solving and problem solving techniques; determination of student skills and proficiency level. Credit may not be applied toward degree requirements in mathematics. Prerequisite: 314 or equivalent.

**417-3 Applied Matrix Theory.** Matrix algebra and simple applications, simultaneous linear equations, linear dependence and independence of vectors, rank and inverses, determinants, eigenvalues and eigenvectors, quadratic forms, applications. This course may not be counted towards a graduate degree in mathematics. Prerequisite: 221.

**419-3 Introduction to Abstract Algebra II.** Solvable groups, maximal ideals, basis and dimension, elementary field extension theory, splitting fields, geometric constructions, elementary Galois theory, Galois group of a polynomial, solution of equations in radicals. Prerequisite: 319 or consent of instructor.

**421-3 Linear Algebra.** Fields, vector spaces over fields, triangular and Jordan forms of matrices, dual spaces and tensor products, bilinear forms, inner product spaces. Prerequisite: 221.

**425-3 Theory of Numbers.** Properties of integers, primes, divisibility, congruences, quadratic forms, diophantine equations, and other topics in number theory. Prerequisite: 319 or consent of department.

**430-3 Introduction to Topology.** Study of continuity, convergence, separation and compactness in the context of metric spaces and topological spaces. Prerequisite: 302 or 352 or consent of the department.

**435-3 Elementary Differential Geometry.** An introduction to modern differential geometry through the study of curves and surfaces in  $\mathbb{R}^3$ . Local curve theory with emphasis on the Serret-Frenet formulas; global curve theory including Fenchel's theorem; local surface theory motivated by curve theory; global surface theory including the Gauss-Bonnet theorem. Prerequisite: 221 and 251.

**447-3 Introduction to Graph Theory.** (Same as Computer Science 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cut-points, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in networks and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: 349 or consent of instructor.

**449-3 Introduction to Combinatorics.** (Same as Computer Science 449.) An introduction to combinatorial mathematics with computing applications. Topics include selections and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: 349 or consent of instructor.

**450-3 Methods of Advanced Calculus.** Sequences and series of functions; partial differentiation; Jacobians; the implicit function theorem; the classical differential operators in general curvilinear coordinates; line, surface, and volume integrals, the divergence and Stokes' theorems; transformation of variables in multiple integrals; integrals containing a parameter. Prerequisite: 251.

**452-3 Introduction to Analysis.** A rigorous development of one-variable calculus concepts including the real numbers, sets, limits of sequences, continuity of functions, differentiation, Riemann-Stieltjes integration, series of functions at a more advanced level than 352. Prerequisite: 251.

**455-3 Introduction to Complex Analysis and Applications.** Complex numbers, analytic functions, line integrals, the Cauchy-Goursat theorem and its implications, power series. Laurent series, polar and essential singularities, analytic continuation, contour integration, residue theorem, conformal mapping. Prerequisite: 251.

**457-3 Methods of Quantitative Analysis.** (Same as Business Administration 451.) Introductory survey of basic quantitative methods necessary for graduate study in business; designed for students with deficiencies in methods of quantitative analysis. Course consists of introduction to calculus, matrix algebra, and probability. Extensive use is made of business examples. Prerequisite: enrollment in Master of Business Administration program or consent of department; Math 108 or equivalent.

**458-3 Statistical Methods in Business and Industry.** Basic probability concepts; random variables; univariate and joint distributions; Bernoulli, binomial, Poisson, normal, exponential, gamma, chi-square, t and F distributions; sampling distributions; estimation by the method of moments and the method of maximum likelihood; confidence intervals; hypothesis tests for normal, Bernoulli and Poisson distributions; simple regressions and analysis of variance problems. Prerequisite: 140 or equivalent and graduate standing in College of Business and Administration or the College of Engineering and Technology.

**460-3 Transformation Geometry.** Geometry as the study of properties invariant under congruences, similarities, affine transformations, and projectivities. Prerequisite: 221 and 319.

**471-3 Introduction to Optimization Techniques.** (Same as Computer Science 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 221, 250. Computer Science 202.

**472-3 Linear Programming.** (Same as Computer Science 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problems. Postoptimality analysis. Prerequisite: 221 and Computer Science 202.

**473-3 Reliability Theory.** Formulation of the concept of reliability in terms of probability theory. Failure distributions and failure rates. Elements of renewal theory. Age and block replacement policies, optimal replacement policies, optimal replacement policies for classes of failure distributions. Prerequisite: 480 or 483, or consent of department.

**475-6 (3,3) Numerical Analysis.** (Same as Computer Science 464.) An introduction to the theory and practice of computation with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, solution of systems of linear equations, numerical integration, solution of ordinary differential equations, computation of eigenvalues and eigenvectors and solution of partial differential equations. Prerequisite: (a) 221 and 250 and Computer Science 202 or equivalent programming proficiency; (b) 305 and 475a.

**480-4 Introduction to Probability.** A comprehensive introduction to probability theory at a level suited to upper-division undergraduates and first-year graduate students. Topics include: event spaces, probability functions, combinatorics, generating functions, conditional probability, independence, random variables, probability distributions, expectations, moments, characteristic functions, inversion formulas, sums of independent random variables, the multivariate normal distributions, the central limit theorem, the weak and strong laws of large numbers. Prerequisite: 251.

**481-3 Elements of Stochastic Processes.** An introduction, including normal, Poisson, and Markov processes. Prerequisite: 380 or 480.

**483-4 Mathematical Statistics in Engineering and Physical Sciences I.** Introduction to statistical theory with applications in engineering and the physical sciences. Probability: axioms, distributions including noncentral distributions, moments and moment generating functions, order statistics. Statistical inference: point and interval estimation, testing hypotheses, likelihood ratio tests. Prerequisite: 250.

**484-4 Mathematical Statistics in Engineering and Physical Sciences II.** An introduction to linear models and the design of experiments with applications in engineering and the physical sciences. Analysis of the general linear model, basic designs and criteria, response surface analysis and factor analysis. Statistical computation. Prerequisite: 483 and 221, or consent of instructor.

**485-3 Applied Statistical Analysis.** Elements of survey sampling including simple random and stratified sampling, ratio and regression estimates; elements of nonparametric methods including the sign, Wilcoxon and Kruskal-Wallis tests; analysis of categorical data including loglinear models. Prerequisite: 480 or 483 or consent of instructor.

**495-1 to 6 Special Topics in Mathematics.** Individual study or small group discussions in special areas of interest under the direction of a member of the faculty. Prerequisite: consent of chair and instructor.

## Mechanical Engineering (ME)

Safety glasses, an electronic calculator, and textbooks are required of all mechanical engineering students.

**101A-0 Computer Tools for Engineering Reporting.** Use of PC-based word-processor, spreadsheet and data management programs for engineering reporting. Statistical interpretation of experimental data. Proficiency in using each type of reporting skill-tool will be required. Pass/Fail grading. Prerequisite: enrollment in mechanical engineering.

**101B-2 Introduction to Mechanical Engineering.** Introduction to engineering fields and to mechanical engineering. Activities which provide the student with tools for greater academic success, professional awareness, teamwork and engineering success are explored. Introduction to design principles and creativity. Use of creativity and design principles in class projects. Prerequisite: enrollment in mechanical engineering, Mathematics 111 or equivalent, Mechanical Engineering 101a or concurrent enrollment.

**110-3 Introduction to Engineering Design and Reporting.** Introduction to the design process. Use of software for engineering practice: word processor, spreadsheet and equation solver for preparing design results. Introduce students to design principles, conceptual design and reporting design results. Statistical analysis of data. Prerequisite: Mathematics 111 or equivalent.

**261-3 Mechanical Engineering Dynamics.** Fundamentals of particle and rigid body dynamics. Kinematics and kinetics of a single particle and system of particles. Application of Newton's laws and energy and moment principles in solving problems involving particles or rigid bodies in planar motion. Introduction to kinetics of rigid bodies in three dimensions. Prerequisite: Engineering 260a.

**301-3 Engineering Thermodynamics II.** Combined first and second law analysis; availability and reversibility. Third Law. General thermodynamic relations. Reactive systems. Thermodynamic equilibrium. Phase Rule. Applications. Thermodynamics of one dimensional fluid flow. Prerequisite: Engineering 300.

**302-3 Heat Transfer Fundamentals.** Fundamentals of heat transfer by conduction, convection and radiation. Applications of theory to engineering systems. Prerequisite: Mathematics 305, Engineering 260b, 313.

**303-2 Introductory Measurement, Instrumentation, and Device Control Laboratory.** Experiments applicable to the use of modern microprocessor based electronic equipment for data acquisition, interpretation, and control in mechanical devices. Discussion of basic electronics applications. Prerequisite: Engineering 335.

**309-2 Mechanical Analysis and Design.** Kinematics and kinetics of inter-connected bodies. Principles of kinematics and force analyses of planar machinery. Analytical and numerical techniques for finding dis-

placement, velocity and acceleration. Design of linkage, cam-follower mechanisms and gear trains. Prerequisite: 261 and Engineering 222.

**310-3 Mechanisms/Kinematics.** Introduction to the kinematics of machines. Topics include absolute and relative displacement, velocity, and acceleration and calculation methods. Applications include linkages, gears, gear train, cams, rotary to/from linear motion transformation mechanisms, steady-to-intermittent motion mechanisms. Introduction of general purpose program for modeling of mechanical systems. Prerequisite: Engineering 222a,b and 260b.

**361-1 Engineering Economics.** Present, future and annual worth, rate of return and incremental rate of return methods of comparing alternative engineering projects and designs; bonds, depreciation and tax considerations. Application of basic statistical concepts and spreadsheets for problem solutions. Professional engineering examinations include these course materials. Prerequisite: 101a,b or equivalent.

**392-1 to 6 Mechanical Engineering Cooperative Education.** Supervised work experience in industry, government or professional organization. Students work with on-site supervisor and faculty advisor. Reports are required from the student and the employer. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: sophomore standing.

**393-1 to 12 Internship in Mechanical Engineering.** Credit for documented work experience as an intern in an engineering occupation or an engineering-related occupation. Work assignments must have been professional service in the mechanical engineering field. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: satisfactory completion of twelve hours of Engineering and/or Mechanical Engineering courses.

**400-3 Power and Refrigeration Cycles.** Use of engineering thermodynamics in analysis of power and refrigeration cycles. Detailed treatment of various gas and vapor power cycles including combined gas and steam cycles. Thermodynamics of combustion. Gas and vapor refrigeration cycles. First and Second Law analysis and turbo-machinery. Prerequisite: Engineering 300.

**401-1 Thermal Measurements Laboratory.** Study of basic measurements used in the thermal sciences. Calibration techniques for temperature and pressure sensors. Thermal measurements under transient and steady-state conditions. Applications include conduction, convection and radiation experiments. Uncertainty analysis. The handling and reduction of data. Prerequisite: 302, 303.

**402-3 Heat Exchange Equipment Design.** Engineering design of heat exchange equipment such as boilers, evaporators, cooling towers, furnaces and systems involving combinations of conduction, convection and radiation mechanisms. Emphasis is placed on application of basic principles of heat transfer and fluid mechanics to the design of heat exchange equipment. Students are encouraged to work open-ended problems with multiple possible solutions. Prerequisite: 302, Engineering 222a,b and 313.

**403-1 Mechanical Engineering Measurements Laboratory.** Laboratory to familiarize students with the use of instruments to measure time, distance, velocity, acceleration, strain, fluid flow, and turbulence. Instruments include micrometers, laser distance meters, stroboscopes, oscilloscopes, incremental rotary encoder, LVDT, load cells, accelerometers, analog/digital convertors, pressure transducers, and related equipment. Prerequisite: 303, Engineering 311.

**404-4 Optimization of Process Systems.** Simulation and optimization of process systems based upon engineering science and economic fundamentals. Analysis and correlation of experimental engineering data and use of correlated data in simulation, design and decision making. Design of systems using economics and continuous and discrete optimization methods encountered in engineering practice. Use of the computer is required. Prerequisite: Engineering 361, Mathematics 305 and senior standing in engineering.

**405-3 Internal Combustion Engines and Gas Turbines.** Operation and performance characteristics of Otto, Diesel, Wankel engines and gas turbines. Methods of engine testing, types of fuels and their characteristics, fuel metering systems, engine combustion analysis as related to engine performance, fuel characteristics and air pollution, exhaust gas analysis, and air pollution control. Prerequisite: Engineering 300.

**406-3 Thermal Systems Design.** Applications of the principles of engineering analysis to the design of thermal systems. Consideration of such systems as refrigeration, air conditioning, spacecraft thermal control and cogeneration. Numerical analysis and solution of an open-minded design problem. Prerequisite: 402 and Engineering 351.

**408-3 Energy Conversion Systems.** Principles of advanced energy conversion systems; nuclear power plants, combined cycles, magnetohydropower, cogeneration (electricity and process steam), and heat pumps. Constraints on design and use of energy conversion systems; energy resources, environmental effects, and economics. Prerequisite: 301 or 400.

**410-3 Applied Chemical Thermodynamics and Kinetics.** Designed for students interested in chemical and environmental processes and materials science. Topics covered include applications of the Second and Third Laws of Thermodynamics, solution theory, phase equilibria, sources and uses of thermodynamic data, classical reaction rate theory, kinetic mechanisms and the determination of rate-determining steps in chemical reactions. Prerequisite: Chemistry 200, 201, Engineering 300 or consent of instructor.

**411-2 Manufacturing Methods for Engineering Materials.** Overview of manufacturing processes with emphasis on the fabrication of materials from the processing and equipment viewpoint. This course presents a broad study of the many manufacturing processes utilized in the production of a wide variety of products and components. Insight into the multitude of processing factors which influence the practical design of manufactured parts to achieve the advantages of maximum economy, accuracy and automation in everyday production. Not for graduate credit. Prerequisite: Engineering 311 and 312.

**414-3 Noise and Vibration Control.** Principles of engineering acoustics and vibration and their application to noise and vibration control techniques. Laboratory experience demonstrates techniques for control and reduction of vibration and noise. Prerequisite: 436 and consent of instructor.

**416-3 Air Pollution Control.** Engineering control theory, procedure, equipment, and economics related to control of particulate, gaseous, and toxic air emissions. The environmental impacts due both to controlling and not controlling emissions are considered. Understanding of the basics is evaluated as students design control equipment, specify and troubleshoot control systems and predict the impacts for each major type of control system. Prerequisite: Senior standing.

**418-1 Air Quality Laboratory.** This laboratory consists of design, construction, and use of systems to measure and analyze ambient atmospheric pollution. Safety glasses required. Prerequisite: concurrent enrollment in 416.

**419-3 Hazardous Waste Incineration.** Incineration techniques, procedures and systems are presented for solid waste disposal and for remedial site clean-up activities. This includes regulations, waste handling, emission controls and residue disposal. Thermodynamics, chemistry and equipment are discussed, including heat recovery. Prerequisite: 416 or consent of instructor.

**422-3 Applied Fluid Mechanics for Mechanical Engineers.** Applications of fluid mechanics in internal and external flows. The mathematical basis for inviscid and viscous flows calculations is developed with application to pipe and duct flows; external flow about bodies; drag determination; turbomachinery; and reaction propulsion systems. Semester design project of a fluid mechanical system. Prerequisite: Engineering 300, 313 and Mathematics 305.

**423-3 Compressible Flows.** Foundation of high speed fluid mechanics and thermodynamics. One-dimensional flow, isentropic flow, shock waves and nozzle and diffuser flows. Flow in ducts with friction and heat transfer. Prandtl-Meyer flow. Compressibility effects in reaction propulsion systems. Semester design project. Prerequisite: Engineering 300, 313.

**430-3 Kinematic Synthesis.** Kinematic synthesis of linkages, single loop and multiple loop mechanisms, and geared linkages. Vector synthesis of spatial mechanism and its computer simulation. Prerequisite: 310.

**435-3 Design of Mass Transfer Processes.** Design principles of mass transfer processes. The rate mechanism of molecular, convective, and interphase mass diffusion. The design of selected industrial mass transport process operations such as absorption, humidification, water-cooling, drying, and distillation. Prerequisite: 302, Engineering 313.

**436-3 Mechanical Engineering Control.** Analysis and design of controls for mechanical engineering systems: mechanical, electrical thermal, fluid and combinations of these. Prerequisite: Engineering 260b, 300, 335, 351, Mathematics 305.

**437-1 Mechanical Engineering Controls Laboratory.** Application of control principles to mechanical engineering systems. Speed and position control using computer-based instrumentation. Pneumatic control. Temperature and flow sensing and control. Automatic control of servo systems. Process control and Programmable Logic Controller (PLC) applications. Prerequisite: 436 and senior standing.

**440-3 Heating, Ventilating, and Air Conditioning Systems Design.** Principles of human thermal comfort. Heating and cooling load analysis. HVAC system design. Air conditioning processes. Prerequisite: 302, Engineering 300.

**442-3 Passive Solar Design.** Design of solar heating systems for residence with emphasis on passive systems. Heat flow and heat loss. Estimating heat loss and heating requirements of buildings. Energy conserving building design. Predicting performance and economics of a system. Prerequisite: 302, Engineering 300.

**443-4 Engineering Design.** Mechanical design of process systems including costing and scheduling. Project design definition may include layouts, instrumentation, electrical systems, fluid flow, piping, heat exchange equipment, motors, pressure vessels, pumps, compressors, and concrete and steel structure design and/or specification. Cost factors leading to an optimal system design will be considered. Not for graduate credit. Prerequisite: senior standing in mechanical engineering.

**446-3 Energy Management.** Fundamentals and various levels of analysis for energy management of commercial buildings and industrial processes and buildings. Use of energy management systems and economic evaluations are required in course projects. Prerequisite: 302, Engineering 300 and 313.

**462-3 Physical Metallurgy.** Structure of metals. Dislocation theory and plasticity. Solid state diffusion. Thermodynamics of solutions and phase diagrams. Phase transformations. Fracture mechanics. Creep and fatigue. Prerequisite: Engineering 312.

**463-3 Introduction to Ceramics.** Structure and physical properties, mechanical properties, processing and design of ceramics. Prerequisite: Engineering 312 or equivalent.

**470-3 Mechanical System Vibrations.** Linear Vibration analysis of mechanical systems. Design of mechanical systems to include effects of vibration. Prerequisite: Engineering 260b and 351, Mathematics 305.

**472-3 Materials Selection for Design.** Interaction of material design process with material selection criteria. Comparison of materials properties, processes, and fabrication. Project work includes design models, material selection rationale, oral presentation of projects, construction of mock-up models, and theoretical design problems in the area of the student's specialization. Prerequisite: Engineering 222a,b, 312.

**475-3 Machine Design I.** Design of machines using bearings, belts, clutches, chains and brakes. Develops application of the theory of fatigue, power transmission and lubrication to the analysis and design of machine elements. Prerequisite: Engineering 222a,b, 311 and 351.

**476-3 Machine Design II.** Design of machines using gears, springs, screws and fasteners, and adhesives. Matching power sources to driven machines. Prerequisite: 475.

**477-3 Fundamentals of Computer-Aided Design and Manufacturing.** Introduction to the concepts of computer-aided design and manufacturing (CAD/CAM). Subjects include computer graphics, geometric modeling, engineering analysis with FEM, design optimization, computer numerical controls, project planning, and computer integrated manufacturing. (CIM). Students are required to use computer packages for projects. Prerequisite: 475 or consent of instructor.

**492-1 to 5 Special Problems in Engineering.** Engineering topics and problems selected by either the instructor or the student with the approval of the instructor. Five hours maximum course credit. Not for graduate credit. Prerequisite: senior standing and consent of instructor.

**495-4 (1,3) Mechanical Engineering Design.** (a) Project development skills, feasibility and cost-benefit analysis, ethical issues, professionalism, preliminary design, identification of tasks, assignment of tasks to project team members, coordination of interdisciplinary team effort, development of final proposal, oral presentation of final proposal. Prerequisite: Senior standing in mechanical engineering, 301, 400 or 310, Engineering 351, 361, (b) Developmental of the final design, hardware implementation of the final design (if the project warrants), documentation of all stages of design, project coordination, documentation of the testing and evaluating of the design, cost estimating, scheduling, and written, oral, and poster presentation of the final design. Not for graduate credit. Prerequisite: 495a.

## Medical Education Preparation (MEDP)

**400-1 to 6 (1 per semester) MEDPREP Seminar.** Seminar on social, professional, and scientific issues of interest to students planning a career in medicine or dentistry. Topics: (a) orientation; (b) medical/dental seminar. Required of MEDPREP participants. Prerequisite: restricted to MEDPREP students. Must be taken in a,b sequence. Mandatory Pass/Fail.

**401-1 to 18 (1 to 2 per topic) MEDPREP Basic Skills.** Focus on skills critical for academic success in preprofessional and professional training. Topics: (a) learning skills; (b) science process skills (P/F only); (c) quantitative skills (P/F only); (d) perceptual motor skills; (e) interpersonal skills; (f) reasoning in reading and writing I; (g) reasoning in reading and writing II; (h) reasoning in reading and writing III; (i) other. Topic (a) required of all students. Not for graduate credit. Prerequisite: restricted to MEDPREP students only.

**402-1 to 12 (1 to 2 per topic) MEDPREP Special Problems.** Seminars, workshops, lectures, and field experiences related to preparing the student for medical/dental school and careers in medicine or dentistry. Topics: (a) MCAT/DAT orientation; (b) research seminar; (c) clinical experience; mandatory pass/fail (d) independent research; (e) independent readings; (f) other. Not for graduate credit. Prerequisite: restricted to MEDPREP students.

**403-1 to 33 (1 to 3 for sections a,b,c,d,e,f, and i; 1 to 6 for sections g and h) Medprep Biology Problem-Solving.** Depending on individual need content will be remedial, supplementary to concurrent Biological Science courses or additional permitting acceleration. Topics: (a) medical genetics; (b) anatomy; (c) cardiovascular physiology; (d) embryology; (e) immunology; (f) endocrinology; (g) biology review; (h) neural science; (i) biology problem solving. Not for graduate credit. Prerequisite: restricted to MEDPREP students.

**404-1 to 18 (1 to 3 per topic) MEDPREP Chemistry Review.** Content may be remedial, supplemental to concurrent preprofessional chemistry courses; additional permitting acceleration, or preparational for the MCAT. Topics (a) inorganic review; (b) inorganic; (c) organic review; (d) organic; (e) biochemistry; (f) chemistry problems solving. Not for graduate credit. Prerequisite: restricted to MEDPREP students.

**405-1 to 9 (1 to 6 per topic a, 1 to 3 for topic b) MEDPREP Physics Review.** Content may be remedial, supplemental to concurrent preprofessional physics courses, additional permitting acceleration, or preparational for the MCAT. Topics: (a) physics review; (b) physics problem solving. Not for graduate credit. Prerequisite: restricted to MEDPREP students.

## Microbiology (MICR)

**201-4 Elementary Microbiology.** Basic concepts of microbiology, classification, metabolic activity and the effect of physical and chemical agents on microbial populations. Host-parasite interactions. Infectious agents, methods of transmission and control. Three hours lecture and three hours laboratory per week. Spring semester. Prerequisite: for students of Allied Health Careers, Dental Hygiene, Dental Technology, Respiratory Therapy, Health Care Management, Animal Science and others with consent of instructor.

**202-2 Human Genetics and Human Health.** Same as Zoology 202. (University Core Curriculum) Acquaints the student with the role played by genetic information in human development and disease. Discussion topics will include genetics and human diversity, the interaction of genetic information and the environment, the concepts of genetic disease, the mechanisms and ethics of gene therapy and the possibilities of manipulating the genetic material.

**301-4 Principles of Microbiology.** Morphology, structure, metabolism, population dynamics and heredity of the microorganisms with emphasis on pure culture methods of study of bacteria, viruses and related organisms. Three hours lecture, three hours laboratory. Fall semester. Prerequisite: one year of college chemistry and Biology 200a, or Plant Biology/Zoology 115 or Zoology 118.

**302-3 Molecular Biology.** Molecular structure, dynamics, and genetics of living cells and viruses, with particular attention to the transfer of biological information. Spring semester. Prerequisite: 301 or Biology 305.

**403-3 Medical Microbiology Lecture.** A survey of the more common bacterial, mycotic and viral infections of humans with particular emphasis on the distinctive properties, pathogenic mechanisms, epidemiology, immunology, diagnosis and control of disease-causing microorganisms. Three hours lecture. Spring semester. Prerequisite: 301.

**405-3 Clinical Microbiology.** This course will be offered in Springfield only. A comprehensive course for health science professionals covering the biology, virulence mechanisms, and identification of infectious agents important in human disease and host-defense mechanisms. Clinical applications are emphasized. Three hours lecture. Prerequisite: 301 or equivalent.

**421-3 Biotechnology.** Topics covered will include the genetic basis of the revolution in biotechnology, medical applications including genetic screening and therapeutic agents, industrial biotechnology and fermentation, and agricultural applications. Three hours lecture. Fall semester. Prerequisite: 302.

**425-3 Biochemistry and Physiology of Microorganisms Lecture.** Chemical composition, cellular structure, and metabolism of microorganisms. Fall semester. Prerequisite: organic chemistry.

**441-3 Virology Lecture.** General properties; classification and multiplication of bacterial and animal viruses; lysogeny; immunological and serological reactions; relation of viruses to cancer; consideration of selected viral diseases of animals. Prerequisite: 301 and 302.

**444-2 Risk Assessment for Genetics and Medicine.** A lecture-discussion course on the use of Bayesian probability to assess risks in human genetics and medicine. Includes basic laws of probability, pedigree analysis, the interpretation of laboratory tests and basic clinical decision theory, including decision trees. Active problem solving will be emphasized. Prerequisite: Biology 305.

**451-6 (3,3) Biochemistry.** (Same as Chemistry 451). (a) Chemistry and function of amino acids, proteins and enzymes; enzyme kinetics; chemistry, function and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a,b sequence. Prerequisite: one year of organic chemistry.

**453-3 Immunology Lecture.** Principles of molecular and cellular immunology. Particular emphasis is given to molecular mechanisms involved in activation and maintenance of the immune response at the basic science level. The role of the immune system in medical diagnostic procedures and in human health is also discussed. Spring semester. Prerequisite: 403 or permission of instructor.

**454-4 Soil Microbiology.** (Same as Plant and Soil Science 454.) A study of microbial numbers, characteristics, and biochemical activities of soil microorganisms with emphasis on transformation of organic matter, minerals, and nitrogen in soil. Lab fee \$15.00. Prerequisite: 301 or Plant and Soil Science 240.

**455-2 Medical Immunology.** This course will be offered in Springfield only. A survey of the components of the immune system and how they interact with each other to produce responses that are important in the control or mediation of human disease. Two hours lecture. Prerequisite: 301 or equivalent.

**460-3 Genetics of Bacteria and Viruses.** Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing and reactivation phenomena. Three hours lecture. Fall semester. Prerequisite: 301 and 302.

**470-3 Prokaryotic Diversity Lecture.** A consideration of the major groups of prokaryotes with special emphasis on their comparative physiology and biochemistry. Three hours lecture. Spring semester. Prerequisite: 301 or equivalent.

**480-4 Molecular Biology of Microorganisms Laboratory.** Genetic and biochemical analyses of microorganisms using a variety of techniques in molecular biology, molecular genetics and biotechnology. Six hours laboratory per week plus two hours of supervised unstructured laboratory work in most weeks. Fall semester. Prerequisite: 302 and one (or concurrent enrollment in one) of the following: 421, 425 or 460.

**481-4 Diagnostic and Applied Microbiology Laboratory.** Enrichment and isolation of medically relevant prokaryotes from natural samples, diagnostic methods for the identification of pathogenic bacteria and infection and the nature of the immune response. Six hours laboratory per week plus two hours unstructured, supervised laboratory work in most weeks. Spring semester. Prerequisite: 301 and 302 and two (or concurrent enrollment in two) of the following: 403, 453 or 470.

**490-1 to 3 Undergraduate Research Participation.** Investigation of a problem either individually or as part of a research group under the direction of a member of the faculty. Not for graduate credit. Prerequisite: 3.0 grade point average in microbiology and consent of instructor.

**495-1 Senior Seminar.** Readings, discussions, and presentations of current research topics on microbiology. Offered in spring semester. Prerequisite: senior standing in Microbiology.

## Mining Engineering (MNGE)

Safety glasses, an electronic calculator, and textbooks are required of all mining engineering students.

**270-3 Introduction to Mining Engineering.** Introduction to Mining Engineering (Non-Mining majors only). Importance of mining in a country's economy; stages of mining: prospecting and exploration, development and exploitation; unit operations of mining, surface mining systems, underground mining methods, novel mining methods, mineral processing, marketing of minerals. Prerequisites: sophomore standing or consent of instructor.

**320-3 Surveying for Engineers.** Land Surveying. Tacheometry and correlation. Aerial Surveying. Production measurement. Analysis of survey data for engineering design. Geophysical and borehole surveying. Laboratory. Prerequisite: Mathematics 150, Engineering 102 or consent of instructor.

**392-1 to 6 Mining Engineering Cooperative Education.** Supervised work experience in industry, government or professional organizations. Students work with on-site supervisor and faculty adviser. Reports are required from the student and the employer. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: sophomore standing.

**400-3 Principles of Mining Engineering.** Introduction to role of mining in the economics of the minerals industry. Mine exploration and valuation. Mining methods and equipment. Explosives and blasting. Blast hole layout considerations. Exploration program design. Geophysical logging. Land acquisition and control. Public

relations and environmental quality. Field trips. Not for graduate credit. Prerequisite: Geology 220 or concurrent enrollment or consent of instructor.

**401-1 Mining Environmental Impacts and Permits.** Socio-economic impacts of mining industry. Analyzing the markets for coal and its products. Mining operations and related environmental impacts. Mining permits. Prerequisite: 400 or consent of instructor.

**405-1 Field Trip.** Visit several mining operations and prepare a report. Not for graduate credit. Prerequisite: 400 and Geology 390.

**410-3 Underground Mining Systems Design.** Study of coal property evaluation. Underground mining methods. Design of mine production and its ancillary systems and subsystems. Prerequisite: Civil Engineering 263 or Mining Engineering 320, 400, Mathematics 251, Engineering 361, Geology 390 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

**411-2 Mine Machinery.** Analysis and design of underground and surface mining machinery. Equipment and parts selection. System development. Preventive maintenance. Prerequisite: 410.

**413-3 Mine and Industrial Power Systems.** Electrical circuits, transformers, motors and their industrial applications. Electrical power distribution; systems design and components selection. Pneumatic and hydraulic power principles. Prerequisite: Physics 205 and Mathematics 250.

**415-4 Surface Mining, Quarrying and the Environment.** Surface mining systems and quarrying methods for coal, aggregate, and hardrock minerals. Surface mining and quarrying economics. Product specifications and transportation. Equipment sizing and selection. Drainage control. Blasting design for control of fragmentation, air blast and vibration. Prerequisite: 400, Civil Engineering 263 or Mining Engineering 320, Mathematics 251 and Engineering 361. Consent of instructor for graduate students and non-majors.

**417-3 Applied Probability and Statistics for Engineers.** Probability and statistics concepts, analysis of engineering experimental data. Fitting experimental data to distribution functions. Regression analysis. Quality control in production systems. Reliability in engineering processes. Stochastic simulation of engineering systems. Prerequisite: Mathematics 251 or consent of instructor.

**418-3 Mining of Ore Deposits.** Analysis, planning and design of surface hardrock mines and underground mining systems. Analysis of mining and equipment costs. Prerequisite: 400, Civil Engineering 263 or Mining Engineering 320, and Geology 390.

**420-3 Mineral and Coal Processing.** Principles of processing minerals, aggregates, and coal, including unit operations of comminution, classification, solid-solid separation, dewatering, and tailings disposal. Laboratory investigations of the fundamental principles governing unit operations including size reduction, mineral liberation, classification, mineral recovery, and dewatering. Laboratory. Prerequisite: 400, Chemistry 210, Physics 205b, Mathematics 305, Engineering 313 or concurrent enrollment. Consent of the instructor for non-majors and graduate students.

**421-3 Mineral Processing Plant Design.** Engineering design of unit operations used for mineral, aggregate, coal processing, flowsheet design, simulation of processing plants, evaluation of plant performance, and process control. Laboratory investigations on the design of unit operations including size reduction, classification, gravity separation, flotation, and dewatering. Laboratory. Prerequisite: 417 or concurrent enrollment and 420. Consent of instructor for graduate students and non-majors.

**425-3 Mine Ventilation Systems Analysis and Design.** Study of the theories and practice of natural and forced mine ventilation. Fan and mine characteristics. Ventilation network analysis. Mine ventilation design and problem analysis. Laboratory. Prerequisite: 410, Engineering 300 and 313. Consent of instructor for graduate students and non-majors.

**430-3 Economics of Mineral Resources.** Economics of mineral resources. Investment decision making criteria; economic viability of mining projects, financing mining projects; sensitivity and risk analyses. Prerequisites: 400, Engineering 361, or consent of instructor.

**431-3 Rock Mechanics: Principles and Design.** Analysis of stress and strain, elementary elasticity, stress distribution around openings, engineering properties of rocks, artificial support and reinforcement, slope stability. Laboratory. Prerequisite: Engineering 311 and Mathematics 305.

**435-3 Operations Research and Computers in Mine Design.** Mine systems analysis, operations research and statistics in decision making, production engineering, mine planning, optimization, linear programming, computer simulation. Prerequisite: either 410 and 415 or 418 alone; Engineering 222 and 361.

**440-3 Material Handling Systems.** Analysis and design of material handling systems and subsystems. Material handling systems economics. Prerequisite: 410, 413, 415 and 417 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

**445-3 Mine Equipment Maintenance Programs.** Mechanical, hydraulic, and electrical systems in mining equipment. Equipment maintenance problems in mines and minerals processing facilities. Cost of lost production. Cost centers and identification of high cost problem areas in mining operations. Principles, design, and development of maintenance systems. Maintenance organization, responsibility, and scheduling. Prerequisite: 410, 415, 417, Engineering 385 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

**455-3 Mine Environment, Health and Safety Engineering.** Analysis of mine environmental impacts and their mitigation, safety problems and rules and regulations, hazards and accidents, sealing and recovery of mines, design of mine emergency plans, safety methods and health hazard control plans. Acid mine drainage, minerals waste disposal environmental remediation. Laboratory. Prerequisite: 410, 415, 417, or concurrent enrollment. Consent of instructor for graduate students and non-majors.

**460-4 Computer-Aided Mine Systems Analysis and Design.** Projects in planning and design of surface and underground mining systems. Evaluate and design mining subsystems; integrate subsystems and procedures into a preliminary mine design; and optimize operations from exploration to closure. Ethics and professional-

ism in engineering. Two lectures and two two-hour laboratories per week. Prerequisite: 420, 425, 431 or consent of instructor.

**470-3 Experimental Methods in Rock Mechanics.** Supplement theoretical knowledge gained in 431 with laboratory experiments. Physical property tests for specific gravity, moisture, density porosity of rocks. Unconfined and confined compressive strength, tensile strength, shear strength, photoelasticity, static and dynamic strain measurement systems, field instrumentation techniques. Laboratory. Prerequisite: 431.

**475-3 Analysis and Design of Mine Excavations.** Rock classification; design of shafts, slopes, tunnels, and underground chambers; support requirements; design of slopes; design of underground mining systems from ground control point of view; design of impoundments. Prerequisite: 410, 415 and 431. Consent of instructor for graduate students and non-majors.

**480-3 Rock Fragmentation Systems.** Principles of rock fragmentation. Drilling and mechanics of rock penetration, drillability indices. Chemistry of explosives. Design of blast patterns in surface and underground mines and quarries, prevention of airblast, vibration, and noise. Prerequisite: 415. Consent of instructor for graduate students and non-majors.

**492-1 to 5 Special Problems in Mining Engineering.** Topics and problems selected either by the instructor or the student with the approval of the instructor. Five hours maximum course credit. Not for graduate credit. Prerequisite: senior standing and consent of instructor.

## Mortuary Science and Funeral Service (MSFS)

**101-3 Orientation to Funeral Service.** Students will trace the history of funeral services from ancient times through practices with emphasis on the development of funeral practices in the United States. Students study the customs of various cultures throughout the world including customs in the United States. They will demonstrate a knowledge of funeral service organizations and will discuss topical areas of current discussion. Lecture three hours. Prerequisite: consent of instructor.

**108-3 Funeral Service Psychology.** Designed to acquaint the student with an overview of psychology in funeral service as applied to death, grief and mourning. Students will examine interpersonal and public relations as they affect the funeral service practitioner in relationship with the public served. Lecture three hours. Prerequisite: 101 or Psychology 102.

**225-8 (4,4) Embalming Theory and Practice.** (a) The student will be introduced to techniques of embalming through a study of the body, sanitation, embalming agents, instruments, and methods of embalming. The student studies the theory, practices, and techniques of sanitation as well as restoration and preservation of deceased human remains. Laboratory experience will consist of embalming deceased remains and of other related activities. Lecture three hours. Laboratory two hours. (b) The student will study the anatomy of the circulatory system, the autopsied case, the cavity embalming, the contents of the thoracic and abdominal cavities and various embalming treatments. Laboratory experience is a continuation of 225a. Lecture three hours. Laboratory two hours. Must be taken in a,b sequence. Prerequisite: restricted to mortuary science and funeral service majors, 240, and proof of Hepatitis B vaccine or Titre test.

**230-4 Mortuary Anatomy.** The student will study the structure and function of the human body as a whole including: general organization, structural organization, tissues, skeletal system, nervous system, circulatory system, physiology of circulation, glands, respiratory system, digestive system, genitourinary system, integument and special senses. Lecture three hours. Prerequisite: restricted to major and Zoology 115/118.

**240-3 Mortuary Regulations.** The student will have knowledge of the federal, state and local regulations pertaining to the funeral profession. Studies will include the Occupational Safety and Health Administration regulations, Americans with Disabilities Act, Uniform Anatomical Gift Act, the Federal Trade Commission requirements, Rules and Regulations for the Control of Communicable Disease and other such regulations governing funeral service. Lecture three hours. Prerequisite: restricted to majors or consent of instructor.

**245-4 Restorative Art.** Students will build upon knowledge of the anatomical structures of the cranial and facial areas of the human skull gained through anatomy. Utilizing terms and knowledge of cranial and facial structures, the student will describe the facial proportions and markings. Students will develop a knowledge of anatomical modeling, facial expressions, familiarization with instruments, materials and techniques necessary to rebuild the human face that has been destroyed by traumatic and/or pathological conditions. Laboratory assignments will include modeling, hair restoration and others. Lecture three hours. Laboratory two hours. Prerequisite: 230.

**255-3 Embalming Chemistry.** The student will study the chemistry of the body, sanitation, toxicology, chemical changes in deceased human remains, disinfection, and embalming fluids. Laboratory experiences in 225a will complement lecture material. Lecture three hours. Prerequisite: Chemistry 106 and concurrent enrollment in 225a.

**256-4 Introductory Microbiology.** The student will survey microbiology: morphology, physiology, populations of microbial organisms, microbial destruction, immunology, and pathogenic agents. Lecture three hours. Prerequisite: restricted to major, Zoology 115, 118 and Chemistry 106.

**257-3 Pathology.** Students will be introduced to the study of the cause, course and effects of diseases upon the human body with stress on ways in which tissue changes affect the embalming process. Lecture three hours. Prerequisite: 230 and 256 or equivalent.

**270-2 Computers in Funeral Service.** The student will be given the opportunity to enhance their understanding of the applications of computers to the funeral profession. This course is designed to instill an appreciation for computer as an effective funeral home management tool. Lecture two hours. Prerequisite: restricted to major.

**299-1 to 16 Individual Study.** Provides students with opportunity to explore studies that fit a particular need or interest. Enrollment provides access to the resources of the facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the faculty sponsor, program representative and department chair.

**302-4 Restorative Color and Cosmetics.** The student will learn advanced procedure and techniques for restoration and cosmetology. Special attention will be placed upon pigments, visual aspects of color and color schemes, illumination, complexion types and materials, corrective shaping, wax and cosmetics and treatment of discoloration. Lecture three hours. Laboratory two hours. Prerequisite: 245.

**340-3 Mortuary Law.** Deals with the statutory laws and practices pertaining to funeral service. The student will trace the laws that govern the funeral director and the embalmer and their legal responsibilities to the consumer. Knowledge will be gained concerning the legal status of a dead human body, necessities of disposition, methods of disposition, rights and parties undertaking responsibility of disposition, custodial rights of the dead human remains, contract laws, right of disposition, control of the funeral, general rules of priority pertaining to next of kin, mental anguish, photographs, confidentiality, negligent acts by the funeral director and/or embalmer, mutilation laws, injury to invitees, injury to pallbearers, Clergy and staff, physical impact, collection against an estate, primary obligor, estate liability, cremation, authorization, commingling of remains, personal effects, storage and shipping of remains. Lecture three hours. Prerequisite: restricted to major.

**350-1 to 32 Mortuary Science and Funeral Service Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. Mandatory Pass/Fail. Prerequisite: recommendation by program representative and approval by department chair.

**351-4 Mortuary Management.** The student will examine the principles and practices of funeral home operations and management. Materials will include items that are required to operate a successful funeral home: supervision, obtaining the finances to start or purchase a business, daily fiscal operations of that business, inventory and insurance. Lecture four hours. Prerequisite: 240 and Information Management Systems 120.

**352-3 Mortuary Merchandising and Marketing.** Included are the funeral directors responsibilities from the first call to the completion of the last service rendered the family. Topics include after-care, pre-need, record keeping, critical issues in funeral service, and both personal and professional ethics. Lecture three hours. Prerequisite: 351.

**360-4 Advanced Embalming Procedures.** The student will study the proper procedures of embalming and other necessary preparations of special cases. Studies will include techniques and procedures used for embalming unique cases such as floaters, burn victims, car accident victims and other traumatic faces of death. Students will be required to submit several written research papers and present oral presentations of specific topics throughout the semester. Lecture four hours. Prerequisite: 225b.

**401-3 Funeral Service Counseling.** The student will be taught specific counseling procedures used when counseling the bereaved family. Specific attention will be paid to the counseling and communication techniques and skills that will assist individual family members with handling grief and the mourning process. In addition, students will explore the promotion of pre-need and after-care services. Lecture three hours. Prerequisite: 108 or Psychology 102.

**410-5 Funeral Service Internship-Management.** Students will spend a semester long internship in a university approved funeral home learning in actual situations the operational procedures and policies of the establishment. The student will perform duties and services, as assigned by the preceptor and the faculty of mortuary science and funeral service program. The student will observe and participate in the execution of the total services rendered to the family by the funeral director. Management reports and assignments are required to be completed by the student. Prerequisite: all other requirement of the mortuary science and funeral service major must be including a grade point average of at least 2.0 in the major. Must be taken concurrently with 411.

**411-5 Funeral Service Internship-Embalming.** Students will spend a semester long internship in a university approved funeral home learning in actual situations the operational procedures and policies of the establishment. The student will perform duties and services, as assigned by the preceptor and the faculty of mortuary science and funeral service program. The student will observe and participate in the execution of the total services rendered to the family by the funeral director/embalmer. The student will be given the opportunity to learn embalming techniques by active participation in the preparation room. Embalming reports and assignments are required to be completed by the student. Prerequisite: all other requirements of the mortuary science and funeral service major must be met including a grade point average of at least 2.0 in the major, must be taken concurrently with 410.

**412-2 Funeral Service Seminar.** Formal discussions are held to evaluate the experiences and progress of the participants in the internship program. The second part of the seminar is a review for the National Board Examination. Mandatory Pass/Fail. Prerequisite: concurrent enrollment in 410 and 411.

**415-3 On Dying and Death.** Students will study the processes of death, grief, and bereavement. Emphasis on the practical aspects of coping with the many problems concerning death. Not for graduate credit.

## Music (MUS)

**011-1 to 8 (1 or 2, 1 or 2, 1 or 2) Marching Salukis.** Fall semester only. Open to all students with experience in bands. Performs at all home football games, and one or two away. Counts as a major ensemble, one of which must be taken each semester by resident music majors.

**012-1 to 4 (1,1,1,1) Pep Band.** A select group which performs at all home basketball games. Prerequisite: audition prior to first registration.

**013-1 to 16 (1 or 2 per semester) Symphonic Band.** Open to all students with experience in bands. Performs standard literature. Two or three concerts per year. Counts as major ensemble, one of which must be taken each semester by resident music majors.

**014-1 to 16 (1 or 2 per semester) Concert Wind Ensemble.** A select group which performs advanced contemporary literature. Three concerts and tour per year. Counts as a major ensemble, one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration.

**015-1 to 16 (1 or 2 per semester) Jazz Ensemble.** For students experienced with popular literature. Concerts and tours when feasible. Prerequisite: audition prior to first registration.

**016-1 to 8 (1,1,1,1,1,1,1,1) Jazz Combos.** A select group, performing literature scored for this instrumentation. Two or three concerts per year and tour as feasible. Prerequisite: audition prior to first registration.

**017-1 to 16 (1 or 2 per semester) Symphony.** Open to all experienced string, woodwind, brass, and percussion players. Plays standard and advanced orchestral literature, performs three or four concerts per year. Counts as a major ensemble, one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration.

**020-1 to 8 (1,1,1,1,1,1,1,1) Choral Union.** Open to qualified students who desire to perform major choral-orchestral literature. Two concerts per year. Counts as a major ensemble, one of which must be taken each semester by resident music majors. Audition required.

**021-1 to 16 (1 or 2 per semester) Chamber Choir.** Open to all experienced singers. Emphasis on advanced contemporary literature. Three or four concerts per year and tours as feasible. Audition required.

**022-1 to 16 (1 or 2 per semester) Concert Choir.** A select group which performs advanced choral literature of all eras. Three or four concerts per year and tours as feasible. Counts as a major ensemble, one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration, and each succeeding fall.

**023-1 to 8 (1,1,1,1,1,1,1,1) Vocal Jazz Ensemble.** Open to all experienced singers. Emphasis on light, popular literature. Two or three appearances per year.

**030-4 (1,1,1,1) Piano Class.** (a) Level 1, (b) level 2, (c) level 3, (d) level 4. Designed to develop functional command of basic keyboard skills needed in the further study of music and the teaching of music. Take in sequence unless assigned advanced placement by instructor. Prerequisite: major or minor in music, elementary education, early childhood education, or consent of instructor.

**031a-1 Voice Class.** Designed to develop functional command of basic vocal skills needed in teaching music. Prerequisite: consent of instructor.

**032-2 (1,1) String Techniques Class.** (a) Upper strings; (b) lower strings. Designed to develop essential techniques and principles which can be used in teaching young string pupils. Prerequisite: music major or minor.

**033-4 (1,1,1,1) Woodwind Techniques Class.** Flute, clarinet, oboe, bassoon. Designed to develop essential techniques and principles which can be used in teaching young woodwind pupils. Students may begin on one instrument and shift to another at midterm, or they may continue with the same instrument with the consent of the instructor. Prerequisite: music major or minor or consent of instructor.

**034-2 (1,1) Brass Techniques Class.** Trumpet, french horn, trombone, tuba. Designed to develop essential techniques and principles which can be employed in teaching beginning brass pupils. Students may begin with one instrument and shift to another at midterm or they may continue with the same instrument with the consent of the instructor. Prerequisite: music major or minor.

**035-1 Percussion Techniques Class.** Designed to develop basic techniques and principles which can be employed in teaching young percussion pupils. Prerequisite: music major or minor.

**036-2 (1,1) Guitar Class.** (a) Level 1, (b) level 2. Designed to develop basic techniques and principles which can be employed in teaching music. Prerequisite: major or minor in music, elementary education, or early childhood education, or consent of instructor.

**040, 140, 240, 340, 440, 540-1, 2, or 4 Applied Music.** Offered at six levels in the areas listed below. May be repeated for credit as long as passing grade is maintained. Students must attend the weekly studio class and be concurrently enrolled in one of the performing groups. Prerequisite for 040: satisfactory completion of beginning class instruction offered in that area, or the equivalent. Prerequisite for 140: three or more years of prior study or performing experience, or two semesters of C or better at 040 level. Prerequisite for 240, 340: two semesters of C or better at previous level, or consent of applied jury. Prerequisite for 440, 540: two semesters of B or better at previous level, or consent of applied jury. Music majors and minors enroll for two credits on their principal instrument, taking one half-hour private lesson and studio class, Tuesdays at 10:00. Those with prior approval by their applied jury for the specialization in performance enroll for four credits, taking two half-hour private lessons and the student class each week. Non-music majors or minors, and those music majors taking a second instrument, enroll for one credit, taking one private or class lesson per week. Six hours of individual practice per week required for each lesson. For shorter sessions, credit is reduced or lesson time is increased proportionately.

a. Flute	f. Horn	k. Percussion	p. Voice	u. Recorder
b. Oboe	g. Trumpet	l. Violin	q. Piano	v. Coaching
c. Clarinet	h. Trombone	m. Viola	r. Organ	
d. Bassoon	i. Baritone	n. Cello	s. Harpsichord	
e. Saxophone	j. Tuba	o. String bass	t. Guitar	

**101-3 Music Fundamentals.** Rudiments of music for those with little or no musical background. One lecture and one piano laboratory session per week. Provides basic music vocabulary and keyboard competency for Curriculum and Instruction 325, 326.

**102-2 Survey of Music Literature.** Characteristic forms and styles. Analysis and listening. Examples from the leading composers of each era. Prerequisite: music major or minor.

**103-3 Music Understanding.** (University Core Curriculum) A study of the historical development of Western Music and the listening skills necessary to perceive the expressive aspects of each style.

**104-2 (1,1) Aural Skills.** A laboratory course designed to complement 105a and b. Practice in recognition and singing of basic pitch and rhythm materials, and their realization in standard musical notation. For those planning a major or minor in music, take a and b in sequence, or, with prior consent of instructor, concurrently.

**105-6 (3,3) Basic Harmony.** Study of traditional diatonic tonal materials and standard notational practice. Includes keyboard skills. For those with performing experience and planning a major or minor in music. Take a and b in sequence. Prerequisite: concurrent registration in 104 or equivalent aural skill.

**107-1 Applied Harmony for Fretted Instruments.** Application of basic harmonic functions to the fretted instruments including guitar. Prerequisite: concurrent enrollment in 140 or 540 or consent of instructor.

**110-4 (2,2) Introduction to Piano Pedagogy.** Introduction to a broad range of studies that influence the development of effective piano teaching. Seminar discussions, lectures, observation of piano teaching, piano studies, readings, listening projects and written essays deal with the history of piano pedagogy and performance, studies of teaching and learning concepts of music education and educational psychology, piano literature, keyboard musicianship and practical aspects of teaching.

**140-1, 2, or 4 Applied Music.** (See 040.)

**174-3 Commercial Music.** Introductory course for students interested in the commercial aspects of the music industry. Lectures given by outstanding executives and performers in the various segments of the industry such as management, cash show, contracts, the recording of music and video, and publishing. Students go to Nashville, Tennessee, where various activities take place, including tours of recording studios, publishing houses, performance rights societies, and video and television studios. Designed to clarify the qualifications the student must have, or develop, in order to be successful in the commercial music world. Prerequisite: major in music.

**203-3 Diversity and Popular Music in American Culture.** (University Core Curriculum) A study of the development of American popular music, particularly in relation to the different cultural groups which spawned it.

**204-1 Advanced Aural Skills.** Continuation of 104. Designed to complement 205. Prerequisite: 104b with a grade of C or better.

**205-3 Advanced Harmony.** Study of chromatic tonal materials, including keyboard skills. Prerequisite: 104b and 105b with a grade of C or better, and concurrent registration in 204.

**206-3 Music as A Creative Experience.** Students experiment with various ways of creative musical sound structures, and engage in active, critical listening, as a means to a better understanding of the nature of musical experience. Not historically oriented.

**207-2 Contrapuntal Techniques.** Basic contrapuntal principles and skills, especially as applied to 18th and 19th century styles. Extensive writing practice, and analysis of stylistic models. Introduction to major contrapuntal forms. Prerequisite: 204 and 205 with a grade of C or better, or take 204 concurrently.

**210-2 Analytic Techniques for the Pianist.** Studies the process by which piano teachers analyze piano music and performance. Extensive projects in piano music analysis, sightreading, interpreting and memorizing piano compositions, lecture/discussions, reading and listening assignments and observation of studio and piano class teaching provide increasing readiness for piano teaching as it relies on analytic and problem-solving techniques.

**211-2 Piano Literature Seminar.** A survey course that acquaints students with piano music for teaching at all levels of advancement from baroque, classical, romantic and contemporary music style periods. Piano literature, sightreading, recorded music listening assignments, score study, writing assignments and lecture/performance presentations in class include studies of piano methods, piano music editions, collections and publishers highlighting the keyboard literature of sixteen major composers.

**240-1, 2, or 4 Applied Music.** (See 040.)

**250-3 The History and Literature of the Guitar and Related Fretted Instruments.** A survey of the history and literature of the guitar and related fretted instruments from the Renaissance to the present with emphasis on interpretation.

**257-1 to 12 Intern-Work Experience.** Practical experience in music retailing, wholesaling, and publishing under the supervision of professional firms. Open only to candidates for the Bachelor of Arts degree with emphasis in music business.

**280-2 to 4 (2,2) Beginning Composition.** Application of contemporary compositional techniques. Prerequisite: 105b or consent of instructor.

**304-2 The General Music Program.** Survey of problems and methods in teaching music in the schools, with scheduled observations of school music programs in operation. Special attention given to the teaching of comprehensive musicianship through the general music program in the junior and senior high school. Also includes undergraduate history and philosophy of music education. Prerequisite: admission to the Teacher Education Program.

**305-2 Instrumental Music in the Schools.** Administration of the school instrumental music program. Emphasis upon teaching instruments and the management and instruction of instrumental organizations.

**306-2 Music Specialist in the Elementary Schools.** Principles and methods employed in supervising and teaching the elementary school music program. Designed for music majors and minors. Prerequisite: 304.

**307-2 Computers and Music.** An introduction to essential computer tools for musicians. Topics covered will include music notation software, searching the internet for musical resources, and midi keyboard basics. Prerequisite 102, 104b, 105b.

**310-2 Piano Technique Seminar.** An exhaustive study of three classics on the subject of piano technique by authors Reginald Gerig, Paul Roes and Abby Whiteside. This historical perspective is practically applied in a weekly routine of technical and theoretical studies at the piano. The course provides a foundation from which to deal with all aspects of piano technique development in teaching.

**311-2 Advanced Piano Literature Seminar.** In-depth study of an extensive catalogue of piano works for specific selection and design of a sequential curriculum of piano literature for teaching. Piano literature sightreading, recorded music listening assignments and score study culminate in a final course project that details specific piano works for teaching baroque, classical, romantic and contemporary literature to students of elementary, intermediate and advanced abilities. Prerequisite: 211.

**316-1 Introduction to Conducting.** An introductory conducting course designed to teaching beginning rehearsal techniques. Prerequisite: music major or minor and junior standing.

**317-2 Choral Conducting and Methods.** Score reading, baton techniques, and rehearsal techniques, organization and management problems of school choral groups. Prerequisite: music major or minor and junior standing.

**318-2 Instrumental Conducting.** Score reading, baton techniques, and rehearsal management. Supervised application in ensemble. Prerequisite: music major or minor and junior standing.

**321-2 Form and Analysis.** Comprehensive study of harmonic and formal structures and typical stylistic traits of 18th and 19th century music. Prerequisite: 204 and 207.

**322-3 Principles of 20th Century Music.** Comprehensive study of harmonic techniques and other stylistic traits of major 20th century idioms. Prerequisite: 321.

**324-1 Instrumental Arranging.** Practice in scoring of transcriptions, arrangements, and original compositions for standard instrumental groups. Prerequisite: 205.

**325-1 Choral Arranging.** Practice in scoring arrangements and/or original compositions for choral groups. Prerequisite: 205.

**331-1 Jazz Improvisation.** Ear training, phrasing in extemporaneous playing, use of chord symbols and chord progressions, special effects peculiar to jazz playing and styles of playing. Prerequisite: consent of instructor.

**340-1, 2 or 4 Applied Music.** (See 040.)

**341-1 to 8 (1 or 2 per semester) Accompanying Laboratory.** Experience, under supervision, in accompanying soloists and groups. Counts as a major ensemble for junior and senior music majors specializing in keyboard performance and piano pedagogy only.

**357-6 (3,3) Music History.** Study of musical examples and techniques evolving from the ancient period to the present. May take a or b in either order. Prerequisite: 102 with a grade of C or better and junior standing. Satisfies the College of Liberal Arts Writing Across-the-Curriculum requirement for music majors.

**363-2 (1,1) Pronunciation and Diction for Singers.** (a) English and French, (b) German and Italian. Establishment of proper pronunciation as applied to vocal literature. Prerequisite: one or more semesters of private or class voice instruction.

**364-2 The Alexander Technique of Body Control.** A controlled discipline to counteract tension habits that are harmful to correct use of the body, particularly as they relate to music, speech, dance, and theater.

**365-1 to 64 (1,1,1,1,1,1,1 per section) Chamber Music.** Groups of two to sixteen performers as organized and sponsored by individual faculty members. Includes duo-piano teams, and piano in combination with other performers. Regular weekly rehearsals of appropriate music and public performance as feasible. Section (g) counts as a major ensemble for music majors specializing in guitar and for juniors and seniors with non-performance specializations whose principal instrument is the guitar: (a) Chamber music-vocal; (b) Chamber music-string; (c) Chamber music-woodwind; (d) Chamber music-brass; (e) Chamber music-percussion; (f) Chamber music-keyboard; (g) Chamber music-classical guitar; (h) Chamber music-20th century. Instrumentalists and singers experiment with new musical techniques and styles. Small ensembles and/or one large ensemble will rehearse weekly.

**371-2 Evolution of Jazz.** Stylistic characteristics of jazz at various stages of its evolution. Societies and cultures from which it derived. Orientation is historical, sociological, and stylistic.

**373-3 Rock and Pop Music.** Study of rock and other popular American music. Evolution of both black and white folk music is shown. Rock is studied as the merging of aspects of these two folk mainstreams. Major figures in rock are studied. Lectures, live and recorded demonstrations, films, and individual projects will be used.

**375-3 Introduction to Recording Engineering.** Specializes in recording and engineering. Intended to be a general introduction to the world of multi-track recording. Seventy percent of the course involved with basic information about sound, test equipment, microphones, recorders, signal processing equipment, consoles, noise reduction devices, and the most recent developments in the perception of sound. Thirty percent consists of actual live recording sessions and mix-down sessions. Each student given hands-on experience in recording and mixing and will receive a copy of the master tape. Enrollment limited. Preference given to music majors. Prerequisite: junior music major.

**376-3 Advanced Recording Engineering.** Continues the skills developed in 375. Student familiarized with duties of the professional engineer through practical experience.

**380-2 to 4 (2,2) Composition.** Original composition in a contemporary language, intermediate in scope and form. Individual instruction and weekly seminar. Prerequisite: 280 or consent of instructor.

**398-1 to 2 (1,1) Partial Recital.** Preparation and presentation of a partial recital in any applied field. Prerequisite: prior or concurrent registration in 340 and approval of applied jury.

**400-1 to 2 (1,1) Performance Techniques.** Individual instruction in any secondary applied field. Designed to provide added depth of preparation for teaching instrumental and vocal music. Prerequisite: completion of 340 level or the equivalent in some field of applied music.

**401-1 to 12 (1 to 2 per semester) Opera Workshop.** Open to all appropriately experienced singers, actors, dancers, instrumentalists and theater technicians. Study of opera/operetta repertoire and performance techniques. Prerequisite: consent of the instructor.

**402-1 to 12 (1 to 2 per semester) Musical Theater Workshop.** Open to all appropriately experienced actors, singers, dancers, instrumentalists and theater technicians. Study of musical theater/musical revue repertoire and performance techniques. Prerequisite: consent of the instructor.

**407-2 Modal Counterpoint.** Study of Renaissance contrapuntal techniques. Extensive writing practice, and analysis of stylistic models. Prerequisite: 207.

**410-2 Piano Pedagogy Practicum.** Provides undergraduate and graduate piano pedagogy majors with the opportunity for supervised practice piano teaching. Course activities include lesson-planning, conducting and evaluating studio piano and class piano lessons, and a survey of important educational issues that impact on effective piano teaching. Prerequisite: consent of instructor.

**414-1 to 8 (1 to 2 per semester) Collegium Musicum.** For experienced singers and instrumentalists. Emphasis upon practical study of historical music literature of the Medieval, Renaissance, and Baroque eras.

**420-1 to 2 (1,1) Instrument Repair.** A shop-laboratory course dealing with the selection, tuning, adjustment, maintenance, and repair of musical instruments. Prerequisite: two semesters of instrumental techniques courses or consent of instructor.

**421-2 Advanced Analysis.** Structure, form, and design in music as the coherent organization of all of its factors. Analysis of works chosen from a variety of styles and genres. Prerequisite: 321.

**440-1, 2, or 4 Applied Music.** (See 040.)

**447-4 (2,2) Electronic Music. (a)** Introduction to classical studio equipment and techniques; use of voltage controlled equipment. Individual laboratory experience available. **(b)** Emphasis upon creative projects, more sophisticated sound experimentation, and analysis. Enrollment limited. Must be taken in a,b sequence. Prerequisite: 280 or consent of instructor.

**453-2 to 4 (2 per semester) Advanced Topics in Choral Music.** Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. For experienced teachers and advanced students.

**454-2 to 4 (2 per semester) Advanced Topics in Instrumental Music.** Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.

**455-2 to 4 (2 per semester) Advanced Topics in Elementary School Music.** Practicum in the selection and use of materials for the elementary school program. Study of techniques for achieving balanced musical growth. For experienced teachers and advanced students.

**456-4 (2,2) Music for Exceptional Children. (a)** Theories and techniques for therapeutic and recreational use of music with physically and mentally handicapped children. Includes keyboard, autoharp, guitar, and tuned and untuned classroom instruments. **(b)** Applications for the gifted, emotionally disturbed, and culturally disadvantaged child. Take in sequence. Prerequisite: 302 or prior consent of instructor.

**461-3 Applied Music Pedagogy.** Specialized problems and techniques employed in studio teaching of any particular field of music performance. Study of music literature appropriate for the various levels of performance. Opportunity, as feasible, for supervised instruction of pupils. Meets with appropriate instructor, individually or in groups.

**468-2 to 4 (2,2) Music Productions.** Practicum in the techniques for staging operas and musicals.

**470-3 History of Opera.** The development of the music, libretti and staging of opera from the late Renaissance to the present. Prerequisite: 357b, or consent of instructor.

**472-2 Chamber Music Literature.** A study of literature for the principal types of chamber music groups.

**475-3 Baroque Music.** The development of vocal and instrumental music in the period 1600-1750, from Monteverdi to Bach and Handel. Oratorio and Cantata, the influence of opera, sonata, suite, and concerto. Prerequisite: 357a with a grade of C or better, or graduate standing.

**476-3 Classical Music.** Development of the sonata, symphony, concerto, and chamber music in the 18th and early 19th centuries, with emphasis on the music of Haydn, Mozart, and Beethoven. Prerequisite: 357b with a grade of C or better, or graduate standing.

**477-3 Romantic Music.** Development of the symphony and sonata forms, chamber music, and vocal music in the 19th and early 20th centuries. Rise of nationalism and impressionism. Prerequisite: 357b with a grade of C or better, or graduate standing.

**479-2 to 4 (2 per topic) Solo Performance Literature.** Topics presented will depend upon the needs of students and upon instructors scheduled. **(a)** Piano literature, including an introductory study of harpsichord music; **(b)** organ literature, in relation to the history of the instrument; **(c)** song literature; **(d)** guitar and lute literature; **(e)** solo string literature; **(f)** solo wind literature.

**480-2 to 4 (2, 2) Advanced Composition.** Original composition involving the larger media. Individual instruction. Prerequisite: two semesters of 380 with a grade of C or better and approval of composition jury.

**481-1 to 4 Readings in Music Theory.** Assigned readings and reporting of materials pertaining to a particular phase of music theory in historical perspective. Approximately three hours' preparation per week per credit (adjusted for shorter sessions). Prerequisite: 321 and 322 or prior consent of instructor.

**482-1 to 4 Readings in Music History and Literature.** Assigned readings and reporting of materials pertaining to a particular phase of history or literature. Approximately three hours preparation per week per credit. Prerequisite: 357a and b, or prior consent of instructor.

**483-1 to 4 Readings in Music Education.** Assigned readings and reporting of materials pertaining to a particular phase of music education. Approximately three hours preparation per week per credit (adjusted for shorter sessions). Prerequisite: consent of instructor.

**498-2 to 4 (2,2) Recital.** Preparation and presentation of a full solo recital in any applied field. Prerequisite: prior or concurrent registration in 440 and approval of applied jury.

**499-1 to 8 Independent Study.** Original investigation of selected problems in music and music education with faculty guidance. Project planned to occupy approximately three hours preparation per week per credit (adjusted for shorter sessions). Not more than three hours toward 30 required for graduate degree. Prerequisite: prior consent of selected instructor.

## Office Systems and Specialties (OSS)

**100-2 Typewriting.** Upon successful completion of this course, the student will demonstrate proficiency in keyboarding using correct touch-typing techniques, be able to type 20-30- plus words per minute for two minutes with five errors or less on straight-copy material, make all machine adjustments needed to set margins, tab and line spacing and center typed material both horizontally and vertically. Speed and accuracy development are emphasized. Lecture three hours and additional lab hours required. Intended for non-majors.

**101-3 Business Correspondence.** Principles and practice in written and oral communication. Includes development of ability to use words; application of correct grammatical construction in oral and written communications; analysis, planning, and practice of composing different types of internal and external communications in various administrative and business contexts; refinement of listing skills; mechanics and basic procedures for dictation; and ability to conduct a business meeting. Course will help form good habits that will facilitate adaptability in the world of work. Lecture and individualized instruction three hours.

**107-2 Filing and Records Systems.** Upon successful completion of this course, the student will apply filing rules to alphabetic, subject, numeric, and geographic methods; determine supplies for various filing systems; demonstrate an understanding of proper filing techniques; and demonstrate an understanding of concepts related to electronic filing and micrographics and the concepts necessary for the establishment, maintenance, and revision of a filing system. Lecture two hours and additional Learning Center hours required. Enrollment restricted to Office Systems and Specialties and Workforce Education and Development majors or consent of department.

**109-3 Calculating Numerical Information.** Upon successful completion of this course, the student will be able to calculate numerical information with and without the use of machines such as the electronic calculators; will have a basic understanding of calculating on the microcomputer; and will be able to perform necessary operations required to work with decimals, fractions, percentages, basic statistics, metrics, and graphic displays of numerical information as these tasks relate to routine office situations. Lecture two hours and additional Learning Center hours required.

**111-3 Beginning Keyboarding.** Upon successful completion of this course, the student will be able to correctly format and type business letters, memos and reports. Keyboarding speed and accuracy are emphasized. Lecture three hours and additional lab hours required.

**112-3 Intermediate Keyboarding.** Upon successful completion of this course, the student will be able to correctly format and type various communication documents and forms. Keyboarding speed and accuracy are emphasized. Lecture three hours and additional lab hours required. Prerequisite: 111 with a grade of C or better.

**113-3 Advanced Keyboarding.** Upon successful completion of this course, the student will be able to correctly format and type various advanced communication documents and forms. Keyboarding speed and accuracy are emphasized. Lecture three hours and additional lab hours required. Prerequisite: 112 with a grade of C or better.

**114-3 Office Software Applications.** Upon successful completion of this course, the student will be able to identify concepts and terminology used with various office application software programs such as data bases, spreadsheets, graphics, and computer-aided transcription. The student will be able to create, format, edit, store, retrieve, and print different types of documents as well as apply advanced features of the software to expand basic documents. Lecture three hours and additional lab hours required. Prerequisite: 111 or equivalent.

**118-3 Introduction to Machine Transcription.** Upon successful completion of this course, the student will be able to operate properly various transcribing units and to produce a variety of business communications in mailable format. The student will review language skills including grammar, punctuation, capitalization and number usage, word division, spelling, and vocabulary. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

**131-3 Beginning Shorthand.** Upon successful completion of this course, the student will demonstrate proficiency in Superwrite theory by reading and writing outlines accurately and rapidly, by taking practice dictation on familiar and related materials, and by transcribing material using proper format for mailable copy. Lecture three hours. Prerequisite: 111 or concurrent enrollment.

**132-4 Intermediate Shorthand.** Upon successful completion of this course, the student will demonstrate shorthand skill by taking dictation at faster speeds and by transcribing dictated material accurately and rapidly with emphasis on mailability and office style material. Any shorthand system may be used. Lecture three hours. Additional lab hours required. Prerequisite: 131 or equivalent.

**140-3 Word Processing Concepts.** Upon successful completion of this course, the student will be able to identify the parts of a word/information processing system, types of software, hardware components, electronic methods of storage, and electronic distribution and communication devices. The student will be able to discuss current office technological trends, the creation of an effective workplace, and careers available to information processing professionals. Prerequisite: 111 or equivalent or concurrent enrollment.

**180-1 Introduction to Court Reporting.** Upon successful completion of this course, the student will understand the classifications of court reporters and their duties; be aware of job availability and career opportunities; understand the court reporters' code of ethics; understand the role of the reporter in the courtroom; be aware of technological innovations; and be familiar with local, state and national professional associations. Prerequisite: 111 or equivalent.

**182-3 Legal Terminology and Documents.** Upon successful completion of this course, the student will be able to recognize, define, spell, pronounce and use legal terminology, including Latin words and phrases. An overview of several fields of law will enable the student to understand terminology commonly associated with the law.

**186-4 Machine Shorthand I.** Upon successful completion of this course, the student will be able to utilize conflict-free machine shorthand theory; write shorthand abbreviations, derivatives, and punctuation symbols; read printed shorthand text notes and student shorthand notes; take dictation of material for five minutes at 60-80 wpm; and transcribe with a minimum of 95 percent accuracy. Lecture five hours; laboratory five hours. Prerequisite: 111 or equivalent.

**187-4 Machine Shorthand II.** Upon successful completion of this course, the student will be able to write conflict-free machine shorthand briefs, phrases, and punctuation symbols; read conflict-free machine shorthand notes; take dictation of literary, jury charge and two-voice testimony at 100-120 wpm for five minutes and transcribe with a minimum of 95 percent accuracy. Lecture five hours; laboratory five hours. Prerequisite: 186, speed requirement of 186 must be met.

**188-3 Court Transcript Preparation.** Upon successful completion of this course, the student will be able to prepare court transcripts using the appropriate principles of punctuation, capitalization, numbers and abbreviations. The students will also apply knowledge of transcript components and methods of transcript preparation using current technology. Lecture three hours and additional laboratory hours required. Prerequisite: 111 or equivalent and 186.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and chair.

**205-3 Office Management and Supervision.** Upon successful completion of this course students will demonstrate competency in the planning, organizing, implementing, evaluating and control of business office functions. Topics covered include: proper managerial skills; managerial roles; office services; physical facilities; employee training techniques; performance appraisal methods; office costs and productivity; methods for planning, scheduling and controlling work flows; feasibility studies; and vendor relations and equipment decisions. Prerequisite: 112 or equivalent.

**206-1 to 6 Career Enhancement.** This course is designed as a professional development activity to enhance the skills of persons seeking to improve their overall office efficiency and work environment and also to provide additional training for those seeking to enter the field. Topics include, but are not limited to, proofreading, word usage, punctuation, grammar, shorthand, dictation/transcription, typing format, math, spelling, and vocabulary.

**208-3 Applied Law for Applied Sciences and Arts I.** Upon successful completion of this course, the student will be familiar with fundamental legal practices and procedures. The student will be able to identify, define, and describe private and public agencies for the enforcement of legal rights, contracts, agency, and employment. Additional topics are selected to meet the needs of specific technical programs and offered in a restricted section.

**209-3 Applied Law for Applied Sciences and Arts II.** Upon successful completion of this course, the student will be more familiar with fundamental legal practices and procedures common to the various technical specializations. The student will be able to identify, define, and describe government regulations, administrative agencies, consumer protection regulations, environmental planning, security devices and insurance, partnerships, corporations, real property and environment, personal property and bailments, and commercial paper.

**220-3 Legal Document Production.** Upon successful completion of this course, the student will be able to produce a variety of legal documents and papers. Emphasis will be on use of modern word processing equipment and procedures. Lecture three hours and additional lab hours required. Recommended: working knowledge of a word processing package. Prerequisite: ability to type and use word processing on a computer.

**221-3 Legal Terminology/Dictation and Transcription.** Upon successful completion of this course, the student will take dictation of legal materials at speeds of 100-120 words a minute at 95 percent accuracy, using specialized shorthand shortcuts related to the legal field. The student will transcribe from notes with emphasis on mailability and be able to handle office-style situations effectively. Lecture three hours and additional Learning Center hours required. Prerequisite: 132 or equivalent, 113 or equivalent or concurrent enrollment, and 182.

**223-3 Legal Administrative Support Procedures.** Upon successful completion of this course, the student will have a basic understanding of career opportunities available in the legal support field and be able to perform necessary duties required of information support personnel in a law office or other law related organization. Prerequisites: 112 or equivalent, and 221 or concurrent enrollment.

**230-4 Administrative Document Production.** Upon successful completion of this course, the student will produce various communications using electronic keyboards, dictation/transcription equipment, and various modern procedures with speed and accuracy. Lecture two hours and additional Learning Center hours required. Prerequisite: 114 and 118.

**232-3 Administrative Shorthand.** Upon successful completion of this course, the student will be able to take administrative dictation at a speed of 90-110 words a minute at 95 percent accuracy, transcribe general and

specialty office communications with emphasis on mailability, and build transcription decision-making skills related to executive correspondence. Prerequisite: 112 and 132; English 102 also recommended.

**233-3 Administrative Support Procedures.** Upon successful completion of this course, the student will be able to perform efficiently administrative support tasks including handling mail and telephone situations, composing communications, editing and proofreading documents, using reprographics and micrographics, arranging for travel and conferences, performing basic information processing operations and carrying out supervisory responsibilities. Emphasis will be on human relations, time management, and organization and planning of work. Prerequisite: 112 or equivalent.

**240-3 Desktop Publishing Applications.** Upon successful completion of this course, the student will be able to define terms relating to the hardware and software components of information processing systems and terms relating to page assembly, topography and other desktop publishing elements. The student will be able to describe basic desktop publishing design principles and apply them to the creation and production of documents including newsletters, flyers and brochures. Lecture three hours and additional lab hours required. Prerequisite: 112 or equivalent.

**241-3 Advanced Office Software Applications.** Upon successful completion of this course, the student will be able to produce a variety of documents and formal presentations on computers using advanced information processing functions such as word processing, databases, spreadsheets, graphics and electronic mail. The student will also develop an understanding of information technology trends in regard to hardware and software as they relate to the production of complex documents. Lecture three hours and additional lab hours required. Prerequisite: 114 or equivalent.

**242-3 Office Telecommunications.** Upon successful completion of this course, the student will understand the importance of contemporary office telecommunications and why their importance is growing; review applications and basic technical detail; and be able to define necessary terms and concepts related to telecommunications and the telecommunication's environment involved in both voice and data communications. Prerequisite: 140.

**243-3 Insurance Office Procedures.** Upon successful completion of this course, the student will perform office duties particular to an insurance office as well as procedures used in all types of offices. Lecture three hours.

**244-1 Machine Transcription (Insurance).** Upon successful completion of this course, the student will be able to transcribe from a transcribing unit most types of insurance office communications at a rate of speed approaching the student's straight copy speed. Students will be required to make decisions in a variety of instances. Lecture one hour and additional Learning Center hours required.

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**260-3 Introduction to Text Processing.** Each student will learn the basic operation and function of representative word processing machines and terminals. The lab time will be spent in the development of speed and accuracy in the typing of textual materials. Lecture two hours and additional Learning Center hours required. Prerequisite: typing skill.

**261-3 Medical Terminology, Dictation, and Transcription I.** Upon successful completion of this course, the student will have a basic understanding and an ability to use appropriate medical terminology, including prefixes, suffixes, and root words. The student will be able to spell and define medical terms and other special terminology in producing basic medical communications/documents. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

**262-3 Medical Terminology, Dictation, and Transcription II.** Upon successful completion of this course, the student will be able to utilize appropriate medical terminology, including special terms and abbreviations in the production of complex communications/documents. The student will be able to transcribe medical-related material from shorthand notes or recorded dictation with increased speed and accuracy. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

**263-3 Medical Administrative Support Procedures.** Upon successful completion of this course, the student will have a basic understanding of career opportunities available in the medical support field and be able to perform necessary duties required of information support personnel in a hospital, clinic, doctor's office, or other health-related organization. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 or equivalent.

**264-3 Health Insurance Processing.** Upon successful completion of this course, the student will be able to prepare and to process various common health insurance forms by abstracting information from patient records. The student will have an understanding of common insurance, medical and diagnostic terminology, and coding principles relative to ICD-9-CM. Lecture three hours and additional Learning Center hours required. Prerequisite: 111 and 261.

**281-3 Legal Testimony I.** Upon successful completion of this course, the student will be able to write testimony materials on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 140-160 wpm and transcribe with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 187, speed requirements of 187 must be met.

**282-3 Literary/Legal I.** Upon successful completion of this course, the student will be able to take literary and jury charge material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 120-140 wpm and transcribe with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 187, speed requirements of 187 must be met.

**283-3 Legal Testimony II.** Upon successful completion of this course, the student will be able to take two-voice testimony material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 160-180 wpm and transcribe with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 281, speed requirement of 281 must be met.

**284-3 Literary/Legal II.** Upon completion of this course, the student will be able to write literary and legal material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 160-180 wpm and transcribe with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 282, speed requirement of 282 must be met.

**288-3 Introduction to Realtime Technology.** Upon successful completion of this course, the student will be able to operate a realtime translation system in simulated environments. Class time will be spent in developing speed and accuracy in the role of the realtime reporter in proceedings. Lecture three hours. Prerequisite: 114.

**289-3 Court Reporting Procedures.** Upon successful completion of this course, the student will be able to report the spoken word, transcribe shorthand notes, mark exhibits, administer the oath, and understand the judicial procedures and professionalism in the field of court reporting. Prerequisite: 114 or concurrent enrollment.

**290-2 to 8 Cooperative Office Experience.** Upon successful completion of this course, the student will be able to apply knowledge and skills learned in classroom situations to on-the-job situations in an office. Students will acquire knowledge related to securing a position, keeping a position, and advancing and growing in a career. Two hours per week are spent on related classroom instruction, and 15 or more hours per week (depending upon semester hours credit) are spent working on the job. Student must secure appropriate position which meets the cooperative education experience requirements. Prerequisite: sophomore status within Office Systems and Specialties and in good standing.

**299-1 to 16 Individual Study.** Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and chair is required.

**307-3 Office Records and Principles of Information Management.** Upon successful completion of this course, the student will have a comprehensive understanding of the field of records and information management with emphasis on the application of scientific and systematic management techniques needed to control recorded information in an organization. The student will understand all of the elements of records management from creation through maintenance and protection to final disposition. Basic courses in management, office systems and computer software applications are recommended.

**308-3 Office Forms Design, Analysis and Control.** Upon successful completion of the course, the student will understand the concepts of form management as applied to: (1) the procedures to follow in order to implement a program within an organization; (2) analyzing and designing and/or redesigning business forms; and (3) forms construction, printing technology, paper types, forms procurement, forms specifications and inventory control. Prerequisite: 307.

**309-3 Office Systems/Micrographics.** Upon successful completion of this course, the student will understand the fundamental principles involved in micrographic technology including the technical aspects of the micrographic process, fundamental principles involved in systems design and development, and practical uses of micrographic systems particularly as they relate to the information management field. Prerequisite: 307. Recommended prerequisite: Information Management Systems 109 or 229.

**310-3 Office Systems and Modern Archives.** Upon successful completion of this course, the student will understand the archival profession as a segment of the broader field of records/information management, its institutions and collections; the methodologies and issues in the field; and the archival field's relationship to records management under the life cycle concept of comprehensive records management. Prerequisite: 307.

**313-1 to 6 Machine Shorthand Speedbuilding.** Upon completion of this course, the student will be able to write literary, jury charge and two-voice testimony materials at speeds of 140-225 wpm for five minutes using conflict-free machine shorthand theory. The student will transcribe with a minimum of 95 percent accuracy. Lecture three to five hours depending on credit hours registered for. Laboratory three to five hours depending on credit hours registered for. Prerequisite: 186 and 187.

**316-1 Legal Ethics.** Upon completion of this course, the student should understand the canons of professional ethics as listed in *Cochran's Law Lexicon* and the NSRA's *Code of Ethics*; have observed the etiquette and duties of court reporters by attending court sessions; have taken testimony in court and transcribed that copy in proper, final form; have taken jury duty charges and legal dictation in class at speeds of 100 to 180 words a minute and transcribed that copy with a minimum of 95 percent accuracy; have taken depositions and transcribed them in state-approved form. Lecture/laboratory two hours.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credit to be individually arranged. Mandatory Pass/Fail.

**320-1 to 12 Office Systems and Specialties Cooperative Education.** Each student will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career-related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluations, cooperative agency student performance evaluations and student reports are required. Hours and credit to be individually arranged. Prerequisite: consent of instructor.

**341-3 Office Systems and Technologies.** The course provides an overview of information systems technologies including computer hardware and software, document information management and telecommunications. It focuses on systems strategies for office automation with emphasis on organizational characteristics, human resources and ergonomics in regard to the planning, design and management of information systems. Three credit hours. Prerequisite: 114 or equivalent.

**350-1 to 32. Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

**385-3 Legal Testimony III.** Upon successful completion of this course, the student will be able to take two-voice testimony material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 200-225 wpm and transcribe with a minimum of 95 percent accuracy. The student must pass three two-voice testimony takes with 95 percent accuracy. Students must earn a grade of C or better. Lecture five hours. Prerequisite: 283.

**386-3 Literary/Legal III.** Upon successful completion of this course, the student will be able to write literary and legal material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 180-200 wpm and transcribe with a minimum of 95 percent accuracy. The student must pass three literary takes at 180 wpm and three legal opinion/jury charge takes at 200 wpm with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 284 with a grade of C or better.

**388-3 Real Time Closed Captioning Technologies.** Upon successful completion of this course the student will build a conflict-free dictionary using computer-aided transcription. By using stenotype input, the student will develop knowledge, skills and abilities to produce accurate simultaneous translation and display of live proceedings utilizing a computer-aided translation system. Prerequisite: 114, 288.

**389-3 Court Practicum.** Upon successful completion of this course, the student will have spent a minimum of 40 hours of machine writing in an approved freelance reporting office and/or an official reporting office and produced a usable transcript of the proceedings. The student will observe courtroom and freelance procedures, will write on the shorthand machine, will receive on-the-job training under the guidance of experienced reporters, and will participate in classroom activities related to the practicum experience. Prerequisite: 114 and concurrent enrollment in 385.

**412-3 Office Systems Planning and Implementation Strategies.** (Same as Workforce Education and Development 412.) This course examines planning for office systems development through investigation of procedures and systems used in various types of offices, including a study of work flow, the processing of information and employee and work group interactions. Topics detail office information systems from the perspective of the end users by studying development and implementation processes, tactics and strategies based upon systems planning results through a field based project. Not for graduate credit. Prerequisite: 341.

**414-3 Office Systems Applications.** This course examines the applications of office automation technologies from the end user perspective to enhance the productivity of all levels of office employees. The course focuses on the relationship of automated technologies and corporate goals. Comparative and evaluative techniques are stressed for appropriate selection of hardware and software, as are basics of telecommunication. Not for graduate credit. Prerequisite: 341.

**415-3 Integrated Office Systems.** This course is the capstone course in the study of office systems and involves the synthesis, application and evaluation of advanced concepts related to current office systems, principally through case study analysis. Topics covered include technological, human, organizational and procedural issues related to office systems management. Not for graduate credit. Prerequisite: 412 and 414.

**416-3 Telecommunications.** This course examines telecommunications in office systems including the computer technology and equipment components required in information interchange via voice, text, data and image. Topics include telephony, data codes, protocols, network architectures, local area networks, communications media, hardware and software. Telecommunication concepts, management issues and practical applications are integral parts of this course with emphasis on the use of telecommunications to facilitate information interchange. Not for graduate credit. Prerequisite: 414.

**485-3 Legal Testimony IV.** Upon successful completion of this course, the student will be able to write two-voice and four-voice testimony material on the shorthand machine using computer-compatible theory. The student will be able to take dictation for five minutes at 225 wpm to 240 wpm and transcribe with 95 percent accuracy to complete this course. Not for graduate credit. Prerequisite: 385.

**486-3 Literary/Legal IV.** This course is designed to enable the student in court and conference reporting to develop an advanced speed level on one-voice literary, jury charge and/or legal opinion material. Emphasis will be placed on various speedbuilding techniques in machine shorthand and information in English, current events, vocabulary development, and geography to allow the student to progress at 20-40 words per minute on literary, jury charge and/or legal opinion material. Not for graduate credit. Prerequisite: 386 with a C or better.

## Paralegal Studies for Legal Assistants (PARL)

**300a-3 Legal Analysis, Research and Writing I.** After examining the litigation process and the structure of federal and state court systems, students will be introduced to case and statutory analysis and to an understanding of the role of paralegals in the litigation process. They will learn how to analyze and synthesize written opinions and will complete several writing projects.

**300b-3 Legal Analysis, Research and Writing II.** Students will continue to develop their analytical skills and will learn how to conduct effective legal research. Students will use the results of their research in connection with several additional writing projects, including memoranda of law and appellate briefs. Employment opportunities for paralegals and their professional responsibilities will be stressed throughout the course. Prerequisite: passed 300a with a grade of C or better.

**310-3 Civil Procedure.** Students will examine the lawyers' and paralegals' roles in handling civil cases, and the means by which the objectives of litigation may be achieved. Strategy and mechanics of civil procedure

will be explored in depth, and students will be required to prepare a complaint, discovery requests, and initial appellate documents.

**320-3 Estates and Trusts.** Students will study the more common forms of wills and trusts and the fundamental principles of law applicable to each; the course will analyze the administration of estates under the Illinois Probate Act.

**330-3 Legal Forms of Business Organizations.** Includes a review of the lawyer's role in the formation of business entities, including sole proprietorship, partnerships, and corporations, with a survey of the fundamental principles of law applicable to each and the preparation of documents necessary to the organization and operation of each. The student will be prepared to draft articles of incorporation and other legal documents relevant to the role of a paralegal in a modern law office.

**340-1 to 12 Internship in Paralegal Studies.** Supervised on-the-job training and experience in public or private offices typically employing paralegals. Student must work ten hours per week for fifteen weeks for each three hours of credit. Only three hours of internship credit applicable to major requirements. Prerequisite: completion of 300a and b with a grade no lower than B and consent of coordinator of paralegal studies program.

**350-3 Family Law.** This course is a review of the law as it relates to the various aspects of domestic relations including marriage, divorce and separation, alimony, child custody and support, taxes, and illegitimacy and adoption.

## Philosophy (PHIL)

**102-3 Introduction to Philosophy.** (University Core Curriculum) Introduction to fundamental philosophical issues across a broad spectrum. Problems in metaphysics, epistemology and ethics will be among the areas explored. Emphasis throughout is upon developing in the student an appreciation of the nature of philosophical questioning, analyzing and evaluating arguments reflecting on the nature of human existence.

**103-6 (3,3) World Humanities.** (University Core Curriculum) This course will explore the rise, development and interaction of the major world civilizations as embodied in ideas and their expressions in religion, philosophy, literature and art. The great traditions of Near Eastern, European, Central Asian, Indian, Chinese and Japanese cultures will be examined. **(a)** The first semester will cover the beginnings of mythic symbolization, the development of moral and religious ideas in the early river civilizations, the dawn of philosophical reflection, and the rise and collapse of the unifying empires of Rome, the Gupta and the Han. **(b)** The second semester will cover the rebirth of civilizations in Islam, medieval Europe and China; their transformations in the modern era, especially due to science and technology; and the question of contemporary global coexistence and understanding.

**104-3 Ethics.** (University Core Curriculum) Introduction to contemporary and perennial problems of personal and social morality, and to methods proposed for their resolution by great thinkers past and present.

**105-3 Elementary Logic.** (University Core Curriculum) Study of the traditional and modern methods for evaluating arguments. Applications of logical analysis to practical, scientific and legal reasoning, and to the use of computers.

**204-3 Ancient Philosophy.** The birth of Western philosophy in the Greek world, examining such Presocratics as Anaximander, Heraclitus, Pythagoras, and Parmenides; focusing upon the flowering of the Athenian period with Socrates, Plato, and Aristotle. The course will conclude with a discussion of the Hellenistic systems of Stoicism, Epicureanism, and the Neo-Platonic mysticism of Plotinus of the Roman period.

**205-3 Modern Philosophy.** A survey course covering the major figures and themes in the development of modern philosophy up to Kant. Concentration on the Rationalist and Empiricist traditions and the simultaneous development of modern science.

**210-3 The American Mind.** (University Core Curriculum) This course will survey the diverse traditions, ideas and ideals that have shaped American culture in the past and today. Major works from Native American, African American, feminist, Puritan, Quaker and American Zen Buddhist writers may be used as well as those from such intellectual movements as the Enlightenment, Transcendentalism and Pragmatism.

**211-3 Philosophy and Diversity: Gender, Race and Class.** (University Core Curriculum) This course is a philosophical introduction to diverse perspectives within modern American culture. It will address through reading and discussion important contemporary moral and social issues from the perspective of nontraditional orientations including African American, Native American and American feminism. The resources of philosophy and other related disciplines such as psychology, sociology and literature will be used to develop a culturally enriched perspective on important contemporary issues.

**300-3 Elementary Metaphysics.** Presentation of answers to the most general problems of existence. An attempt to unify all scientific approaches to reality through the laying down of common principles.

**301-3 Philosophy of Religion.** An analysis of problems in the psychology, metaphysics, and social effects of religion. Among topics discussed are the nature of mystical experience, the existence of God, and problems of suffering, prayer, and immortality.

**303I-3 Philosophy and Literature.** (University Core Curriculum) An interdisciplinary examination of (1) literary and other artistic works which raise philosophic issues and (2) philosophic writings on the relationship between philosophy and literature. Possible topics include: source of and contemporary challenges to the traditional Western idea that literature cannot be or contribute to philosophy; the role of emotion, imagination and aesthetic value in philosophic reasoning; the role of literature in moral philosophy; and philosophic issues of interpretation.

**306-3 Nineteenth Century Philosophy.** Survey of 19th century European philosophy, focusing on the development of idealism and romanticism. Readings include selections from Fichte, Schelling, Hegel, and others.

- 307I-3 Philosophy of Science, Nature and Technology.** (University Core Curriculum) Interdisciplinary study of major humanistic critiques of technology, science and nature; analysis of topics such as ecology, the information revolution, aesthetics and ethics in various branches of science and technology, relation of science to technology.
- 308I-3 Asian Philosophy.** (University Core Curriculum) An interdisciplinary examination of some major Asian philosophy traditions, such as Vedanta, Buddhism, Confucianism, Taoism, or Sufism, in their historical and social contexts.
- 309I-3 Philosophy of Politics, Law and Justice.** (University Core Curriculum) An interdisciplinary exploration of classical and modern theories of law and justice with special attention to their implications for important contemporary political issues.
- 313-3 Chinese Philosophy.** Historical and comparative study of Confucianism, Taoism, Mohism, Legalism, and Buddhism.
- 315-3 Indian Philosophy.** A survey of Hinduism, Buddhism and Jainism in their historical and cultural context. Emphasis on *Upanishads*, *Bhagavad Gita* and Buddhist scriptures.
- 317-3 Philosophy of Buddhism.** Survey of ancient and modern Buddhist thought in India, China and Japan.
- 320-3 Deductive Logic.** Main forms of deductive inference. Emphasis on the use of the symbolism of modern logic to evaluate inferences.
- 340-3 Ethical Theories.** Nature of ethics and morality, ethical skepticism, emotivism, ethical relativism, and representative universalistic ethics. Bentham, Mill, Aristotle, Kant, Blanshard, and Brightman.
- 342-3 Legal and Social Philosophy.** Discussion of contemporary institutions designed to achieve socially desirable goals (e.g., guaranteeing equality of opportunity, protecting individual liberties, assuring a fair distribution of wealth, minimizing violent behavior) and the philosophical theories that serve as the foundation for the continued existence or reform or abolition of these institutions (e.g., the theories of Mill, Rawls, and Kant).
- 344-3 The Biomedical Revolution and Ethics.** Changes in biology and medicine have brought into sharp focus such problems as allocation of scarce medical resources, use of human subjects in experiments, abortion, euthanasia, genetic screening, truth-telling in medical practice, moral rights of patients and other matters. This course brings ethical principles to bear on these issues.
- 362-3 Science and Technology in Western Societies.** A study of the development and significance of science and technology in the shaping of western societies since the scientific revolution. Historical, philosophical, and sociological perspectives will be used to understand the relationships between science and technology and between these and other cultural and religious values.
- 371-3 Introduction to Contemporary Phenomenology.** Introductory survey of individual thinkers and questions in the contemporary phenomenological tradition: Husserl, Sartre, Merleau-Ponty, Levinas, and Ricoeur.
- 375-3 Ecology and Ethics.** An exploration of several views of the relationship between human beings and the natural world. This course will examine the changing paradigms of environmental studies for insights on our epistemological and moral approaches to nature. Both classical and contemporary literature on nature will be used. Such topics as the Gaia hypothesis, ecofeminism, deep ecology, and the use of nature for human purposes will be addressed.
- 389-3 Existential Philosophy.** Surveys the two main sources of existentialism, the philosophies of Kierkegaard and Nietzsche, with occasional reference to thinkers such as Sartre, Heidegger, Buber, Marcel, and others.
- 397-6 (3,3) Undergraduate Philosophy Seminar.** Small group discussion of topics in philosophy.
- 400-3 Philosophy of Mind.** An investigation of the philosophic issues raised by several competing theories of mind, focusing on the fundamental debate between reductionistic accounts (e.g., central state materialism, identity theories of the physical and mental) and views which reject such proposed reductions. Traditional and contemporary theories will be examined. Designed for students in the life and social sciences with little or no background in philosophy as well as philosophy students.
- 415-3 Logic of Social Sciences.** (Same as Sociology 415.) An examination of the theoretical structure and nature of the social sciences and their epistemological foundations. The relationship of social theory to social criticism; theory and praxis. Historical experience and social objectivity. Social theory as practical knowledge.
- 420-3 Symbolic Logic.** Survey of basic concepts, decision procedures, and proof techniques of modern symbolic logic.
- 425-3 Philosophy of Language.** (Same as Speech Communication 465 and Linguistics 425.) An investigation into the way in which language is based on the nature of human cognitive structures, including metaphor, prototypes, frames, and various kinds of imaginative structure. Central topics include the grounding of meaning and conceptual structure in bodily experience, the role of imagination in reasoning, and the metaphorical nature of thought.
- 435-9 (3,3,3) Philosophy of Science.** (a) Critical survey of influential description of scientific method and theory construction. Topics include the relationship between observation and theory confirmation, explanation, prediction, theory of change and discovery, and view of scientific rationality. Historical cases will serve to focus the discussions. (b) Philosophy of the Special Sciences. This course will focus on philosophical issues within a specific science such as Biology, Physics, or Psychology. Theory, method, and historical development of the specific science will be examined. (c) Special Topics in the Philosophy of Science. This course will provide a detailed focus on specific orientation or topic relevant to philosophy of science. Topics would include naturalized epistemology, evolutionary epistemology, history and philosophy of science, feminist epistemology, modern science, and philosophy of nature.
- 441-3 Philosophy of Politics.** (Same as Political Science 403.) The theory of political and social foundations; the theory of the state, justice, and revolution. Classical and contemporary readings such as: Plato, Aristotle, Hobbes, Locke, Rousseau, Marx, Dewey, Adorno and others. Prerequisite: 340 or Philosophy 102 or consent of instructor.

**443-3 Philosophy of History.** The rise of historical objectivity and the science of history. Classical and modern theories of history. History as the foundation of social knowledge. The critique of history as universal perspective. Prerequisite: consent of instructor.

**446-3 Philosophical Perspectives on Women.** (Same as Women's Studies 456.) Discussion of contemporary views of women and social issues from a feminist perspective.

**460-3 Philosophy of Art.** We will examine several important theories that define art by focusing in on only one aspect, for example, imitation, expression, form, institutional setting, or even indefinability. What role does imagination play in each of these accounts, and does this tell us something important about how people experience their world?

**468-9 (3,3,3) Kant (a) First Critique; (b) Theory of Morality; (c) Aesthetic Theory.**

**469-3 Hellenistic and Roman Philosophy to Augustine.** The career of philosophy during the Hellenistic, Roman and Early Medieval period, especially as a means of personal salvation exploring such figures and movements as: Epicurus, Stoicism, the Middle Academy, Skepticism, Gnosticism, Plotinus, Early Christianity, Augustine, and Boethius. Prerequisite: 304 or consent of instructor.

**470-6 (3,3) Greek Philosophy. (a) Plato.** A general survey of the Platonic dialogues from the Socratic period through the middle, with some selections from the Late period. Such Dialogues will be emphasized as: Protagoras, Gorgias, Euthydemus, Charmides, Meno, Phaedo, Symposium, Republic, Phaedrus, Sophist and Timaeus. **(b) Aristotle.** A general survey of the Aristotelian philosophy including the theory of nature, metaphysics, ethics, and political philosophy. Readings will consist of selections from the corpus. Prerequisite: 304 or consent of instructor.

**471-3 Medieval Philosophy.** An examination of the synthesis of Greek philosophy with the Judeo-Christian and Islamic religions, exploring such figures as Augustine, Boethius, Avicenna, Averroes, Abelard, Maimonides, Thomas Aquinas, Duns Scotus, Ockham, and Cusanus. Prerequisite: 304 or consent of instructor.

**472-6 (3,3) The Rationalists. (a) Descartes.** A study of the Philosophy of Rene Descartes, concentrating on his major writings, *Meditations*, *Discourse on Method* and *Principles of Philosophy*, as well as his philosophical correspondence. May include study of Descartes' relation to the later Rationalists. **(b) Study of the philosophy of one or more of Spinoza, Leibniz, Arnauld, Malebranche, Wolff.** May include study of the relation of these philosophers to Descartes. Prerequisite: 205 or consent of instructor.

**473-6 (3,3) The Empiricists. (a) Locke; (b) Hume.** Study of the principles of British empiricism as represented by either Locke or Hume. May also include study of Berkeley. Prerequisite: 305 or consent of instructor.

**474-12 (3,3,3,3) 19th Century Philosophers. (a) Hegel; (b) Kierkegaard; (c) Marx; (d) Nietzsche.** Prerequisite: 306 or consent of instructor.

**475-3 Asian Philosophy.** Topics in Confucianism, Taoism, or Buddhism.

**480-3 History of Analytic Philosophy.** An introduction to the works of several major 20th Century philosophers in the analytic tradition, including several of the following: Frege, Russell, Moore, Wittgenstein (early and later), members of the Vienna Circle, Ayer, Ryle, Quine, Putnam, Davidson. Includes discussion of challenges to the tradition that have developed within it.

**482-3 Recent European Philosophy.** Philosophical trends in Europe from the end of the 19th Century to the present. Phenomenology, existentialism, the new Marxism, structuralism, and other developments. Language, history, culture and politics.

**486-3 Early American Philosophy.** From the Colonial period to the Eve of World War I. This course will trace the transplantation of European philosophy to the New World. Puritanism, Quakerism, the theory of the American Revolution, the philosophical basis of the Constitution, transcendentalism, idealism, Darwinism and pragmatism and such figures as: Jonathan Edwards, John Woolman, Thomas Jefferson, James Madison, Ralph Waldo Emerson, Josiah Royce, Charles Sanders Peirce, and William James.

**487-3 Recent American Philosophy.** From World War I to the Present. The major American philosophers of the 20th Century, covering such issues as naturalism, emergentism, process philosophy, and neopragmatism. Figures include: John Dewey, George Herbert Mead, George Santayana, Alfred N. Whitehead, C. I. Lewis, W. V. Quine, and Richard Rorty.

**490-2 to 8 Special Problems.** Hours and credits to be arranged. Courses for qualified students who need to pursue certain topics further than regularly titled courses permit. Special topics announced from time to time. Students are invited to suggest topics. Prerequisite: consent of department.

**491-1 to 6 Undergraduate Directed Readings.** Supervised readings for qualified students. Open to undergraduates only. Prerequisite: consent of instructor. Additional hours beyond three (3) must have approval of the Director of Undergraduate Studies.

**499-3 Senior Thesis.** A paper on a topic agreed to by the student and a faculty thesis director. The paper should be of sufficient length to manifest the student's mastery of a philosophical area and logical and critical skills. Not for graduate credit. Prerequisite: consent of instructor and department.

## Physical Education (PE)

**100-2 Foundations of Physical Education.** An orientation to physical education including relationship of physical education to education and current trends and philosophies which underlie the practice of physical education and sport.

**101-2 Current Concepts of Physical Fitness.** (University Core Curriculum) To foster a thorough understanding of scientific principles of physical fitness and to enhance the ability to utilize physical exercise toward achievement of healthful living.

**102-2 to 12 (2 per section) Aquatics.** These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Swimming suits and towels are provided; however, stu-

dents may provide their own one piece swimming suit (no pockets), towel and cap (optional). Long hair must be tied back. Goggles are recommended for some classes. A \$2 fee is required for all classes listed. Mandatory Pass/Fail grading. (a) Swimming I: Orientation to Swimming. Prerequisite: course is open only to non-swimmers. (b) Swimming II: 102a or equivalent skills and safe in deep water. (c) Skin Diving. Prerequisite: consent of instructor and pass swimming test prior to enrollment. (d) Scuba Diving. Fee and successful completion of National Test required for certification, special sections have extra charge for field trips. Prerequisite: consent of instructor and pass swimming test prior to enrollment. (e) Aquatics Emergency Water Safety. Course prepares students to meet the requirements for certification by the American Red Cross in emergency water safety. Prerequisite: 101a or equivalent swimming skill; five minutes continuous swim: fifty yards each of sidestroke and front crawl in good form; jump into deep water, swim twenty feet under water, surface and tread water for one minute. (f) Lifeguarding. Fee and successful completion of National Test required for certification. Prerequisite: 102b or equivalent skill and pass swimming test first day of class (500 yard continuous swim using front crawl, sidestroke and breaststroke, treadwater two minutes-legs only, retrieve a ten pound brick from seven foot depth).

**103-2 to 12 (2 per section) Dance.** These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Students must wear clothing appropriate for the activity. A fee of \$2 is required for all classes listed. (a) Ballet, (b) Ballroom, (c) Jazz, (d) Modern, (e) Square, (f) Tap.

**104-2 to 12 (2 per section) Fitness.** These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Students must wear clothing appropriate for the activity. A fee of \$2 is required for all classes listed. (a) Aerobic dance, (b) Cycling, bicycle required and helmet, (c) Running, (d) Strength training, (e) Walking and jogging, (f) Weight control.

**105-2 to 14 (2 per section) Individual and Dual Activities.** These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Students must wear clothing appropriate for the activity. A fee of \$2 is required for all classes listed. (a) Badminton, three shuttlecocks required, (b) Bowling, additional lane fee of \$18 per credit hour and bowling shoes required, (c) Golf, six plastic golf balls required, (d) Racquetball, three racquetballs required, (e) Tennis, three tennis balls and racquet, (f) Self defense, (g) Wrestling.

**106-2 to 10 (2 per section) Team Activities.** These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Students must wear clothing appropriate for the activity. A fee of \$2 is required for all classes listed. (a) Basketball, (b) Flag football, (c) Soccer, (d) Softball, (e) Volleyball.

**107-1 to 4 Restricted Physical Education.** For physically challenged students as recommended by Health Service and consent of instructor. Course not designed for students who can take other physical activity courses. Mandatory Pass/Fail.

**113-2 Aquatics.** This course provides the opportunity for the student to improve one's ability in swimming skills and strokes. It is designed to prepare the student to be safe in, on and around the water. It prepares the student to react in emergency situations by knowing and having the ability to perform the proper rescue techniques to use while maintaining one's own safety. Prerequisite: 102a or equivalent skill.

**114-2 Concepts of Physical Fitness.** A course designed to provide physical education students with the best scientific evidence to promote health related physical fitness.

**115-3 Exercise, Conditioning, and Weight Training.** Designed to improve personal fitness, introduce students to different training programs, their benefits and means of evaluation.

**116A-1.5 Team Sports I.** This course is designed to expose the student to the basic skills, rules and strategies in the team sports of soccer, flag football, and volleyball.

**116B-1.5 Team Sports II.** This course is designed to expose the student to the basic skills, rules and strategies in the team sports of basketball, floor hockey, and softball.

**117-1 Racquet Sports.** This course is designed to teach the basic skills, techniques, strategies and rules in tennis, badminton, and racquetball.

**118A-1 Dance I.** This course is designed to introduce the student to the fundamentals of square, folk, and social dance.

**118B-1 Dance II.** This course is designed to introduce the student to the fundamentals of rhythm and rhythmic analysis of basic dance steps, the fundamentals of modern dance, and the basics of aerobic dance.

**120-1 Individual Sports.** This course is designed to help students develop the basic skills and knowledge in archery, bowling, and golf. A fee of \$15 or less and equipment purchase.

**121-1 Basic Gymnastics and Combatives.** This course is designed to provide an introduction to the basic skills in stunts, tumbling, gymnastics, and combatives.

**122-2 Track and Field.** This course is designed to provide an introduction to the basic skills and knowledge in track and field activities.

**160-2 to 8 (2,2,2,2) Dance Concert Production Ensemble.** A select group which performs, choreographs, and produces one dance concert per semester and tours as feasible. Prerequisite: audition prior to first registration and consent of instructor each succeeding semester. Participation as an apprentice of Southern Illinois Repertory Dance Theatre for one semester.

**170-2 Varsity Sports.** The course is designed to teach skills and strategies as well as the rules and practices involved in a selected varsity sport. Prerequisite: Names must appear on an official NCAA squad list and consent of instructor.

**202-3 Physical Activities for Children and Youth.** Developing activities for motor perceptual development and skill acquisition appropriate for different age levels of children and youth. Tennis shoes required. Dress must permit ease of movement. Prerequisite: at least sophomore standing.

**205-2 Mental Skills for Sport and Performance.** This course is designed for individuals involved in sport, exercise, and/or performance with an interest in learning about and developing a repertoire of psychological skills for use in sport, performance, and daily life.

**225-2 Introduction to Athletic Training.** This course is designed for students pursuing a career in athletic training. The course provides knowledge about the NATA, job opportunities, incidence of injury, basic injury prevention, recognition and treatment. It also provides the student with information concerning the recognition and treatment of illnesses and conditions common to athletes.

**226-1 Taping Techniques.** To familiarize the student with all aspects of taping including practice taping experience for athletic injuries.

**245-3 Sport and Modern Society.** (Same as Sociology 233.) Viewing sport as an integral aspect of society and culture, this introductory course examines the various ways in which sport reflects the broader society and how sport constitutes an important cultural product. In particular, the course explores (1) how sport shares many of the same characteristics as other social institutions (e.g., family, education, politics, economy, mass media), (2) how sport reinforces social inequalities, and (3) how sport serves as an arena for social change and resistance.

**257-1 to 5 Current Work Experience.** The student receives credit for current work experiences. Credit is awarded for many practical experiences and must be related to physical education and in process. Prerequisite: at least C average in physical education after 12 hours. Mandatory Pass/Fail.

**258-1 to 5 Work Experience.** The student receives credit for past work experiences. Credit is awarded for many practical experiences and must be related to physical education and already completed. Mandatory Pass/Fail. Prerequisite: at least C average in physical education courses after 12 hours.

**301-2 Organization and Administration of Physical Education.** Consideration of the special problems related to the organization, administration and curriculum in physical education.

**302-2 Kinesiology of Normal and Pathological Conditions.** Force system, its relation to the mechanics of muscle action. Analysis of muscular-skeletal forces involved in physical activities. Prerequisite: Physiology 220.

**303-2 Kinesiology.** Force system, its relation to the mechanics of muscle action. Analysis of muscular-skeletal forces involved in physical education activities. Prerequisite: Physiology 220.

**304-2 Mechanical Basis of Human Movement.** Applies body mechanics with application of mechanical laws and principles to performance in physical activities. Prerequisite: 303 or consent of instructor.

**305-2 Methods of Teaching Physical Education for Special Populations.** An introductory course designed to provide the physical education generalist with the minimal competencies needed to teach the mildly physically challenged students in the mainstreamed or special education setting. The course will also aid the special education classroom teacher in providing appropriate physical education. Prerequisite: 317 and junior standing.

**306-1 Advanced Swimming, Skill and Analysis.** Prerequisite: Physical Education 102b or equivalent.

**307-2 Water Safety Instructor.** Methods of teaching swimming and basic emergency water safety. American Red Cross Water Safety Instructor certificate may be earned. Fee and National Test are required for certification. Prerequisite: Physical Education 102e or equivalent certification and concurrent enrollment in PE 306.

**308-2 to 10 (2,2,2,2,2) Instructor of Aquatics.** (a) Handicapped. (b) Skin diving. (c) Scuba diving. (d) Canoeing. (e) Swimming. Prerequisite: consent of instructor.

**309-3 Creative Movement for Children.** Curriculum planning practicum experience using movement as a means of self-expression for the child to enhance mental, emotional, and physical development. During the first eight weeks, students will study various aspects of dance as can be applied to creative movement for children; the second eight weeks, students will work directly with children on a weekly basis. Prerequisite: sophomore standing.

**310-2 Aquatics Facilities Management.** Learning experiences designed to aid in the development of aquatic specialists who can efficiently work toward satisfactory solutions to the problems inherent in functional design, operation, and maintenance of aquatic facilities that are associated with schools, municipalities, and other organizations.

**311-2 Lifeguarding Instructor.** The skills, techniques and methods of preparing qualified individuals to prepare persons to become lifeguards at pools and open-water, non-surf beaches, American Red Cross Lifeguard Instructor Certification may be earned. Fee and National Test required for certification. Prerequisite: Physical Education 102f or equivalent certification. Lifeguarding experience.

**312-2 Science and Pedagogy of Swimming.** Designed to provide students: (1) a scientific basis for teaching swimming and (2) a necessary background as a future professional in the aquatic field. Prerequisite: 307 or equivalent. Previous teaching or coaching swimming required.

**314-2 Methods of Teaching Elementary Physical Education.** The purpose of this course is for physical education students to develop knowledge and skills for planning, implementing, and evaluating appropriate and effective physical education programs at the elementary school level. The course will consist of lectures, class participation in demonstrations of teaching movement for children, observation of children participating in activity and also peer teaching by class members. Prerequisite: 318 and 317.

**315-2 Methods of Teaching Dance.** Curriculum planning for the dance student, covering analysis of dance fundamentals, identifying dance terminology, movement phrasing, accompaniment for class, and lesson planning. Focus will be on the structuring of modern dance and ballet classes at the beginning level. Dance attire required. Prerequisite: two semesters of modern technique and two semesters of ballet, both above the core curriculum education level.

**316-3 Advanced Level Sports Skills: Scuba.** Prerequisite: consent of instructor.

**317-2 Motor Development.** The purpose of this course is to provide an introduction to the normal development of motor behavior in children and adolescents, biological and environmental variables which affect motor skill acquisition; and the assessment of motor development in children and youth, with particular emphasis on the application of the knowledge to teaching and learning situations.

**318-2 Motor Learning.** Study of theory and research emphasizing the psychological and neural basis of underlying the learning of motor skills; application to physical education teaching and athletic coaching environments. Prerequisite: Psychology 102.

**319-2 Physiological Foundation of Exercise and Sport.** This course is designed to provide basic physiologic information regarding exercise and sport performance. This course is open to Teacher Education majors only. Prerequisite: Physiology 201 or equivalent.

**320-3 Physiological Basis of Human Movement.** Immediate and long range effects of muscular activity on the systems. Integrative nature of body functions and environmental influences on human performance efficiency. Laboratory to be arranged. Prerequisite: Physiology 201 or equivalent.

**321-2 Biomechanical Analysis of Sport.** The science of human motion; study of anatomical and mechanical principles as they relate to an understanding of skillful and efficient motion. This course is open only to undergraduate Teacher Education students. Prerequisite: Physiology 220.

**322-1 Teaching Practicum.** Laboratory experience assisting with a Physical Education courses or in a school setting. Mandatory Pass/Fail.

**323-2 Methods of Teaching Secondary Physical Education.** The purpose of this course is for physical education students to develop knowledge and skills for planning, implementing, and evaluating appropriate and effective physical education programs at the secondary school level. The course will focus on knowledge and skills related to effective instructional strategies, efficient management and organizational principles, and effective class control and motivational techniques specific to teaching physical education for secondary school students. Prerequisite: 317, 318.

**324-2 Essentials of Athletic Training.** This course provides basic information regarding prevention, recognition, first aid, taping and wrapping of athletic injuries. The student will be required to successfully demonstrate basic strapping techniques, bandaging, splinting and CPR. The course leads to certification in first aid and CPR. Certification fees payable to the local organization will be collected in class.

**325-2 Training Room Techniques.** Intended for the student who wishes to complete a specialty as athletic trainer. Provides knowledge concerning the organization and administration of a training room, the installation and use of its modalities, and general procedures of training room operational functions. Prerequisite: Physiology 220 or 301.

**326-3 Emergency Care and Prevention of Athletic Injuries.** The theoretical and practical methods of preventing and treating athletic injuries; techniques of taping and bandaging; emergency first aid; massage; use of physical therapy modalities. Lecture and laboratory sessions. Prerequisite: Physiology 220 or 301.

**327-2 Medical Aspects of Athletic Injury.** The student will acquire an advanced understanding of the proper prevention and rehabilitation of athletic injuries. The student will also understand medical and surgical procedures and their consequent factors to be considered in treatment programs. Prerequisite: 326.

**328-2 (1, 1) Field Experience in Athletic Training.** The student will be responsible for prevention of injuries, taping, rehabilitation, evaluation, and coverage of practices and games for an intercollegiate athletic sport. Prerequisite: 327 and permission by athletic training program coordinator.

**329-3 Principles and Procedures for the Conduct of Interscholastic Athletics.** An examination of the history, values, and trends in extracurricular sports programs. A review of regulations and standards as determined by the governing bodies for men's and women's sports and an in-depth study of coaching and administrative procedures. Prerequisite: competitive experience recommended and consent of instructor.

**330-2-26 (2 per part) Techniques and Theory of Coaching.** (a) Basketball. (b) Football. (c) Swimming. (d) Baseball. (e) Track and field. (f) Wrestling. (g) Tennis. (h) Gymnastics. (i) Golf. (j) Badminton. (k) Field hockey. (l) Softball. (m) Volleyball. Prerequisite: consent of instructor.

**341-2 Assessment of Musculoskeletal Injuries.** The student will be introduced to the techniques in evaluating injuries to muscles and joints. Prerequisite: basic athletic training course and consent of instructor.

**345-2 Psycho-Social Aspects of Sport and Physical Activity.** This course exposes students to psychological and sociological concepts that influence or are influenced by involvement in sport and physical activity. Primarily designed for future physical education teachers and coaches, the course examines how psycho-social principles relate to teaching and coaching contexts.

**355-2 to 14 (2,2,2,2,2,2) Practicum.** (a) Aquatics. (b) Special populations. (c) Coaching. Mandatory Pass/Fail. (d) Athletic training. (e) Dance. (f) Exercise science. (g) Teaching of sport. Prerequisite: restricted to written consent of instructor.

**360-1 to 2 Theory of Officiating.** This course provides information on officiating sports. The course will cover the basic theory of officiating and provide the student with the opportunity to gain practical experience from the officials perspective in selected sport activities. Prerequisite: consent of instructor.

**370-2 Measurement and Evaluation in Physical Education.** The theory of measurement in physical education, the selection and administration of appropriate tests of motor skills and the interpretation of results. Prerequisite: Education 317 or concurrent enrollment.

**375-2 Introduction to Professional Literature in Physical Education.** An introduction to the professional literature in physical education with emphasis on the reading of research-oriented journals. Prerequisite: senior standing and grade point average of 3.25.

**380-2 Aerobics.** A study of theoretical and practical framework within which the concepts of aerobic fitness exist. Both an evaluation and a hands-on experience with the direct and indirect procedures commonly used to determine oxygen uptake capacity and aerobic power. A thorough discussion of the meaning of aerobic fit-

ness as it applies to general fitness of the adult and aging person. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

**381-2 Exercise and Weight Control.** A theory practicum course dealing with the interrelationships of exercise and diet as factors influencing weight control. Emphasis on the practical delivery of programs of weight control in the context of adult programs of physical fitness. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

**382-3 Graded Cardiovascular Testing and Exercise Prescription.** A study of the controlled use of exercise to evaluate the cardiovascular function of an adult population and in specific persons of middle and older aged groups. The scientific basis of recommending exercise programs as a preventive rather than a treatment of heart disease will be stressed. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.

**407-2 Advanced Theory and Techniques in the Prevention and Rehabilitation of Athletic Injuries.** The application of scientific principles to the theoretical and practical methods of preventing and treating athletic injuries. Prerequisite: Basic Athletic Training Course.

**408-2 Physical Fitness: Its Role and Application in Education.** An analysis of physical fitness as it relates to the total well-being of people. Specific units on the fitness parameters, hypokinetic disease and physical inactivity, stress, current level of fitness, training programs, and the beneficial aspects of regular exercise. Major emphasis is placed upon incorporating current thinking on physical fitness into the development of teaching models.

**409-3 Social Aspects of Sport and Physical Activity.** This course presents the theoretical and empirical foundations of sport sociology. A research-based approach is used to explore the relationship of sport to various social institutions, as well as the role of social processes (e.g., socialization, discrimination, stratification, conflict) in sport and physical activity contexts.

**410-3 Psychological Aspects of Sport and Physical Activity.** This course presents the theoretical and empirical foundations of sport psychology. Operating from a conceptual rather than an applied framework, this class develops an understanding of social psychological phenomenon and processes related to participation in sport and physical activity (e.g., personality, anxiety, arousal, achievement motivation, social facilitation, aggression, pro-social behavior, group dynamics).

**412-3 Research and Practice in Applied Sport Psychology.** This course examines current research and practice in applied sport psychology. Emphasis will be placed on moving from theory into practice on sport-specific individual differences, motivational approaches, and interventions.

**418-2 Administration of Aquatics.** The study of comprehensive aquatic programs, their implementation and coordination.

**420-3 Physiological Effects of Motor Activity.** The general physiological effects of motor activity upon the structure and function of body organs; specific effect of exercise on the muscular system. Prerequisite: Physiology 201 or equivalent.

**421-3 Principles of Skeletal Muscle Action.** The neural, physiological and mechanical basis of skeletal muscle action and plasticity in relation to the expression of strength and power. Prerequisite: Physiology 209 or equivalent.

**425-2 Current Topics in Athletic Training.** This course is designed to study and discuss current issues in athletic training and the health care of the athlete.

**426-2 Advanced Techniques and Research in Therapeutic Modalities.** Specifically designed for the student who wishes to become an athletic trainer and gain knowledge in the application and current research in therapeutic modalities.

**493-2 to 4 Individual Research.** The selection, investigation, and writing of a research topic under supervision of an instructor. (a) Dance. (b) Kinesiology. (c) Measurement. (d) Motor development. (e) Physiology of exercise. (f) History and philosophy. (g) Motor learning. (h) Psycho-social aspects. Written report required. Prerequisite: consent of adviser and department chair.

**494-2 (1,1) Practicum in Physical Education.** Supervised practical experience at the appropriate level in selected physical education activities in conjunction with class work. Work may be in the complete administration of a tournament, field testing, individual or group work with special populations, administration of athletics or planning physical education facilities. Prerequisite: consent of adviser.

## Physical Therapist Assistant (PTH)

**107-3 Introduction to Physical Therapy Practice and Procedures.** Students will be able to describe the historical background, professional, ethical, and legal aspects of physical therapy practice. They will be able to describe the relationship of physical therapy to total health care. They will explain and demonstrate basic skills such as sterile techniques, wound care, and vital signs monitoring. They will be able to perform massage techniques to selected patients. Lecture: two hours. Laboratory: two hours. Prerequisite: program major or consent of instructor.

**113-2 Physical Agents I.** The students will be able to demonstrate procedures used in the safe application of superficial and deep heat, cryotherapy, ultraviolet, paraffin, and hydrotherapy. Lecture one hour. Laboratory two hours. Prerequisite: program major or consent of instructor.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor and department chair.

**202-2 Physical Rehabilitative Techniques.** The student will be able to demonstrate rehabilitative procedures such as bed positioning, range of motion exercises, transfer activities, gait training, chest physical therapy, goniometry, and will understand the concepts of total rehabilitation. Lecture one hour. Laboratory two hours. Prerequisite: program major or consent of instructor.

**203-2 Pathology.** The student will be able to understand the fundamental basis of disease including inflammation, cardiovascular diseases, vascular diseases, arthritic conditions and repair of bone and soft tissue injuries. Emphasis will be placed on those conditions treated through physical therapy procedures. Lecture two hours. Prerequisite: Physiology 208 and 209; program major or consent of instructor.

**204-2 Physical Therapist Assistant, Practicum I.** Students will be able to carry out routine physical therapy assisting procedures with selected patients. They will be able to demonstrate skills in massage, hydrotherapy, range of motion exercises, activities of daily living, and application of heat, cold, and ultraviolet. They will also be able to assist in maintaining records and equipment. Lecture one hour. Clinic four hours. Prerequisite: program major or consent of instructor.

**205-2 Physical Therapy Science.** The students will be able to describe selected medical and surgical conditions from the standpoint of etiology, clinical signs and symptoms, and physical therapy treatment. Lecture two hours. Prerequisite: program major or consent of instructor; Physiology 208, 209, and 220.

**208-3 Therapeutic Exercise I.** Designed to teach basic exercises for individual muscles or muscle groups, including breathing, postural exercises, manual muscle testing, and gait analysis, training and balance. Successful students will learn to select exercises for specific results; i.e., increasing strength, coordination, endurance, flexibility, and proper body mechanics. Lecture two hours. Laboratory two hours. Prerequisite: Physiology 220 with a minimum grade of C; program major or consent of instructor.

**209-4 (2,2) Therapeutic Exercise II.** Successful students will be able to administer therapeutic exercise techniques for specific clinical orthopedic and neurological conditions through demonstrations and supervised application of exercise for selected patients. The student will understand and safely apply the principles of advanced therapeutic exercise techniques such as (a) motor reflexes, sensory integration, normal motor development, and utilization of synergies. Lecture one hour. Laboratory two hours. (b) PNF, joint mobilization, and muscle balancing. Lecture one hour. Laboratory two hours. Prerequisite: 208 with a minimum grade of C; program major or consent of instructor.

**213-3 Physical Agents II.** The student will be able to demonstrate procedures used in the safe application of electrical currents, electrical muscle stimulation and electrotherapy for pain and healing functions; and other modalities including pelvic traction, cervical traction and intermittent compression. The student will understand and be able to describe the physiological effects, indication and contraindications for each physical agent covered. Lecture two hours. Laboratory two hours. Prerequisite: program major or consent of instructor.

**214-3 Physical Therapist Assistant, Practicum II.** Students will be able to perform the skills acquired in Practicum I as well as more complex physical therapy assisting procedures with selected patients. They will be able to demonstrate skills in therapeutic exercise and safe application of physical agents. They will be able to assist in maintaining records and developing cooperative spirit with other members of the department. Lecture one hour. Clinic five hours. Prerequisite: minimum grade of C in 107, 113, 202, 203, 204, 208, and 213.

**299-1 to 16 Individual Study.** Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor and department chair is required.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**321-8 (4,4) Clinical Internship.** The successful student will be able to apply previously learned theories and techniques of patient care through closely supervised practicum experience in two separate physical therapy facilities. (a) First six week internship. (b) Second six week internship. Must be taken in a,b sequence. Prerequisite: must be taken concurrently with 322; completion of 107, 113, 202, 203, 204, 205, 208, 209, 213, and 214 with a grade of C or better.

**322-2 Clinical Seminar.** Students will be able to discuss with the coordinator of the program patient care and problems encountered during internship. They will have the opportunity to evaluate their educational experience at Southern Illinois University at Carbondale and their clinical internship experience. Prerequisite: concurrent enrollment in 321. Mandatory Pass/Fail.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions and health service occupations offered through various workshops, special short courses and seminars. Hours and credit to be individually arranged. This course may be classified as individual study. Prerequisite: consent of instructor.

## Physician Assistant (PA)

**300-8 Physician Assistant I.** An introduction to the role and skills of the physician assistant. Students will be introduced to patient's histories, physicals, interviewing and triage skills, and the development of skills necessary to organize information. This course will be in a problem based learning format. Prerequisite: acceptance into Physician Assistant program.

**310-16 Physician Assistant II.** This course is a continuation of Physician Assistant 300. Students will learn additional skills and roles of the Physician Assistant through learning sessions, observations, practice sessions and actual practice. Students will increase their knowledge and appreciation of primary care, community

medicine and epidemiology through exposure to PBL cases on: depression, family planning /STD/ contraception, hypertension/patient compliance, immunizations, middle ear infections and unintentional injury. Prerequisite: 300.

**320-16 Physician Assistant III.** A continuation of 310. Students will continue to add to the role and skills of the Physician Assistant. Emphasis will be placed on the common problems and referrals for primary care in rural medicine. Prerequisite: 310.

**420-6 Physician Assistant Clinical Rotation I.** This is the first and introductory course in a three course sequence. During the three course sequence, students will complete eight clinical rotations including family medicine, obstetrics, pediatrics, surgery, psychiatric, gerontology, emergency and internal medicine. Rotations vary from two to eight weeks at each clinical site. The first rotation is usually eight weeks in family or internal medicine during which students will observe and work under close supervision with a clinical supervisor and physician. Prerequisite: restricted to physician assistant majors, consent of instructor, 3.0 gpa in the major, completion of the first year didactic sequence.

**430-12 Physician Assistant Clinical Rotation II.** This is the second and intermediate course in a three course sequence. During the three course sequence, students will complete eight clinical rotations including family medicine, obstetrics, pediatrics, surgery, psychiatric, gerontology, emergency and internal medicine. Rotations vary from two to eight weeks at each clinical site. The second rotation will include either family or clinical medicine and depending on scheduling, the student will complete two to three additional rotations. The student will observe and begin to function as a physician assistant for routine health problems under the supervision of a clinical supervisor and physician. Prerequisite: restricted to physician assistant majors, consent of instructor, 3.0 gpa in the major, 420.

**440-12 Physician Assistant Clinical Rotation III.** This is the third and advanced course in a three course sequence. During the three course sequence, students will complete eight clinical rotations including family medicine, obstetrics, pediatrics, surgery, psychiatric, gerontology, emergency and internal medicine. Rotations vary from two to eight weeks at each clinical site. During the third rotation students will complete all remaining rotations during which they will continue to observe and function more independently as a physician assistant under the supervision of a clinical supervisor and physician. Prerequisite: restricted to physician assistant majors, consent of instructor, 3.0 gpa in the major, 430.

**450-2 Senior Seminar.** A topical seminar in conjunction with clinical rotation and medical case presentation designed to review and build on the student's medical knowledge base. Problem areas identified during clinical rotations will be utilized as lecture topics. Students will practice board exams, review licensure procedures and prepare for transition to permanent employment. Prerequisite: restricted to physician assistant majors, consent of instructor, 3.0 gpa in the major, 440 or concurrent enrollment.

## Physics (PHYS)

**101-3 The Physics of Modern Communications: From Hi-Fi Sound to Laser Beams.** (University Core Curriculum) The laws of nature necessary for understanding modern communications such as high fidelity, sound, radio, television and laser beams are presented. Topics include wave phenomena, sound, electricity, magnetism and light. Applications to sound recording and communications and the technical vocabulary necessary to critically evaluate high fidelity equipment are emphasized.

**102-1 Everybody's Einstein.** A non-mathematical presentation of Einstein's relativity theories on a popular level. No prerequisite.

**103-3 Astronomy.** Fundamental concepts of the physical sciences are used in the exploration of the observable universe. Studies include the history and techniques of astronomy, planets, stars, black holes, galaxies and cosmology. Lectures are supplemented by outdoor astronomical observations and/or indoor laboratory exercises.

**202-3 Astronomy.** Fundamental concepts of the physical sciences are used in the exploration of the observable universe. Studies include the history and techniques of astronomy, planets, stars, black holes, galaxies and cosmology. Lectures are supplemented by laboratory work, outdoor astronomical observations.

**203-6 (3,3) College Physics.** Designed to meet preprofessional requirements and the needs of all students in the sciences, except physics and engineering. (a) Mechanics, heat, and sound. Prerequisite: Mathematics 108 and 109 or 111. (b) Electricity, magnetism, light, and some aspects of modern physics. Prerequisite: 203a.

**205-9 (3,3,3) University Physics.** Designed to meet requirements of physics, engineering, and chemistry majors. (a) Mechanics, heat, and thermodynamics. Prerequisite: Mathematics 150 or concurrent enrollment. (b) Electricity, magnetism, and optics. Prerequisite: 205a. (c) Concepts in modern atomic, molecular, nuclear physics, quantum physics, and relativity. Prerequisite: 205a,b or consent of instructor.

**253-2 (1,1) College Physics Laboratory.** One two-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in 203a,b respectively; if the corresponding lecture course is dropped, the laboratory course must also be dropped.

**255-3 (1,1,1) University Physics Laboratory.** One two-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in 205a,b,c respectively; if the corresponding lecture course is dropped, the laboratory course must also be dropped.

**301-3 Theoretical Methods in Physics.** Introduction to theoretical methods of general usefulness in intermediate and advanced undergraduate physics, with particular emphasis on applications of vector algebra and calculus, complex numbers, matrices, ordinary differential equations and Fourier series to selected topics in physics. Required of all physics majors prior to or concurrently taking 310 or 320. Prerequisite: 205a, Mathematics 250 or consent of instructor.

**302-3 Astronomy – Honors.** Current knowledge of the universe and the gathering of that knowledge. Includes properties of the solar system and theories of its origin, the structure and evolution of stars. Supplemented by occasional hours of evening observation. Prerequisite: one of 203a, 204a, 205a, plus Mathematics 111, or consent of instructor.

**310-3 Mechanics I.** Motions of systems of particles and rigid bodies. Prerequisite: 301 or Mathematics 305 or concurrent enrollment.

**320-3 Electricity and Magnetism I.** The theory of electric and magnetic fields; electrostatic fields in vacuum and in material media, special methods for the solution of electrostatics problems, energy, and force relations in electrostatic fields; stationary electric fields in conducting media, electric currents, magnetic fields, magnetic properties of matter. Prerequisite: 301 or Mathematics 305 or concurrent enrollment.

**324-3 Analog Electronics for the Scientist.** Coordinated two-hour lecture and two-hour laboratory study in analog electronics. Emphasis is on overall modern electronics and its applications in the experimental research laboratory setting. Topics include DC and AC circuit theory, transducers and measurement techniques, semiconductor active devices, operational amplifiers and feedback, signal recovery and processing techniques, and noise reduction. Prerequisite: 203b or 205b and Mathematics 111.

**328-2 Light.** Light propagation, reflection, refraction, interference, diffraction, polarization, and optical instruments. Prerequisite: 203 or 205.

**345-3 Thermodynamics and Statistical Physics.** Thermal behavior of macroscopic matter, the laws of thermodynamics; basis for thermodynamics in statistical mechanics; basic methods and applications of classical and quantum statistical mechanics. Elementary kinetic theory of matter. Prerequisite: 301, Mathematics 251.

**410-3 Mechanics II.** Gravitation, continuous media, transformation properties, Lagrangian and Hamiltonian formalisms. Prerequisite: 310 or consent of instructor.

**420-3 Electricity and Magnetism II.** Induced electromotive force, quasisteady currents and fields, Maxwell's equations, electromagnetic waves and radiation, with applications. Prerequisite: 320 or consent of instructor.

**424-3 Digital Electronics for the Scientist.** Coordinated two-hour lecture and two-hour laboratory study of digital electronics, microprocessors and minicomputers with emphasis on their application to the experimental research laboratory setting. Topics include Boolean algebra, basic digital techniques, large scale integration devices, analog to/from digital conversion, microprocessors and minicomputers, and data acquisition. Prerequisite: 324 or consent of instructor.

**425-3 Solid State Physics I.** Structure of a crystalline solid; lattice vibrations and thermal properties; electrons in metals; band theory; electrons and holes in semiconductors; opto-electronic phenomena in solids; dielectric and magnetic properties; superconductivity. Prerequisite: 310, 320, 345, and 430 or consent of instructor.

**428-3 Modern Optics and Lasers.** Properties of electromagnetic waves in space and media, polarization and interference phenomena and devices, electro- and magneto-optic effects, optical gain, and lasers. Prerequisite: 420 or consent of instructor.

**430-3 Quantum Mechanics I.** An introduction to quantum mechanics including its experimental basis and application in atomic physics. Prerequisite: 205c, 310 and 320. Prior or concurrent enrollment in 410 and 420 is desirable.

**431-3 Atomic and Molecular Physics I.** Atomic spectra and structure; molecular spectra and structure. Prerequisite: 430 or consent of instructor.

**432-3 Nuclear Physics I.** Basic nuclear properties and structure; radioactivity, nuclear excitation, and reactions, nuclear forces; fission and fusion. Prerequisite: 430 or consent of instructor.

**445-3 Statistical Mechanics I.** An introductory course in the principles and applications of classical and quantum statistical mechanics, and the elementary kinetic theory of matter. Prerequisite: 345.

**450-1 Modern Physics Laboratory.** Introduces students to experimental research and encourages them to develop and carry out experiments. Prerequisite: 205c or consent of instructor.

**458-2 Laser and Optical Physics Laboratory.** Properties of laser beams and resonators, fluorescence and two photon spectroscopy, diffraction, Fourier transformation and frequency filtering, electro- and magneto-optic modulation, fiber propagation and related experiments. Prerequisite: 428 or consent of instructor.

**470-1 to 3 Special Projects.** Each student chooses or is assigned a definite investigative project or topic. Prerequisite: 310, 320 or consent of instructor.

## Physiology (PHSL)

**201-3 Human Physiology.** (University Core Curriculum) A course which relates the normal function of the human body to the disruptions which occur in a variety of disease states. Three lecture hours per week. Not open to students who have taken 310.

**208-1 Laboratory Experiences in Physiology.** Laboratory course to be taken concurrently with 209. Provides experiences with small animal experimentation and measurements made on the human subject. One two-hour laboratory per week. Prerequisite: concurrent enrollment in 201.

**220-3 Human Musculoskeletal Anatomy.** Lectures, demonstrations, and observations of the prosected body. Course primarily for students of physical education, with emphasis on musculoskeletal and nervous systems. Three lecture hours per week. Not open to students who have taken 301.

**257-1 to 6 Concurrent Work Experience.** Under exceptional circumstances, and with prior approval of the departmental chair, credit may be granted for practical experience or other work directly related to physiology. Mandatory Pass/Fail.

**258-1 to 6 Previous Work Experience.** Under exceptional circumstances, and after petition to the departmental chair, credit may be granted for practical experience or other work directly related to physiology. Mandatory Pass/Fail.

**259-2 to 8 Occupational Education Credit.** Under special circumstances, advanced training in a paramedical or other field directly related to physiology can be used as a basis for granting credit in physiology. Such credit is sought by petition to the chair of the department and requires approval of the dean of the College of Science.

**301-4 Survey of Human Anatomy.** Lectures, demonstrations, and observations of the prosected body, plus experiences in the anatomy laboratory. Course is designed for students in nursing, mortuary science, biological science, and related disciplines. Three lecture hours and one two-hour laboratory per week. Not open to students who have taken 220.

**310-5 Principles of Physiology.** Beginning course in human physiology designed for majors in physiology and other biological sciences, and recommended to premedical and other students considering biological sciences and health professions. Three lectures per week, one hour discussion and one two-hour laboratory. Prerequisite: one year of biological science and a reasonable knowledge of chemistry.

**320-3 Reproduction and Sexuality.** Comprehensive course examining the physiological basis of mammalian reproduction and the behavioral aspects of sexuality. Human sexuality and reproductive function is the primary focus. Topics include hormonal control, anatomy, ovulation, sexual response and behavior, fertilization, pregnancy and parturition. Human specific topics include reproductive medicine, STDs, paraphilias, birth control and infertility. Prerequisite: one year of biology or permission of instructor.

**400-6 (3,3) Concepts in Anatomy.** A detailed survey of human anatomy for preprofessional students with an interest in the biomedical disciplines, including radiographic, cross-sectional, and developmental anatomy. Three lectures per week. Should be taken in a,b sequence. Prerequisite: 301 and senior standing or consent of instructor.

**401-6 (3,3) Advanced Human Anatomy Laboratory.** Laboratory dissection of the human body (six hours per week). Primarily for students majoring in physiology or other biological sciences, anthropology, etc. Prerequisite: 400 or concurrent enrollment.

**410-10 (5,5) Mammalian Physiology.** Physical and chemical organization and function in mammals, with emphasis on the human. Physiology of blood and circulation, respiration, digestion, metabolism, excretion, endocrines, sensory organs, nervous system, muscle and reproduction. Primary course for all students majoring in physiology or related sciences. Four lectures and one three-hour laboratory session per week. May be taken in any sequence. Prerequisite: college level chemistry and physics and at least junior standing.

**420-6 (3,3) Principles of Pharmacology.** (a) Covers absorption, distribution, and metabolism of drugs and the action of certain drug classes on the living organism. Classes of drugs to be discussed include drugs affecting the autonomic nervous system, drugs used to treat neurological and psychiatric disorders, local anesthetics, neuromuscular blocking agents, and analgesics. Two lectures per week and one two-hour laboratory. Prerequisite: 310 or 410; 410 may be taken concurrently; organic chemistry. Some knowledge of biochemistry is needed. (b) Involves a discussion of the physiological and biochemical action of various classes of drugs. Classes of drugs to be discussed include general anesthetics, antihistaminics, diuretics, antibiotics, drugs used to treat cardiovascular disorders, and drugs affecting the endocrine system. Prerequisite: 420a; 310 or 410; organic chemistry.

**430-6 (3,3) Cellular Physiology.** Examination of the chemical physical characteristics of eukaryotic cells and how they regulate cell function. Cellular physiology integrates studies of gene expression, protein function, organelle structure and cell differentiation for a more complete understanding of the role of the cell in tissue, organ and whole animal function. Prerequisite: organic chemistry or biological chemistry.

**433-6 (3,3) Comparative Physiology.** Variations of physiological processes in animal phyla, and comparison of these with human physiology. (a) Osmotic and ionic regulation; digestion, nutrition, and metabolism; excretion; respiration; defense and resistance. (b) Muscles and movement; circulation; nervous systems and sensory information; coverings and support; endocrine regulation; reproduction. Three lectures per week. Prerequisite: one year of biological science.

**440-6 (3,3) Biophysics.** (a) Biomathematics, biomechanics and biotransport. (b) Bioelectrics and bio-optics applied to physiological problems. Three lectures per week. Prerequisite: Mathematics 141 or equivalent; one year of college biological science including Physiology 310 or its equivalent; one year of college physics. May be taken in b,a sequence with consent of instructor.

**460-2 Electron Microscopy.** Lecture course designed to introduce the student to the theory and principles of electron microscopy. Two lecture hours per week. Prerequisite: senior standing or permission of instructor.

**462-3 Biomedical Instrumentation.** (Same as Electrical Engineering 462.) Diagnostic and therapeutic modalities related to engineering. Cardiovascular, neural, sensory and respiratory instrumentation. Prerequisite: consent of instructor.

**470-3 Biological Clocks.** Study of the temporal aspects of diverse physiological and behavioral functions which possess diurnal and seasonal periodicity. Species covered will include many eukaryotic organisms including plants, but will mainly stress mammals. Oscillations in sleep-wake cycle, locomotion, reproduction, hormonal secretion and numerous other processes will be explored. In addition, the effects of biological clocks in humans and the effect of jet lag and depression will be examined. Prerequisite: 310.

**491-3 to 8 Independent Research for Honors.** Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Undergraduate honors students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work.

**492-1 to 8 Special Problems in Physiology.** Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Open to undergraduate students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work. No more than 3 hours may be counted as electives towards the major in physiology.

## Plant and Soil Science (PLSS)

**200-3 Introduction to Crop Science.** Production of important field crops of the world with greatest emphasis on U.S. and midwestern field crops; crop production changes and adjustments, crop distribution over U.S., and crop groups and classifications, special agronomic problems, crop enemies, crop ecology, fertilizer and liming practices, tillage, crop improvement through breeding. Field trip (no cost).

**220-3 General Horticulture.** General principles of plant propagation, vegetable growing, fruit growing, landscape gardening, and floriculture. Seniors cannot enroll without consent of instructor. Prerequisite: Plant Biology 200 or equivalent.

**225-2 Genetics for the Amateur Gardener.** An introduction to the essential principles of genetics and plant hybridization utilizing common garden and house plants.

**228-2 Floral Arrangements.** Theory and practice in the art of flower and plant arrangement for the home, show, and special occasions. History, elements, and principles of design and use of color. Laboratory fee approximately \$25.

**238-2 Home Gardening.** Vegetable gardening techniques for the home gardener. Both inorganic and organic methods are used together with the latest recommended varieties for the small garden.

**240-4 Soil Science.** Basic and applied chemical, physical, and biological concepts in soils. The origin, classification and distribution of soils and their relationship to humans and plant growth. Prerequisite: Chemistry 140b or equivalent; geology suggested.

**257-1 to 10 Work Experience.** Credit for on-campus work experience in the areas of plant and soil science, or credit through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Credit awarded based on 4 hours of work per week during the semester for each hour of credit. Prerequisite: consent of instructor. Mandatory Pass/Fail.

**300-5 (2,3) Field Crop Production.** Principles of growth and production of field crops and their utilization. (a) Primarily corn and soybeans. (b) Small grains, primarily wheat and grain sorghum, with laboratory demonstrating principles discussed in both a and b including research projects, and grading and utilization of grain. Laboratory field trips, approximately \$5. Prerequisite: an introductory crops course or consent of instructor.

**305-4 Plant Genetics.** Principles of genetics and evolution of plants, elementary plant breeding, and the interaction between plant breeding and industry. Prerequisite: a course in biology or plant biology.

**322-3 Turfgrass Management.** Principles and methods of establishing and maintaining turfgrass for lawns, recreational areas, and public grounds. Identification of basic plant and soil materials and management of turfgrasses in variable environments. Prerequisite: a biology course.

**325-3 Garden Flowers.** Culture, identification, and use of flowering bulbs, annuals, biennials, and perennials in the home flower garden. Prerequisite: an introductory course in biology or consent of instructor.

**327-3 Landscape Plant Materials.** Identification, usage and adaptability to the landscape of woody (deciduous and evergreen) and ornamental shrubs, trees and vines. Use of plant keys. Laboratory fee \$10. Prerequisite: an introductory botany course or consent of instructor.

**328A-2 Appreciation of Landscape Design.** Introduction to theory and principles of landscape design as applied to the modern home. Property selection and climate control. Prerequisite: 327 and Agriculture Education and Mechanization 371 and 374 or equivalent.

**328B-2 Appreciation of Landscape Design - Laboratory.** Practical application in modern methods of property planning including the individual components of the completed landscape plan and selection of plants. Laboratory fee: \$20. Prerequisite: 327 and Agriculture Education and Mechanization 371 and 374 or equivalent.

**333-3 Vines and Wines.** Introduction to grape growing; making, using and appreciation of wine for pleasure, health and profit. Discovering both the science and art of growing, making and using wine. Practical, hands-on approach with emphasis placed on preparing the novice to begin a successful journey through the wonderful world of grapes and wines. A minimum of two field trips (on Saturday) required. Offered fall semester only.

**356-4 Plant Pathology.** (Same as Plant Biology 356.) A study of the nature and control of plant diseases. Fungal and bacterial diseases are stressed. Field crop diseases are emphasized. Two lectures and two laboratories per week. Prerequisite: Plant Biology 200 or equivalent; Plant Biology 320 recommended.

**359-1 to 6 Intern Program.** Supervised work experience program in either an agricultural agency of the government or agri-business. Prerequisite: junior standing and approval of department. Mandatory Pass/Fail.

**370-3 Agroecology-Sustainable Agricultural Systems.** An introduction to the biotic, natural resource, environmental, social and economic implications and requirements of sustainable agriculture. Prerequisite: an introductory course in plants, animals, soils, or biology or consent of the instructor.

**380-4 (2,1,1) Plant and Soil Evaluations.** (a) Grain grading to include crop and weed identification and seed identification and analysis. (b) Comparative evaluation and judging of horticultural crops to include flowers, fruits, vegetables, woody ornamentals. Field trip costing approximately \$25. (c) Soil evaluation to include identification of genetic horizons, their physical characteristics and classification. Field trips (no cost). These courses are not required for participation in SIU judging team activities.

**381-1 to 2 (1,1) Plant and Soil Science Seminar.** Discussion of special topics and/or problems in the various areas of plant and soil science. Prerequisite: Speech Communication 101 and junior standing.

**390-1 to 4 Special Studies in Plant and Soil Science.** Assignments involving research and individual problems. Prerequisite: consent of department chair.

**391-1 to 4 Honors in Plant and Soil Science.** Independent undergraduate research sufficiently important to three hours per week of productive effort for each credit hour. Prerequisite: junior standing, gpa of 3.0 with a 3.25 in the major, and consent of department chair.

**400-2 Trends in Agronomy.** A discussion session format will be employed as a means of acquainting students with recent literature and allowing them to remain current with latest developments in their area of specialty. Prerequisite: senior standing.

**405-3 Plant Breeding.** Principles of plant breeding emphasized together with their application to the practical breeding of agronomic, horticultural, and forest plants. Field trip costs approximately \$10. Prerequisite: 305 or equivalent.

**408-3 World Crop Production Problems.** Ecological and physiological factors influencing production in various areas of the world. Natural limitations on world crop production. Non-agricultural factors influence world crop output. Prerequisite: 200.

**409-3 Crop Physiology and Ecology.** The effects and significance of physiological and ecological parameters on crop yields. Prerequisite: Plant Biology 320 or consent of instructor.

**419-3 Forage Crop Management.** Forage crop production and utilization; forage crop characteristics, breeding, and ecology; grasslands as related to animal production, soil conservation, crop rotation, and land use. Field trip costs approximately \$5.00. Prerequisite: Plant Biology 200 or one course in biology or equivalent.

**420-4 Crop Pest Control.** Study of field pests of forest, orchard, field, and garden crops; pest control principles and methods; control strategy; and consequences of pest control operations. Prerequisite: introductory biology or crop science course and/or consent of department.

**422-3 Turfgrass Science.** Basic concepts of physiology, growth, and nutrition of turfgrasses and their culture. Application of turfgrass science to management of special turf areas such as golf courses, athletic fields, and sod farms; and to the turfgrass industry. Field trips cost approximately \$15. Prerequisite: 240 and 322 or equivalent or consent of instructor.

**423-3 Greenhouse Management.** Principles of greenhouse management controlling environmental factors influencing plant growth; greenhouses and related structures; and greenhouse heating and cooling systems. Field trips costing approximately \$5. Prerequisite: 220 or consent of instructor.

**424-4 Floriculture.** Production, timing, and marketing of the major floricultural crops grown in the commercial greenhouse. Each student will have an assigned project. Field trip costing approximately \$25. Prerequisite: 423 or consent of instructor.

**425A-5 Advanced Plant Physiology.** (Same as Plant Biology 425a.) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. Prerequisite: Plant Biology 320 or consent of instructor.

**428-3 Advanced Landscape Design I.** Development of the design process, graphics and verbal communication of landscape projects. Emphasis on large scale projects and residential design. Laboratory fee: \$25. Prerequisite: 328-4 or consent of instructor.

**429-3 Advanced Landscape Design II.** Development of the design process, graphics and verbal communication of landscape projects. Emphasis on construction details, color rendering and portfolio development. Laboratory fee: \$25. Prerequisite: 328-4 or consent of instructor.

**430-4 Plant Propagation.** Fundamental principles of asexual and sexual propagation of horticultural plants. Actual work with seeds, cuttings, grafts, and other methods of propagation. Field trip costing approximately \$5. Laboratory fee: \$40.00. Prerequisite: 220.

**432-4 Nursery Management.** Principles and practices involved in the propagation, production, and marketing of ornamental landscape plant materials. Emphasis on plant production with field trips to various production areas costing approximately \$40. Prerequisite: 220 and 327a, or consent of instructor.

**433-4 Introduction to Agricultural Biotechnology.** (Same as Animal Science 433.) This course will cover the basic principles of plant and animal biotechnology using current examples; gene mapping in breeding, transgenic approaches to improve crop plants and transgenic approaches to improve animals will be considered. Technology transfer from laboratory to marketplace will be considered. An understanding of gene mapping, cloning, transfer and expression will be derived. Prerequisite: senior standing or consent of instructor.

**434-3 Woody Plant Maintenance.** Care and management of ornamental shrubs and trees commonly used in the landscape. Topics to include trimming, pruning, fertilization, transplanting, and diagnosis of woody plant problems. Prerequisite: 327 or Forestry 202 or consent of instructor.

**435-1 to 4 Agricultural Molecular Biotechnology Seminar.** Molecular biology is rapidly making important contributions to agricultural science through biotechnology. An appreciation of the techniques of molecular biology and their application to plant improvement is important to all in agriculture and biology. The relationships between plant molecular biology and the biotechnology industry will be discussed. Presentations on particular research problems will be made. Graded S/U.

**436-4 Fruit Production.** Deciduous tree and small fruit growing, physiology, management practices, marketing. Prerequisite: 220 or consent of instructor.

**437-4 Vegetable Production.** Culture, harvesting, and marketing of vegetables; with morphological and physiological factors as they influence the crops. Field trip costing approximately \$5. Prerequisite: 220 or consent of department.

**441-3 Soil Morphology and Classification.** Development, characteristics, and identification of soils, study of profiles; and interpretation and utilization of soil survey information in land use planning. Field trip costing approximately \$5. Prerequisite: 240 or consent of instructor.

**442-3 Soil Physics.** A study of the physical properties of soils with special emphasis on soil and water relationships, soil productivity, and methods of physical analysis. Prerequisite: 240.

**443-3 Soil Management.** The soil as a substrate for plant growth. Properties of the soil important in supplying the necessary mineral nutrients, water and oxygen and for providing an environment conducive to plant root

system elaboration. Soil management techniques that are important in optimizing plant growth. Prerequisite: 240.

**445-3 Irrigation Principles and Practices.** This course will cover basic principles of irrigation sciences; water requirements of crops; soil water relationship; water application methods including flooding, sprinkler, and drip (or trickle) systems; water conveyance, distribution and measurement; evaluation of irrigation efficiency; and irrigation scheduling. Considerations will also include crop production effects and economic aspects of irrigation. Prerequisite: 240 or consent of instructor.

**446-3 Soil and Water Conservation.** Covers the principles of hydrologic processes and soil erosion. Consideration will be given to the occurrence of soil erosion as it affects humans, food production, and the environment. The methods and technologies for protecting against and controlling of erosion will also be discussed. Prerequisite: 240 and University Core Curriculum Mathematics or consent of instructor.

**447-3 Fertilizers and Soil Fertility.** Recent trends in fertilizer use and the implications of soil fertility build up to sufficiency and/or toxicity levels; the behavior of fertilizer material in soils and factors important in ultimate plant uptake of the nutrients; the plant-essential elements in soils and ways of assessing their needs and additions; tailoring fertilizer for different uses and management systems; implication of excessive fertilization in our environment. Prerequisite: 240, concurrent enrollment in 448 suggested.

**448-2 Soil Fertility Evaluation.** A laboratory course designed to acquaint one with practical soil testing and plant analysis methods useful in evaluating soil fertility and plant needs. One hour lecture, two hours laboratory. Prerequisite: 240; 447 or concurrent enrollment; or consent of instructor.

**454-4 Soil Microbiology.** (Same as Microbiology 454.) A study of microbial numbers, characteristics and biochemical activities of soil microorganisms with emphasis on transformations of organic compounds, nitrogen phosphorus, sulfur, iron, and other plant essential nutrients. Laboratory fee: \$15.00. Prerequisite: 240 or Microbiology 301.

**468-3 Weeds — Their Control.** Losses due to weeds, weed identification and distribution, methods of weed dissemination and reproduction, mechanical, biological, and chemical control of weeds. State and Federal legislation pertaining to weed control herbicides. Herbicide commercialization. Field trips costing approximately \$5. Prerequisite: an introductory biology course.

**470-2 Post Harvest Handling of Horticultural Commodities.** Fundamental principles of post harvest physiology, handling, and evaluation of horticultural commodities will be covered. Specific details will be given on vegetable, fruit, ornamental, and floricultural commodities. Field trip costing approximately \$30. Prerequisite: 220 and Plant Biology 320.

## Plant Biology (PLB)

For all field courses in plant biology, students will be assessed a transportation fee. In addition, certain courses may require the purchase of additional materials and supplies, generally \$1 to \$5 in total cost.

**115-3 General Biology.** (University Core Curriculum, Same as Zoology 115) Introduction to fundamental biological concepts for non-life science majors interested in learning about interrelationships of human, plant and animal communities. Integrated lecture and laboratory cover topics that include structure and function of living systems, reproduction and inheritance, evolution, biological diversity and environmental biology. Laboratory applies scientific methods to the study of living systems.

**117-3 Plants and Society.** (University Core Curriculum) The relationship between plants and human society: historical and modern applications of plants to the human experience; centers of botanical origins and domestication of crop plants; theories on active plant and crop conservation; medicinal plants; making sound decisions on current and future problems of the environment; and plant genetics and biotechnology. Labs will include: hands-on experimentation; field work in natural plant communities, supermarkets and farmer's market; and visitations to plant research facilities. A field trip fee will be assessed.

**200-4 General Plant Biology.** An introduction to Plant Biology. Emphasis is placed on structure and development and associated physiological phenomena. Consideration also is given to basic aspects of plant genetics, classification, evolution, ecology, and conservation. Three lectures and one 2-hour laboratory per week.

**204-4 Plant Diversity.** An evolutionary approach to the study of major plant groups — algae to flowering plants. Emphasis will be placed on cytology, anatomy, and development. Economic and ecological aspects of various groups as they relate to humans will also be considered. Laboratory will stress principles via hands-on study of selected representatives. Three lectures and one 2-hour laboratory per week. Prerequisite: Biology 200b or consent of instructor.

**301I-3 Environmental Issues in the Contemporary World.** (University Core Curriculum) Fundamental biological and ecological processes important in the individual, population and community life of organisms integrating with the philosophical and ethical relationships of the contemporary, domestically diverse human society are examined. Emphasis is placed on a pragmatic understanding of environmental issues. Prerequisite: strongly recommend completion of core science requirements.

**303I-3 Evolution and Society.** (University Core Curriculum) An introduction to the basics of biological evolution and the effect of biological evolution on society. Historical and modern interpretations of biological evolution on the human experience will be developed. This will include legal, political, religious, scientific, racist, sexist, philosophical and educational aspects. Topics will be covered via discussions, presentations, papers and debates. Prerequisite: strongly recommend completion of core science requirement.

**304-4 Elements of Plant Systematics.** The principles of plant classification including history, nomenclature, specimen collection and preservation, current systematic methodologies, and a survey of major plant families. Two lectures and four laboratory hours per week. Prerequisite: Biology 200b or equivalent.

**320-4 Elements of Plant Physiology.** The functions of plants and their relation to the various organs. Two lectures and four laboratory hours per week. Every semester. Prerequisite: Biology 200b; organic chemistry or a minor in chemistry.

**335-2 Methods in Genetics.** Selected organisms and techniques illustrating genetic principles. Two two-hour laboratories per week. Prerequisite: Biology 305 or equivalent.

**337-2 Ecology Laboratory.** Techniques in vegetation analysis and environmental measurements. One four-hour laboratory per week. Prerequisite: Biology 307 or equivalent.

**356-4 Plant Pathology.** (Same as Plant and Soil Science 356.) A study of the nature and control of plant diseases. Fungal and bacterial diseases are stressed. Field crop diseases are emphasized. Two lectures and two laboratories per week. Prerequisite: Biology 200b or equivalent; 320 recommended.

**360-3 Introductory Biostatistics.** Introduction to basic statistical concepts and methods as applied to biological data. Includes descriptive techniques such as measures of central tendency, variability, hypothesis testing, analysis of variance, and simple linear regression. Computer analysis and report writing will be required.

**390-1 to 3 Readings in Plant Biology.** Individually assigned readings in botanical literature. Every semester. Prerequisite: consent of departmental chair.

**391-1 to 4 Special Problems in Plant Biology.** Individual laboratory or field work under supervised direction: (a) Anatomy, (b) Bryology, (c) Ecology, (d) Morphology, (e) Mycology, (f) Paleobotany, (g) Pathology, (h) Photography, (i) Phycology, (j) Physiology, (k) Systematics. Prerequisite: consent of departmental chair.

**400-4 Plant Anatomy.** An introduction to cell division, development, and maturation of the structures of the vascular plants. Laboratory. Prerequisite: Biology 200b or consent of instructor.

**404-4 The Algae.** A phylogenetic approach to the study of algae with emphasis on comparative cytology, morphology, and ecology. Laboratories include a detailed survey of freshwater algae and a general treatment of representative marine forms. Two lectures and two two-hour laboratories per week. Prerequisite: 204 or consent of instructor.

**405-4 The Fungi.** A survey of the fungi — their structure, development, relationships, ecological roles, and economic importance. Two lectures and two laboratories. Prerequisite: 204 or equivalent.

**406-3 Bryology.** Structure, development, and relationships of the liverworts, hornworts, and mosses. Two lectures and one laboratory per week. Prerequisite: 204 or equivalent.

**409-3 Field Mycology.** The taxonomy, ecology, and distribution of fungi in southern Illinois and environs with emphasis on techniques of specimen collection, preservation, identification, and recognition. Prerequisite: Biology 200b; 204 recommended.

**410-3 Taxonomy and Ecology of Bryophytes and Lichens.** Floristic studies of the moss, liverwort, hornwort, and lichen communities of southern Illinois. Prerequisite: Biology 200b or equivalent, or consent of instructor.

**414-3 Paleobotany.** (Same as Geology 414) The study of external form, internal structure, and relationships of plant fossils. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

**415-5 Morphology of Vascular Plants.** The study of external form, internal structure, and relationships of vascular plants. Three lectures and two laboratories per week. Prerequisite: 204. Recommended: 400.

**416-3 Limnology.** (Same as Zoology 415.) Lakes and inland waters; the organisms living in them, and the factors affecting these organisms. Two lectures per week and one 4-hour laboratory alternate weeks. Offered fall term. Prerequisite: Zoology 220a.

**421-4 Botanical Microtechnique.** Introduction to practical methods of preservation and preparation of plant materials for laboratory and microscopic study. Paraffin and plastic embedding and sectioning techniques, and use of general and histochemical stains stressed. Includes chromosome squashing, whole-mount preparation, photomicrography, and other techniques. One lecture and three laboratories per week. Prerequisite: Biology 200b or equivalent.

**425A-5 Advanced Plant Physiology.** (Same as Plant and Soil Science 425a) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. Prerequisite: 320 and consent of instructor.

**425B-5 Advanced Plant Physiology.** Physics of plants; membrane phenomena; water relations; mineral nutrition. Prerequisite: 320 and consent of instructor.

**430-3 Economic Botany.** Classification, evolution, domestication, and botanical characteristics of plants useful to people. Every year. Prerequisite: Biology 200b or equivalent.

**433-4 Introduction to Agricultural Biotechnology.** (See Plant and Soil Science 433). Prerequisite: senior standing or consent of instructor.

**439-2 Natural Areas and Rare and Endangered Species.** Evaluation of the natural area preservation concept with emphasis on how to detect natural areas and methods to preserve them. Emphasis on the rare and endangered species program, its significance, and its methodology. Prerequisite: 304, Biology 307.

**440-3 Grassland Ecology.** A study of grassland structure and function in relation to various biotic and abiotic factors. Cost of field trips (\$5) and textbooks must be incurred by the student. Prerequisite: 304 and Biology 307 or equivalent.

**443-4 Forest Ecology and Reclamation.** Soil, climatic, and genetic factors affecting tree distribution and growth in disturbed and natural habitats. Saturday field trips. Prerequisite: 307 or equivalent.

**444-4 Quantitative Plant Ecology.** Includes concepts and methods pertaining to the analysis of ecological data. Approaches will include quantitative methods for classifying, ordinating, and describing structure of communities. Laboratory will include the computer application of these concepts and methods to field situations. Prerequisite: 360, Biology 307 or consent of instructor.

**445-4 Wetland Plant Ecology.** Provides students with experience in wetland plant ecology with an emphasis on wetland functioning, field sampling, and identification of common wetland plants. Travel fee for field trips is \$10. Prerequisite: 304, Biology 200b, 307, or consent of instructor.

**447-2 to 6 Field Studies in Latin America.** Two to six weeks of intensive field work to acquaint students with the flora and vegetation in various environments of Latin America and with ecological and taxonomic field techniques. Cost varies with type of study and location. Transportation cost: \$80. Prerequisite: advanced standing in one of the biological sciences and consent of instructor.

**448-3 to 8 Field Studies in the Western United States.** Three to six weeks of intensive field work designed to acquaint students with the flora, vegetation, and environments of the Rocky Mountains and adjacent areas. Both ecological and taxonomic field methods are emphasized. Transportation cost (\$100), travel expenses, and textbooks must be incurred by the student. Prerequisite: 304, Biology 307 or equivalents, and consent of instructor.

**449-4 Plant Systematics and Evolution.** The principles of modern plant systematics including classification methods at different taxonomic levels, data analysis, speciation and isolating mechanisms, basic population genetics and the use of morphological, anatomical and molecular characters in assessing plant evolutionary relationships. Prerequisite: 304 or equivalent or consent of instructor.

**450-2 Plant Geography.** World distribution of plants related to environmental, floristic, and historical factors. Prerequisite: interest in biology.

**451-4 Flora of Southern Illinois.** Exposure to the major upland and lowland communities of southern Illinois with an emphasis on the identification, distribution and ecology of the natural and introduced floristic components. Prerequisite: 304 or consent of instructor.

**456-2 Advanced Plant Pathology.** A study of the changes occurring in host and pathogen at the host-parasite interface before, during, and after penetration. Control measures will be discussed and emphasis will be on midwest field crops. Two lectures per week. Prerequisite: 356 or consent of instructor.

**475-3 Advanced Cell Biology.** (Same as Zoology 475.) Cell structure at molecular and cytological levels. Includes discussions of research methods, plasma membrane, cell exterior and recognition, the endomembrane system and related organelles, self-replicating organelles, the cytoskeleton, nuclear structure and function in cell replication, cell differentiation and response, and eukaryotic cell evolution. Prerequisite: BIOL 306 or equivalent.

**476-2 Advanced Cell Biology Laboratory.** (Same as Zoology 476.) Laboratory course to accompany Plant Biology 475. Light and electron microscopy, cell culturing, biochemical methods, and experimental protocols are used to study the structure of cell membranes, intracellular organelles, including the Golgi apparatus, ER, mitochondria, plastids, lysosomes, the cytoskeleton, and nucleus. Prerequisite: 475 or concurrent enrollment.

**485-2 Botanical Literature.** A survey of the major classical and modern writings in the botanical sciences. This includes a consideration of the primary subdivisions; systematics, structure, physiology, genetics, and ecology. In addition, periodicals will be treated. Prerequisite: consent of instructor.

**490-3 Photographic Methods in Scientific and Biological Photography.** Black and white and color. Specimen photography, macrophotography. Slides for presentation, materials and methods used in scientific publications. Prerequisite: consent of instructor.

**491-3 Scientific Illustration.** Materials and methods used in illustrating scientific publications including two-dimensional graphs, maps, lettering, and line drawings. Three dimensional techniques will also be covered. Prerequisite: consent of instructor.

**492-2 to 6 Honors in Plant Biology.** Individual research problems available to qualified juniors and seniors. Prerequisite: consent of department chair.

## Political Science (POLS)

The numbers preceding the following course titles have been designed to group courses by subject matter as well as level. A summary explaining the numbering system follows:

COURSE	LAST TWO DIGITS OF COURSE NUMBER
Scope, Methods, and Political Theory	00-09
American Politics	10-29
Public Law	30-39
Public Administration	40-49
Comparative Politics	50-69
International Relations	70-89
Miscellaneous	90-99

**114-3 Introduction to American Government and Politics.** (University Core Curriculum) Examines the structure of American national government, the cultural context, and the operation of our political system. Focuses on Constitutional foundations of American government, how differences in race, gender and culture affect the political system, and the American attempt to deal with equality, liberty and order, conflict and cooperation.

**130-3 Law in American Society.** This is an introductory course recommended for students who want to consider possible careers in law. The following topics will be covered: the relation between law, justice, morality and religion; types and sources of law and legal rules; origin and development of common law; the role of

lawyers, judges and juries; legal education in the United States. These topics will be explored through lectures, discussion groups and occasional guest speakers. Does not apply to hours in political science major.

**200-3 Introduction to the Discipline of Political Science: Scope.** Examination of the philosophy, methodology, theories, approaches and relevant generalizations of the study of politics and of the scope and subfields of political science. Not open to seniors without instructor's consent.

**207-3 Contemporary Political Ideologies.** A survey of recent political ideologies: Nationalism, Socialism, Communism, Liberal Democracy, Conservatism, Christian Socialism, Fascism, Contemporary Liberation Movements.

**213-3 State and Local Government.** Structure, functions, and decision-making processes of subnational governments in the United States. Prerequisite: 114.

**214-3 Illinois Government.** The politics, structure, and function of state and local governments in Illinois with stress upon the historical development of the political culture, current issues and events in the light of the historical background, and the interrelationship of politics, structure, and policy. Prerequisite: 213 or sophomore standing.

**250-3 Politics of Foreign Nations.** An introduction to the range of developed and developing nations with special attention to the importance of geographical, racial, ideological, ethnic and socioeconomic explanations of political institutions, processes and behavior in these states.

**270-3 Introduction to International Relations.** A study of world politics. The cause of international conflict and conditions of peace.

**278-3 Domestic Sources of American Foreign Policy.** (University Core Curriculum) A general survey of the American foreign policy process. Special attention is given to the diversity of ethnic, racial and religious groups in the US and how these groups attempt to shape foreign policies in ways that meet their specific domestic and international interests.

**300-3 Introduction to the Discipline of Political Science: Methods.** An examination of the research methods and data analysis techniques used by political scientists in their analysis of political questions and problems. Prerequisite: 114, 200 recommended.

**303-3 Introduction to Political Theory.** An introduction to the fundamental questions that are at the core of political theory. Attention is given in particular to the problem of justice and, when appropriate, to its meaning within the American context.

**317-3 Public Opinion and Electoral Behavior.** The nature and function of public opinion as it is related to electoral behavior. Additional sociological and psychological bases of voting behavior will be studied. Prerequisite: None; 200 recommended.

**318-3 Political Campaigns and Elections.** (Same as Speech Communication 358.) Analysis of modern political campaigns and the role they play in a democracy. Emphasis will be on recent developments in the planning and execution of campaigns by mass media and communication specialists and the role of the political parties and the public opinion polls in this process. Prerequisite: 114.

**319-3 Political Parties.** Nature, structure, and functions of political parties, with particular attention to the roles and activities of political parties in the United States. Attention also given to voting behavior and elections. Prerequisite: 114.

**321-3 The Legislative Process.** A comparative analysis of legislatures and legislative behavior. Emphasis is on the United States Congress. Prerequisite: 114.

**322-3 American Chief Executive.** The origin and background of the presidency and the governorship, qualifications, nomination and election, succession and removal, the organization of the executive branch, and the powers and functions of the president and governor. Prerequisite: 114.

**324-3 Politics and Public Policy.** The public policy-making process in the United States evaluated and a wide range of public policy programs analyzed. Prerequisite: 114.

**325-3 Politics and Environmental Policy.** An analysis of political aspects of the environment. Topics include conceptions of the environment in Western political thought; identification of environmental problems at the local, state, national and global levels; analysis of the various organized interests involved in formulating environmental policy; analysis of the response of local, state and national governments, including the response of the international community, to environmental problems and the activities of organized interests; and investigation of the various local, state, national and international policies that relate to the environment. Prerequisite: 114 or equivalent.

**330-3 Introduction to the Legal Process.** Designed to provide a basic background in the United States legal process for students who want only an overview of the process or who plan to take an extensive number of additional courses in the judicial area. The course will survey the history of common law, legal reasoning, basic terminology, conventional legal research, the legal profession, and provide an introduction to civil and criminal processes. Prerequisite: 114.

**332-3 Introduction to Civil Liberties and Civil Rights.** (Same as Black American Studies 345.) Course focuses on civil rights (e.g. voting, housing, employment, education) in terms of congressional statutes, the judicial rulings which led up to them, the administrative development and judicial interpretation of the statutes. Prerequisite: 114 recommended. Not recommended for students planning to take 433b.

**334-3 Criminal Justice in Society and Court Management.** Designed to provide the student with an in-depth look at the organization and management of federal, state, and local criminal courts. Focuses on the criminal process and the rights of defendants as they are processed by the system. Prerequisite: 114 recommended.

**340-3 Introduction to Public Administration.** An introduction to the study of public bureaucracy. Theoretical, political, and practical issues of organization, staffing, financing, and other matters are surveyed. United States administration and organizational behavior are stressed. Prerequisite: 114.

**353-3 Comparative Communist and Post Communist Systems.** General introduction to the political systems of communist states and states that have evolved from origins in communist party rule. Attention given to the role of ideology, the party, reform, democratization, and change in decision-making structures and processes.

**366-3 Introduction to Latin American Government and Politics.** A general introduction to Latin American government as the institutionalized political expression of Latin American civilization and culture. Does not require a reading knowledge of Spanish or Portuguese.

**371-3 International Political Economy.** Political dynamics of international trade, finance, investment, multinational corporations, energy, development, world wealth distribution, technology transfers. Politics of economic relations between East and West, rich and poor. Assumes that the political system shapes the economic system, that political concerns often shape economic policy, and that international economic relations are political relations. Prerequisite: none; 270 or economics course recommended.

**373-3 International and Transnational Organizations.** The growth and role of international organizations, with special attention to the political effects of military, economic and ecological interdependence. The United Nations, regional organizations, and non-governmental organizations. The effects of these organizations on international peace and justice. Prerequisite: none; 270 recommended.

**378-3 Introduction to American Foreign Policy.** An investigation of the means by which American foreign policy is formulated and executed and an analysis of the most significant challenges confronting America abroad.

**390-1 to 3 Readings in Political Science.** Specialized and advanced readings in areas not covered in other political science courses. Student must choose a faculty member to direct reading. Restricted Class Card, necessary for registration, must be signed by professor supervising readings and the student's political science advisor who files proper form with the director of undergraduate studies in the department. Fifteen hundred pages of reading per credit hour, or equivalent, is recommended. Students generally will be expected to have a 3.0 Political Science grade point average, a minimum of 21 hours already earned in the major or completed the introductory course and six additional hours in the subfield of the proposal readings. Prerequisite: authorization card signed by instructor and advisor prior to registration.

**395-1 to 12 Internship in Public Affairs.** Supervised field work in the office of a governmental agency, political party, interest group, legal agency, or other public affairs-oriented organization. A faculty-supervised paper is required in which the student relates the academic and internship experiences. Students must choose a faculty member to direct internship and obtain consent prior to registration. Name of faculty member must be filed with undergraduate adviser of the department at registration. Political Science 395 is open only to students who are confirmed Political Science majors or minors. Students must have taken at least two courses in the department with a minimum grade point average of 2.5 in these courses. No more than six hours may be counted toward a departmental major. A written description identifying the specific organization, the projected tasks, and responsibilities of the intern should be prepared prior to meeting with the faculty sponsor.

**403-4 Philosophy of Politics.** (See Philosophy 441.)

**404-3 History of Political Theory.** Shall survey different theorists and perspectives which have contributed significantly to the development of the ongoing tradition of political theory up to modern times. Prerequisite: 303 or consent of instructor.

**405-3 Democratic Theory.** An examination of various species and aspects of democratic thought, including the liberal tradition and its impact upon the United States. Prerequisite: 114 or consent of instructor.

**408-3 Contemporary Political Theory.** Shall explore the theorists and perspectives which have contributed to contemporary views of the political world. Prerequisite: 303 or consent of instructor.

**413-3 Contemporary Intergovernmental Relations.** An examination of relationships among national, state, and local governments in the American federal system, with emphasis on recent literature and contemporary issues. Special attention is given to fiscal relations, and specific intergovernmental programs in areas such as housing and environmental quality are examined. Prerequisite: 114.

**414-3 Political Systems of the American States.** The state level of government viewed with emphasis upon recent developments and current research. Prerequisite: 213.

**415-3 Urban Politics.** An examination of the environment, institutions, processes, and functions of government in an urban society with particular emphasis on current problems of social control and the provision of services in the cities of the U.S. Prerequisite: 213.

**416-3 Senior Seminar in Politics.** Seminar for advanced undergraduate students to examine in depth a wide variety of topics; to be taught by different instructors. Available for use as the honors seminar. Graduate students not admitted. Prerequisite: 200 recommended.

**418-3 Political Communications.** (See Speech Communication 451.)

**419-4 Political Sociology.** (See Sociology 475.)

**420-3 Interest Group Politics.** An examination of the structure, mobilization and impact of interest groups on American political life. The course objectives are to study various normative critiques of American pluralism and examine the political influence of contemporary interest groups, such as labor, racial and women's organizations. Prerequisite: 114.

**433-6 (3,3) Constitutional Law.** (a) This, the initial course in a two-course sequence, is concerned with the basic structure and power relationships in the American constitutional system. Topics include judicial review, judicial restraint, separation of powers, the federal system, national powers, state powers, the contract clause, and substantive due process. Prerequisite: 114. Political Science 330 recommended. (b) This, the second course in the constitutional law sequence concentrates on those provisions of the U.S. Constitution which protect individual rights and liberties against government encroachment. Prerequisite: 114.

**435-3 Judicial Process and Behavior.** An examination of the process by which judges in both trial and appellate courts at federal and state levels are selected and of the ways in which they make decisions. Attention to

the structure of the courts. Study of the communication and impact of judicial decisions. The course will provide some insight into the methods used to study judicial behavior.

**436-3 Administrative Law.** The procedural law of public agencies, particularly the regulatory commissions but also executive branch agencies exercising regulatory functions. The exercise of discretion and its control through internal mechanisms and judicial review. Prerequisite: 340 or 114 recommended.

**437-3 Jurisprudence (Theories of Law).** Major schools in legal thinking. Positive law and natural law. Idea of justice and concept of natural rights.

**441-3 Administration of Bureaucratic Organizations.** A study of the elements of bureaucratic organization and of problems and procedures in administration of complex public agencies. Emphasis is placed on the personnel aspects of public bureaucracy, including the history and structure of civil service systems, conditions of public service employment, and issues in leadership and supervision. Prerequisite: 340 or consent of instructor.

**443-3 Public Financial Administration.** An examination of governmental revenues and expenditures, with emphasis on state and local governments. Special attention is given to patterns of taxation and expenditure, intergovernmental fiscal relations, municipal debt, and administrative decision making. Prerequisite: 213 recommended.

**444-3 Policy Analysis.** An examination of basic concepts in the policy sciences, approaches to policy analysis, applications to selected areas of policy, and instruments of policy development.

**445-4 Administration of Environmental Quality and Natural Resources.** (Same as Geography 426.) An examination of institutional arrangement and administrative practices in the protection and use of land, water, air, and mineral resources. The course include analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act.

**446-3 Museum Administration.** A comprehensive introduction to museum administration and management, including fiscal and budget oversight; an understanding of museum ethics; acquisition, conservation, and exhibition planning; personnel matters; and museum research. Museum practicum and research stressed.

**447-4 to 5 (3, 1 or 2) Urban Planning.** (See Geography 470a,b.)

**457-3 Government and Politics of the United Kingdom and Canada.** An examination of political institutions, behaviors, interest groups, parties and public policies of The United Kingdom (of Great Britain and Northern Ireland) and of Canada with particular reference to domestic and foreign policy. Prerequisite: 250 recommended.

**458-3 Contemporary Europe.** Comparative study of contemporary political systems and policy issues. Emphasis on selected countries and common problems facing governments. Topics covered include the European community, security institutions, economic, social and other public policies, and study of various governing processes.

**459-3 Government and Politics of Russia.** Transitions from communism in the former Soviet Union. Prerequisite: none. 250 recommended.

**461-3 Governments and Politics of Southeast Asia.** Politics and governments of Burma, Thailand, Malaysia, Vietnam, Cambodia, Laos, Singapore, Indonesia, and the Philippines. Prerequisite: none. 250 recommended.

**462-3 Governments and Politics of Vietnam.** Origins of revolution. The war for national reunification. Impact of American involvement. Contemporary problems of consolidation and development under communist rule. Implications for regional security. Prerequisite: 250 recommended.

**463-3 Government and Politics of China.** Internal political, economic, and social development of China. Prerequisite: none. 250 recommended.

**464-3 Governments and Politics in the Middle East.** Internal and international politics of the Islamic states of the Middle East and North Africa and Israel. Prerequisite: none. 250 recommended.

**465-3 Governments and Politics of Sub-Saharan Africa.** (Same as Black American Studies 465.) An examination of the impact of western colonial rule on the societies and politics of Africa, the methods by which these colonial areas became sovereign states in the post-World War II era, the role of domestic political institutions, African political thought and behavior, and the development of foreign policies regarding relations with other African states, continental and international organizations, and non-African states. Prerequisite: none. 250 recommended.

**466-3 Government and Politics of Latin America.** An in-depth analysis of specific problem areas in Latin American political processes as well as comparative study of selected Latin American nation-states. Prerequisite: none. 366 recommended.

**468-3 Comparative Civil-Military Politics.** A comparative study of the growth of the relationship of the armed forces with the civilian sector of the body politic, the selection, training, and professionalism of the officer corps, the control of the armed forces by the executive and legislature, the growth of strategic doctrine, insurgency and counter-insurgency warfare, and the analysis of the role of the armed forces as a governing group in a large number of non-western states. Prerequisite: none. 250 recommended.

**475-6 (3,3) International Law. (a)** Rules and practices governing the nations in their relations in peace and war. Prerequisite: none. 270 recommended. **(b)** Investigation of special problems in international law. Prerequisite: 475a.

**477-3 The Making of American Foreign Policy.** An advanced course dealing with the formulation and administration of American foreign policy. Prerequisite: 378 for undergraduates.

**480-3 International Politics.** Definition and analysis of the concepts of hegemony, alliances, regionalism, integration, interdependence, and an evaluation of their application to contemporary international

politics. The course will stress the need for the continuing evaluation of the vague role of national power and influence within the framework of a changing world environment.

**488-3 International Relations of the Western Hemisphere.** Emphasis on the international behavior of Latin American nation-states and/or regions especially related to policy trends and historical and contemporary objectives of the U.S. Prerequisite: none. 270 recommended.

**494-1 to 3, 1 to 3 Honors Research.** (a) Directed research for senior honors students. political science honors students may register for these credits if they have met all the prerequisites described in the political science Handbook. A three person faculty committee will administer an oral examination upon completion of senior thesis. Not for graduate credit. (b) Available to students who have completed all prerequisites of the University Honors Program and receive approval of their project from a Political Science instructor. Not for graduate credit.

## Psychology (PSYC)

**102-3 Introduction to Psychology.** (University Core Curriculum) An examination of the variables related to the origins and modifications of human behavior using the viewpoints and techniques of contemporary psychology. Purchase of syllabus from local vendor required.

**211-4 Research Methods in Psychology.** An introduction to the use of scientific methods in the study of behavior. Considerations of experimental design and methodology are integrated with the treatment of data analysis, interpretation of results and writing of a research report. Students will write a research proposal, conduct an experiment and write a report of the experiment. This course satisfies the CoLA Writing-Across-the-Curriculum requirement. Lecture and laboratory. Prerequisite: 102.

**212-4 Field Research Methods in Psychology.** An introduction to field and other quasiexperimental methods appropriate for use in settings in which the researcher can exercise minimal control and manipulation. Included are designs and analytical methods for exploring cause-effect relationships in naturalistic settings. Lecture and laboratory. Prerequisite: 211 or consent of instructor.

**222-3 Effects of Recreational Drugs on Mind and Body.** Describes the physiological and psychological effects of substances used as recreational drugs for their psychoactive effects. Drugs discussed will include alcohol, amphetamines, cocaine and other stimulants, the barbiturates, methaqualone, the psychedelics, marijuana, tranquilizers, and the opiates. The purpose of the course is to provide the student with the facts concerning the effects of these drugs and the potential for their abuse and physiological and psychological dependence on them.

**301-3 Child Psychology.** The biological and psychological development of the child from birth through puberty, and relevant research methods and results. Prerequisite: 102.

**302-3 Psychobiology.** A survey of the role of biological processes in the behavior of humans and other species. Topics include structure and function of the nervous system, behavioral endocrinology, psychopharmacology, sensorimotor functions, sleep and waking, motivation and emotion, reinforcement, psychopathology, and learning and memory.

**303-3 Adolescence and Young Adulthood.** Examines interrelated psychological, biological and social aspects of development during adolescence and young adulthood based on a life-span perspective of development. Prerequisite: 102.

**304-3 Adulthood and Aging.** Examines the interrelated psychological, biological, and social aspects of development during middle and later adulthood based on a life-span perspective of development. Neuropsychological changes associated with normal and pathological aging will also be considered. Prerequisite: 102.

**305-3 Psychology of Personality.** The inferred patterns underlying an individual's unique reactions to the environment. Investigates the motivation, development, and methods of changing these patterns, and how personality processes are studied. Prerequisite: 102.

**307-3 Social Psychology.** Surveys contemporary issues such as love and friendship, shyness and loneliness, sexual attitudes and behavior, management of impressions made on others, attitude change and persuasion, leadership, group processes, aggression, and helping behavior. Prerequisite: 102.

**308-3 Psychology of Motivation.** Examines variables affecting motivation in animals and humans. Topics include motivation based on cultural processes as well as those based on biological needs. Prerequisite: 102.

**309-3 Psychology of Learning.** Principles and laws of learning as derived from the classical and instrumental learning literature — acquisition, extinction, punishment, persistence, generalization, discrimination, motivation, drives, and incentives. Prerequisite: 211.

**310-3 Cognitive Psychology.** A survey of theory and research on attention, memory, language behavior, and problem solving. The principal orientation will be the information processing approach to the study of behavior. Prerequisite: 102.

**320-3 Industrial and Organizational Psychology.** Introduction to industrial and organizational psychology. Emphasis is on psychological methods and psychological factors in the analysis and design of jobs and the work environment, and on the training, motivation, and evaluation of performance in the work setting. Prerequisite: 102.

**322-3 Personnel Psychology.** Examines the methods of psychology used in the selection, placement, and evaluation of employees. Government regulations requiring equal opportunity, psychological measurement concepts, and employee performance evaluation in the work environment are covered. Prerequisite: 102.

**323-3 Psychology of Employee Relations.** Applied human relations at work focusing on interpersonal and small-group behavior. Covers effective communication, employee morale and motivating others, behavior

modification, leadership and group dynamics, human relations and the law, and stress and coping. Prerequisite: 102.

**333-3 Psychology of Women.** (Same as Women's Studies 341.) An examination of empirical evidence on the biological, psychological, and social functioning of women, describing women's roles, the genetic versus social determinants of women's behavior, and the implications for women's potential. Prerequisite: 102 or consent of instructor.

**340-3 Introduction to Clinical and Counseling Psychology.** Provides an in-depth understanding of the nature of two major specialties in the field of psychology: clinical and counseling psychology. Students will examine the historical origins of the two areas, study their major theoretical definitions, compare and contrast the areas, and sample empirical and practitioner activities unique to them. Prerequisite: 102.

**371-3 Problem Solving and Decision Making.** Indicates how problem solving and decision making can be characterized and evaluated and how they might be modified or improved. Research and theory in related areas of psychology are reviewed with emphasis on the role of thinking, problem solving, expert judgment, and decision making in man-machine systems. Prerequisite: 102.

**389-1 to 9 Seminar: Selected Topics.** Varied content. Offered as need exists and as faculty interests and time permit. May be repeated as topics vary. Prerequisite: consent of instructor.

**391-1 to 9 Individual Project.** Individual study, research or experience under the supervision of a member of the Department of Psychology faculty. Of all credits that a student completes for PSYC 391, 392, 393, and 394, a maximum of three hours from any or all of these courses may count towards the major. Mandatory Pass/Fail. Prerequisite: consent of instructor.

**392-1 to 9 Individual Project.** Individual study, research or experience under the supervision of a member of the Department of Psychology faculty. For use in those cases where the faculty member deems a graded course to be appropriate. Of all credits that a student completes for PSYC 391, 392, 393, and 394, a maximum of three hours from any or all of these courses may count towards the major. Prerequisite: consent of instructor.

**393-1 to 9 Preprofessional Practicum.** Directed experience in human services or other activities relevant to psychology at a public or private institution, agency, or organization. The experience is usually, although not necessarily, on a volunteer basis. Enrollment must be approved in advance by the director of undergraduate field placements for the Department of Psychology. Mandatory Pass/Fail. Prerequisite: consent of instructor.

**394-1 to 9 Undergraduate Practicum in the College Teaching of Psychology.** Supervised practicum in the college teaching of psychology for selected senior psychology majors. Of all credits that a student completes for Psychology 391, 392, 393, and 394, a maximum of three hours from any or all of these courses may count towards the major. Prerequisite: senior psychology major and permission of instructor.

**407-3 Theoretical Issues in Learning.** An introduction to the major theoretical issues in learning and their importance. A brief review of the history of such problems will be followed by a summary of the current research concerning these issues. Traditional figures in learning theory will be considered within the context of their positions on specific questions. Prerequisite: 211 and 309 or equivalent or graduate status.

**409-3 History and Systems of Psychology.** A review of the conceptual and empirical antecedents of modern psychology. Prerequisite: 211 and senior status, or graduate status.

**411-3 Principles of Training.** An in-depth coverage of practical problems concerned with training to which the principles of learning derived from pure laboratory investigations can be applied. Prerequisite: 211 and 309, or graduate status.

**413-3 Individual Differences.** Reviews the reliable and theoretically significant individual and group differences that have been revealed by research in the behavioral sciences. Examines differences in general intelligence, specific verbal and spatial abilities, stylistic and personality characteristics, as well as such group differences as sex, race, and socioeconomic status. Prerequisite: 211 and 305 or graduate status.

**415-4 Psychopharmacology.** A survey of the effects of drugs on the normal and abnormal behavior of humans and animals. A primary focus is upon understanding drug influences on behavior in relation to actions on the nervous and endocrine systems. Prerequisite: 211 and 302, or graduate status.

**416-3 Recovery of Function Following Brain Damage.** A survey of experimental animal and human clinical research as they relate to behavioral recovery following damage in the central nervous system. Recent theories and literature are stressed. Prerequisite: 211 and 302 or consent of instructor, or graduate status.

**419-3 Behavior and Heredity.** Provides an overview of the experimental and quantitative methods used in studying behavioral differences associated with genetic variables. Elementary aspects of genetics will be included in the course, which will examine several aspects of both human and nonhuman behavior. Prerequisite: 211 or consent of instructor, or graduate status. Zoology 214, Biology 305 or equivalent recommended.

**420-3 Advanced Industrial and Organizational Psychology.** Advanced examination of topics in industrial and organizational psychology focusing more heavily than Psychology 320 on applications of psychology to human resource management, such as job analysis, performance appraisal systems, personnel selection and training. In addition to exams covering course content, students are required to apply knowledge and skills learned on individual and group projects. Prerequisite: 211.

**421-3 Psychological Tests and Measurements.** Introduction to test theory and test development. Detailed coverage of selected tests from such areas as intelligence, aptitude and personality. Prerequisite: 211 or graduate status.

**431-3 Psychopathology.** A comprehensive overview of major psychological problems, including emotional, personality, psychotic and developmental disorders. Problems will be described in terms of their principal features, and research and theory will be reviewed. Strategies of assessment, the utility and limitations of diagnostic systems, alternative views of abnormality, and clinical research methods will be examined. Prerequisite: 211 and 305, or consent of instructor or graduate status.

**432-3 Psychopathology of Childhood.** An extensive review and systematic evaluation of theories and research pertaining to the behavior disorders of childhood. Emphasis will be upon empirical data and the implications of these data for the classification and treatment of these disorders. Prerequisite: 211 and 301 or graduate status.

**440-3 Theories of Personality.** A review and evaluation of major personality theories and their supporting evidence. Prerequisite: 211 and 305 or consent of instructor, or graduate status.

**441-3 Helping Skills in Clinical and Counseling Psychology.** Provides systematic training in helping skills for students considering clinical or counseling psychology as a career. Students learn to identify and demonstrate such individual skills as encouragement, paraphrasing, and reflection of feeling, and will use them in practice situations. Students will also learn to apply various approaches to psychotherapy and counseling using hypothetical case studies. The course is complementary to 340. Prerequisite: 211 and 340 or consent of instructor, or graduate status.

**445-4 Introduction to Psycholinguistics.** (Same as Linguistics 445.) A broad spectrum introduction to psycholinguistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems and language of the brain. Prerequisite: 211.

**451-3 Advanced Child Psychology.** An assessment of concepts, methods, and research techniques within selected topic areas of developmental psychology. Prerequisite: 211 and 301, or consent of instructor, or graduate status.

**461-3 Advanced Social Psychology.** Critical examination of contemporary theories and research in social psychology. Practice in application of scientific findings to real-life problems of individuals and groups. Issues treated in depth are chosen for relevance to student's personal needs and career interests. Not for psychology graduate students. Prerequisite: 211 or 307 or graduate status.

**463-3 Attitudes and Persuasion.** An examination of theory and research regarding the formation of attitudes, the modification of attitudes, and the techniques for measuring attitudes. Prerequisite: 211 and 307 or graduate status.

**464-4 Social Factors in Personality and Adjustment.** (Same as Sociology 426.) Review of selected theoretical orientation and research traditions in social psychology. Comparison of different theoretical and methodological approaches: symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization. Prerequisite: 211, 307.

**465-3 Needs Assessment Techniques for Mental Health Planning.** Surveys methodological techniques for assessing the need for mental health services including developing a resource inventory, use of census and other social indicator data, rates under treatments, community and consumer surveys, hearing and site visits. Attention is also paid to method of presenting results of need assessments to lay boards. Prerequisite: 211 and senior standing in psychology major, or graduate status, or consent of instructor.

**489-1 to 12 Seminar: Selected Topics.** Varied content. Offered as need exists and as faculty interests and time permit. Prerequisite: 211 and consent of instructor.

**499-6 (3,3) Senior Honors in Psychology.** Intensive study in selective areas for students qualified for honors work in psychology. A research paper or equivalent will be required. Not for graduate credit. Prerequisite: 211 and consent of instructor.

## Radio-Television (RT)

**200-3 Understanding Radio and Television.** Review of responsibilities of television viewers and radio listeners, critical viewing and listening of radio and television programs. Analysis of techniques and content of programs. Lecture, discussion, critical review. Not for majors in radio-television. Credit will not count toward the major. Not open to students with credit in 300m or Mass Communication and Media Arts 201.

**300M-3 Radio-Television Writing Performance Production.** Introduction to the functions, theories, materials and techniques of writing, performing and production for radio and television. Students write, perform and produce in radio and television studio laboratories. Extra fee for books and supplies \$15. Prerequisite: Second semester freshman.

**305-3 Audience Research and Ratings Analysis.** The interrelationships of programs and audiences. Methods of audience and program research. Ratings analysis, station surveys. Survey of relevant research in radio-television. Prerequisite: Mass Communication and Media Arts 201 and successful completion of language skills exam.

**308-3 Radio-Television Policies, Laws, and Regulations.** Development of American radio and television policies from their constitutional base through federal law, regulatory agencies, and the judicial system. Rights and responsibilities of radio and television organizations and of the public. Required for majors. Prerequisite: Mass Communication and Media Arts 201 and successful completion of Language Skills Exam.

**310-3 Radio-Television News Writing.** Selecting, writing, rewriting, and editing news material for presentation on radio and television information programs. Laboratory hours required. Prerequisite: Mass Communication and Media Arts 201 300m, successful completion of Language Skills Exam.

**311-3 Radio News.** The basic techniques of writing, rewriting, and editing news from local and wire service sources, plus reporting and editing by means of audio tape. Students must have daily access to an audio tape recorder and are encouraged to obtain their own cassette recorder. Laboratory hours required. Prerequisite: 310 or consent of the instructor, successful completion of the Language Skills Exam.

**325-3 Survey of Cable Communications.** History and projections of CATV industry growth, patterns of regulation and use. Relation of cable communication to other media, and to society. Extensive readings and discussion of literature. Prerequisite: Mass Communication and Media Arts 201, successful completion of Language Skills Exam.

**340-3 Television Criticism.** History and analysis of television genres. Analysis and evaluation of technique, content, and aesthetic effect of television messages. Extensive reading in critical literature, written assignment and evaluation of campaigns and materials. Prerequisite: Mass Communication and Media Arts 201, successful completion of Language Skills Exam.

**351-3 Broadcast Programming.** Discussion and analysis of radio and television programming formats, strategies and scheduling. Prerequisite: 305 or consent of instructor, successful completion of the Language Skills Exam.

**357-3 Broadcast and Cable Promotion.** Theory and management of campaigns promoting audience and sales growth by broadcasters, cable and pay-cable services and program distributors; including design, implementation and evaluation of campaigns and materials. Prerequisite: 305 or consent of instructor, successful completion of the Language Skills Exam.

**360-3 Radio-Television Performance.** The development of disciplines controlling vocal and visual mechanics and interpretative performances for announcers, newscasters, interviewers, and narrators of various radio and television situations. Laboratory hours required. Prerequisite: 310 or 383 or concurrent enrollment or consent of instructor; Communication Disorders and Sciences 104 or Theatre 203 recommended, successful completion of Language Skills Exam.

**363-3 Producing for Radio.** Planning and producing for the special requirements of the medium. Study of differing formats; production of short forms in laboratory exercises. Laboratory hours required. Prerequisite: 310 or 383 or concurrent enrollment or consent of instructor, successful completion of Language Skills Exam.

**365-3 Producing for Television.** Planning and producing for the special requirements of the medium. Research, planning, and budgeting for individual and series productions. Laboratory exercises. Final projects carry over to 369. Laboratory hours required. Prerequisite: C in 300m, 310 or 383 or concurrent enrollment, successful completion of Language Skills Exam.

**369-3 Directing for Television.** Applications of communications theory and unique characteristics of the medium in directing televised productions. Laboratory hours required. Prerequisite: C in 300m and Mass Communication and Media Arts 201, 365 with a grade of B or better; 340 or concurrent enrollment, successful completion of Language Skills Exam.

**370-3 Television News.** Reporting, writing, editing and producing television news for broadcast using professional grade cameras, recorders and editors. Students will participate in daily news gathering for television newscasts. Laboratory hours in concentrated blocks of time for reporting are required. Prerequisite: 311 or consent of instructor, successful completion of Language Skills Exam.

**377-3 Radio and Television Sales and Sales Management.** A marketing approach to station and system sales. Use of ratings, RAB, TVB, and station promotion material. Includes selling methods and techniques and sales management techniques (systems approach, inventory control, pricing). Prerequisite: 305 or consent of instructor, successful completion of Language Skills Exam.

**380-3 New Technologies.** An examination of the factors and forces which lead to expansion and improvements in telecommunications technologies with particular emphasis on the new technologies. The social issues raised or addressed by these technologies will also be analyzed to give students a broad and far-sighted view of the future directions of an expanding industry. Prerequisite: Mass Communication and Media Arts 201, successful completion of the Language Skills Exam.

**383-3 Writing for Radio-Television.** Experience in writing radio and television formats, and announcements – commercial, public service and promotional. Develops critical awareness and analytical attitude toward broadcast writing, and stresses imagination and creative writing skills. Frequent written assignments in and out of class. Prerequisite: Mass Communication and Media Arts 201, successful completion of Language Skills Exam.

**384-3 (1,1,1) Radio-Television Practicum.** Practical experience in broadcast operations on the campus. Instructor makes determination on student duties, based on needs of the Broadcast Service or the department and the desires of the student. A minimum of four hours per week. Students obtain application form from academic adviser. Prerequisite: consent of instructor. Mandatory Pass/Fail.

**391-2 Independent Study.** Area of study to be determined by student in consultation with radio-television faculty. No more than two students may work on the same project. Prerequisite: consent of instructor.

**393-3 Radio, Television, and Society.** The interrelation of radio and television with social patterns and economic and political systems. Major theories of broadcasting. Effects of these media on society. Required for major. Prerequisite: Mass Communication and Media Arts 201, senior standing or consent of instructor, successful completion of the Language Skills Exam.

**395-2 to 6 Internship Program.** News production, performance or sales management work experience with a non-university professional organization. The student will be provided an educational experience beyond that available at the University. No retroactive credit for previous work experience. Prerequisite: junior status, gpa of 2.75 or better and consent of instructor. The student must submit an application to seek an internship and receive approval from the Undergraduate Curriculum Committee no later than the fourth week of the semester prior to the internship. May be repeated up to 6 hours.

**430-3 News and Public Affairs Programming.** Examination of history and scope of news and public affairs programming. Effects of public affairs on programs and audiences. Responsibility of radio and television stations in news and public affairs and community relations. Issues in news and public affairs including ethics.

Prerequisite: senior standing, Mass Communication and Media Arts 201, and successful completion of the Language Skills Exam.

**453-3 Educational and Public Broadcasting.** The history and regulatory structure of educational and public broadcasting in the United States today, with special emphasis on organizations regulated under the Public Broadcasting Act of 1967. Methods of funding public stations, programming, and careers in educational and public broadcasting considered. Prerequisite: Mass Communication and Media Arts 201, successful completion of the Language Skills Exam.

**465-3 Advanced Television Production.** Instruction and practical experience in the development of programming for television, resulting in completed segments for broadcast in individual and series production. Students will utilize the facilities of the Broadcasting Service and produce programming for WSIU-TV. For undergraduate students only. Prerequisite: 365 or consent of instructor and successful completion of Language Skills Exam.

**467-3 International Broadcasting.** An examination of broadcasting theory related to rural audiences in the United States and abroad. History of farm broadcasting in the United States and abroad. Communications in development is explored. Research on effects on rural audiences. Open to non-majors with consent of instructor. Prerequisite: senior standing, Mass Communication and Media Arts 201 and successful completion of Language Skills Exam.

**470-3 Television News Field Production.** Advanced field reporting for television. Students will work under the supervision of the instructor to develop, investigate, and report news stories for television. This process will also study the development and production of the mini-documentary. Class will utilize professional grade video recorders, cameras and editing systems. Prerequisite: 370 or consent of instructor and successful completion of Language Skills Exam.

**473-3 Radio-Television Management Principles.** Management history, management styles and systems, sales management (marketing and developing sales packages), maximizing inventory, sales training, gamesmanship, leadership and financial evaluation of broadcast properties, procedures and objectives of broadcast management. Students will be required to prepare: audience analysis for sales/programming; computer generated inventory reports; and marketing strategies. Not for graduate credit. Prerequisite: 305 and senior standing and successful completion of Language Skills Exam.

**481-3 Non-Broadcast Television.** An examination of the special requirements of business, industrial, and medical uses of television. Management, budgeting, planning and evaluating productions. Exploration of cable television, satellites and other technologies used in non-broadcast situations. Prerequisite: 365 or concurrent enrollment or consent of instructor and successful completion of Language Skills Exam.

**483-3 Advanced Radio-Television Writing.** Exercises in writing broadcast manuscripts including documentary, drama, and children's programming. Prerequisite: senior standing and 340, 310 or 383, consent of instructor and successful completion of Language Skills Exam.

**489-2 to 6 Radio Television Workshop.** Advanced work in various areas of radio-television and interrelated disciplines. Prerequisite: consent of instructor.

**491-3 Independent Study.** Area of study to be determined by student in consultation with graduate faculty. No more than two students may work on same project. Students must complete an application form which is available from the departmental adviser. Prerequisite: senior standing and consent of instructor.

## Radiologic Sciences (RAD)

**102-3 Introduction to Radiologic Technology and Radiographic Technique.** Designed to introduce the student to the medical radiography profession. Students will begin their study of medical terminology, professional behavior, ethics, theory of radiographic exposure and radiation protection. Prerequisite: admission to major and consent of department.

**112-3 Anatomy and Positioning I.** Designed to provide the student radiographer with didactic instruction and laboratory experience which will lead to the development of clinical competencies. It will serve as a foundation for the development of advanced clinical skills as well. The competencies developed are chest, abdomen, upper and lower extremities. Laboratory fee: \$75. Prerequisite: admission to program and consent of program adviser.

**132-3 Anatomy and Positioning II.** A continuation of 112 designed to further develop clinical skills and competencies through continued didactic and laboratory experience. Positioning competencies developed in this course include radiography of the pelvic girdle, spine and digestive system. Eight weeks. Prerequisite: 112 and consent of program adviser.

**202-3 Radiographic Physics.** This course will concentrate on general theories of physics as they relate to matter, mechanics and electricity. It also involves the study of the nature and production of radiation and understanding of the complexity of radiographic equipment and circuitry. Prerequisite: 102 and 112.

**212-2 Special Procedures.** Includes the study of contrast producing agents which are used to visualize specific parts of the body. Radiographic technique employed in this type of imaging is highly specialized and will be studied in depth. Prerequisite: 222, 372a and consent of program adviser.

**222-10 Radiography Clinic I.** The student is assigned to a selected clinical education center for the entire semester. During this semester, the student radiographer is expected to practice and perfect the professional skills developed the previous semester on campus. The student is supervised by a qualified radiographer and directed in specific experiences designed to meet the objectives for the semester. Prerequisite: 102, 112, 132, 202.

**232-3 Selected Systems (Radiography).** Designed to instruct the student in the anatomy and positioning of the skull, digestive, excretory, biliary and human reproductive systems. Routine projections common to most

health facilities will be described, demonstrated and then practiced on a phantom in the energized lab. A \$50 laboratory fee is required. Prerequisite: 222, 372a, and consent of department.

**312-3 Radiographic Pathology.** Deals with the etiology and processes of trauma and disease. Emphasis will be placed on radiographic pathology of the body systems and the manifestation of this pathology. Prerequisite: 332, 372b, and consent of program adviser.

**322-3 Sectional Anatomy, Computed Tomography and Magnetic Resonance Imaging.** Includes the study of anatomical structures from the transverse, sagittal and coronal section perspectives. Also included is an introduction to computed tomography and magnetic resonance imaging technology. Emphasis will be placed on (1) identifying the imaging plane demonstrated; (2) identifying anatomy visualized in a given plane; and (3) differentiating between images produced by computed tomography and magnetic resonance imaging. Prerequisite: 332 and 372b.

**332-10 Radiography Clinic II.** The student returns to the clinical education center for this semester. The student radiographer is expected to continue to practice previously developed professional skills and to assume performance of additional examinations studied during the previous semester. This semester of clinical study includes proficiency testing which, when completed, will allow the student to assume full responsibility for the examination in the future. Prerequisite: 212 and 232.

**342-3 Radiation Biology.** Designed to instruct the student radiographer in the principles and terminology of radiobiology. Emphasis will be placed on how these principles relate to radiation protection for both the patient and radiographer. Also included are introductions to nuclear medicine and radiation therapy technology. Prerequisite: 332 and 372b.

**352-4 Special Imaging Modalities.** This course provides the student with the knowledge and understanding relevant to the function, operation and application of the various techniques used in image production. Prerequisite: 332 and 372b.

**360-2 Introduction to Radiation Oncology.** The rationale for and methods employed in the treatment of cancer by radiotherapy. The role of radiotherapy and its relationship to other modalities utilized in the treatment of cancer are explored and defined. Also, an introduction to the principles and concepts of radiotherapy. Prerequisite: limited to major.

**361-2 Ultrasound Terminology.** A study of the diagnostic foundations of clinical medicine pertinent to sonography including obtaining the clinical history, the pathologic basis for disease, related clinical signs and symptoms, and emergency medical procedures. The medical terms pertaining to sonography are discussed. Prerequisite: limited to major.

**362-4 Radiography Clinic III.** Last clinical course of the program. Students are expected to demonstrate knowledge and competency of radiographic examinations listed in categories one through nine. Image evaluations will be performed on a weekly basis by the clinical instructor as well as behaviors/attitudinal ratings. Prerequisite: 312, 322, 342 and 352.

**363-4 MRI/CT Physics and Instrumentation.** This course will focus on the general physics involved in MRI and CT. Topics of discussion for MRI will include electromagnetism, radiofrequency system, gradient system, nuclear magnetism, Larmor frequency, tissue characteristics, spatial localization, imaging artifacts. Topics for CT discussion will concentrate on various system components including the X-ray tube, detector, collimation and the computer and array processor. Prerequisite: major only.

**370-3 Techniques and Applications of Radiotherapy.** The technical aspects of radiotherapy including dosimetry, shielding, radioactive sources and methodology. Prerequisite: limited to majors.

**371-3 Ultrasound Imaging I.** A study of the clinical applications within abdominal sonography including interpretation of clinical laboratory tests, related clinical signs and symptoms, and normal sonographic patterns. This course includes a laboratory section on basic scanning techniques and protocol. Prerequisite: limited to majors.

**372-4 (1,1,2) Radiographic Film Critique.** (a) Concurrent with clinical study, the student will participate in the technical review of the films taken fulfilling introductory objectives set for this course. Prerequisite: 102, 112, 132, 202. (b) The student will continue to develop abilities to review an examination from a technical standpoint utilizing more advanced knowledge to fulfill course objectives. Prerequisite: 212, 232. (c) Final competencies in the technical production and review of the finished radiograph are determined and evaluated. Also included is a review of the knowledge learned in the program. Prerequisite: 312, 322, 342, 352 or consent of department.

**373-4 Sectional Anatomy and Imaging Applications.** This course focuses on the study of anatomical images reproduced by CT and MRI scanners in the transverse, coronal, sagittal and orthogonal planes. Discussion will include the head, neck, spine, chest, abdomen, pelvis, musculoskeletal and vascular systems. Information pertaining to dynamic scanning, fast scanning, spiral scanning and 3-D imaging will also be discussed. Prerequisite: majors only.

**380-3 Physics of Radiotherapy.** Physical principles and application thereof, specifically in radiation therapy. A review of basic radiotherapy principles which will be expanded upon in later courses. Prerequisite: limited to majors.

**381-3 Ultrasonic Instrumentation.** Basic physics of ultrasound; ultrasonic wave generation and propagation and influences on sound beams related to propagation and reflection methods of influencing ultrasonic energy by transducer design; variation in sound beam patterns; interfaces with basic instrumentation techniques and the doppler effect. Basic types of equipment and quality control are discussed. Prerequisite: limited to majors.

**383-3 Patient Safety and Quality Assurance.** This course will concentrate on patient screening, assessment and monitoring, IV procedures, contrast agents, safety precautions and biological considerations in CT and

**MRI.** Topics of discussion will also include signal to noise, spatial and contrast resolution, slice thickness, RF shielding and field homogeneity and shimming. Prerequisite: majors only.

**390-2 Oncologic Nursing.** Nursing techniques utilized on patients with cancer and those in the terminal state of illness. Emphasis on the psychological needs and problems of those suffering terminal illness. Special topics will include care of the skin during and after radiotherapy, assisting patients in learning home care and dealing empathetically with patients and relatives. Prerequisite: limited to majors.

**391-3 Sectional Anatomy.** A study of sectional anatomy in the transverse, longitudinal and coronal planes, with emphasis on the organs of sonographic interest within the abdomino-pelvic cavity. Prerequisite: limited to majors.

**393-3 Data Acquisition and Processing.** This course focuses on the various pulse sequences and imaging parameters used in MRI. Discussion for CT will include image reconstruction. Prerequisite: majors only.

**400-3 Radiation Dosimetry and Instrumentation.** The principles of radiation dosimetry and related instrumentation. Topics include aspects of calibration, monitoring, protection and dose determination of x and gamma radiation. Prerequisite: limited to majors.

**401-10 Clinical Internship I.** Observation and practice of all clinical duties performed in the ultrasound department. Basic instruction and scanning experience in abdominal sonography. Prerequisite: 361, 371, 381, 391 and concurrent enrollment.

**403-10 Clinical Internship I.** The student is assigned to a selected clinical education center for the entire semester. During this semester, the student is expected to practice and perfect the professional skills developed the previous semester on campus. The student will be supervised by qualified MRI/CT personnel and directed in specific experiences designed to meet the objectives for the semester. Prerequisite: 363, 373, 383, 393.

**410-10 Radiotherapy Clinical Internship I.** A practicum in which the student functions under direct and remote supervision and applies the knowledge gained in the classroom; functioning in the clinical setting to interpret and execute the radiotherapist's orders and operate the ionizing radiation equipment during actual patient treatments. Prerequisite: 360, 370, 380, 390 and 400.

**411-2 Ultrasonic Imaging II.** A study of the clinical applications within the sonographic specialties of obstetrics-gynecology, neurosonography, echocardiography and peripheral vascular doppler. Topics of discussion include related clinical symptoms and laboratory tests, and normal and abnormal sonographic patterns. This course includes a laboratory section on basic scanning techniques. Prerequisite: 361, 371, 381, 391.

**413-2 Research Methods.** The basic research methods and techniques used in the design, investigation and reporting of information as it pertains to the MRI/CT profession. Prerequisite: 363, 373, 383, 393.

**420-3 Special Problems.** A review of interesting and/or rare cases to include discussion of clinical symptoms, treatment patterns, technical pitfalls, survival statistics and patient/family interactions. Both written and oral seminar responses will be included in this course. Prerequisite: concurrent enrollment in 410.

**421-1 Ultrasound Case Review.** A review of interesting and/or rare cases to include discussion of clinical symptoms, sonographic patterns and technical pitfalls. Prerequisite: concurrent enrollment in 401.

**431-2 Biological Effects of Ultrasound.** The potential hazardous effects of ultrasound. Topics to be discussed include thermal, cavitation and direct effects of ultrasound. Prerequisite: 361, 371, 381, 391.

## Recreation (REC)

**300-3 Introduction to Leisure Services.** An introduction to the professional field of recreation. A study of the historical, philosophical, sociological, psychological, and economic development of leisure and recreation. Insight into the fundamental concepts, values, and functions of leisure and recreation as an individual emotional experience as well as a necessary part of community life.

**301-3 Leadership in Recreation.** An examination of leadership theories and styles appropriate for activity leaders in recreation. Emphasis will be placed on leadership process and methodology as applicable to leisure service settings.

**302-3 Program Design and Group Dynamics.** A study of essential elements and basic principles involved with the organization and administration of various types of recreation programs and services. Prerequisite: 300 or concurrent enrollment.

**303-3 Recreation For Special Groups.** Problems and characteristics of special groups in society such as teenagers, aged, emotionally disturbed, mentally retarded, physically handicapped, prisoners, and delinquents. Emphasis on leadership processes, methodology, and program materials. Prerequisite: 300 or consent of department.

**304-3 Principles and Practices of Therapeutic Recreation.** Study of the existing practices and principles utilized in therapeutic recreation; professionalism; legislation; team approaches; activity analysis; supervision functions; community resources; special recreation programs. Prerequisite: 300, 302, 303.

**305-1 Pre-Practicum.** An introduction to the responsibilities and opportunities of field experience within the field of recreation. The course includes field experience identification and selection, resume preparation, letters of application, interview procedures, professional skills, and development.

**330-3 Outdoor Education.** Philosophy and principles underlying the programs and methods in modern outdoor education and school camp programs with emphasis on curriculum enrichment through our natural resources. Expenses for required field trip not to exceed \$20. Prerequisite: 300, 302, 303 or consent of department.

**331-3 Outdoor Living Skills.** Introduction to basic living skills in wilderness environments. Topics include low-impact camping, food rations planning, clothing, travel techniques, equipment, and navigation. Sixteen class meetings plus a one-week wilderness trip. Trip fee not to exceed \$250. Wilderness Education Association Stewardship Certification may be earned.

- 365-3 Administration of Leisure Services.** Administrative procedures in park and recreation departments — organization, finance, personnel, facilities, program, public relations, and other areas of administration. Prerequisite: 302.
- 366-3 Workshop in Administrative Issues in Recreation.** Designed to examine in a workshop current administrative issues in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies, and others. Prerequisite: 365.
- 367-3 Research and Evaluation in Recreation.** An introduction to methodological approaches to the scientific study of phenomena inherent to recreation and leisure. The course includes basic research and evaluation designs, research and evaluation report writing, analysis of current leisure research, and use of computers in leisure research and evaluation. Prerequisite: 300, 302, 303.
- 370-3 Camp Management.** Principles and procedures of selection and supervision of personnel, program planning, food preparation, health and safety, camp maintenance, evaluation, camp counseling, and other responsibilities of camp administration. Prerequisite: 300, 302, 303 or consent of department.
- 375-3 Commercial Recreation and Tourism.** Problems of commercial recreation and tourism will be addressed in this class. Topics include: free enterprise, marketing, transportation industry, attractions, food and lodging industry and government's role in tourism.
- 377-3 Overview of Campus Recreation.** Focuses on the administration, organization, planning, implementation, and evaluation of programs and facilities in the campus recreation field. Specific topics addressed include historical and philosophical aspects, administrative practices, competitive and non-competitive programming, future trends and issues, budgeting, public relations, professional associations, and examination of individual characteristics of a variety of campus recreation programs conducted nationwide.
- 380-2 to 6 (2,2,2) Field Work in Recreation.** Supervised leadership experiences in a public or private recreation setting. Students register for two hours per semester. Only one field work may be done per semester. Students must complete field experience in at least two areas of specialization. A minimum of four hours and a maximum of six hours of credit may be earned. Prerequisite: 300, 301, 302, 303 and 305; a minimum SIUC gpa of 2.25.
- 385-1 to 2 Readings in Recreation.** Selected readings in professional publications for the purpose of becoming acquainted with the types of research current in community, park, special populations, outdoor recreation, outdoor education, and related fields. For recreation majors only. Prerequisite: 15 hours in recreation.
- 386-1 to 2 Problems in Recreation.** Designed to enable students to effectively request funds, request personnel, initiate new programs, or support recreation leisure services. Prerequisite: 15 hours in recreation.
- 395-3 Site Maintenance and Operation.** All phases and principles of development, maintenance, and construction of areas and facilities used in a recreation setting. Stress is put on selection and supervision of maintenance personnel. There is a maximum cost of \$5 for course materials in lieu of textbook. Prerequisite: 300, 302, 303 or consent of department.
- 401-3 Fundamentals of Environmental Education.** (Same as Agriculture 401.)
- 423-3 Environmental Interpretation.** (Same as Agriculture and Forestry 423.)
- 425-3 Planning and Design of Recreational Facilities.** An examination of major design considerations for a variety of recreation facilities such as recreation centers, recreation sport complexes, parks, visitors centers, and natatoriums. Special attention will be given to long range facility planning. Prerequisite: senior or graduate standing.
- 431-3 Expedition Leadership.** Course focuses on professional leadership of highly adventurous wilderness trips. Emphasis is on development of sound judgment, decision-making, and teaching in wilderness expeditions. Three to five week expeditions in a wilderness setting. Trip fee not to exceed \$500. Outdoor Leader Certification by Wilderness Education Association is offered.
- 440-15 (3,3,3,3,3) Therapeutic Recreation for Selected Populations.** Students will be made aware of problems and characteristics of special population groups. Emphasis is upon the role of therapeutic recreation with these groups in institutional and community settings: (a) Therapeutic Recreation for the Mentally Ill. (b) Therapeutic Recreation for the Developmentally Disabled. (c) Therapeutic Recreation for the Aged. (d) Therapeutic Recreation for the Socially Deviant. (e) Therapeutic Recreation for the Physically Disabled. Prerequisite: 300, 302, 304 or consent of department.
- 445-3 Outdoor Recreation Management.** Philosophy and principles underlying the growth and development of outdoor recreation management. Outdoor recreation is examined in terms of historical values, long range planning, site design, visitor needs, and environment impact. A laboratory cost of up to \$14 may be required. Prerequisite: 300, 302, 303 or consent of department.
- 460-3 Therapeutic Recreation Management.** Organization and administration of therapeutic recreation programs in hospitals, nursing homes, schools for the retarded, detention centers, prisons and other institutions. Financial management and reimbursement issues are stressed. Prerequisite: 300, 302, 304 or consent of department.
- 461-3 Program Design and Evaluation for Therapeutic Recreation.** To equip the student with skills necessary to systematically design and evaluate programs. Philosophy and nature of systems, system analysis, assessment, individual treatment planning, implementation and evaluation of treatment programs. Prerequisite: 300, 302, 304, one section of 440, or consent of department. Concurrent enrollment in 380.
- 462-3 Facilitation Techniques in Therapeutic Recreation.** This course is designed to provide an understanding of the basic processes and techniques of therapeutic recreation and to develop technical competencies necessary for the provision of quality therapeutic recreation services. Emphasis is on the skillful application of various processes and techniques to facilitate therapeutic changes in the client and the client's environment. Prerequisite: 304 or concurrent enrollment.

**465-3 Advanced Administrative Techniques.** Designed to examine current administrative topics in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies and others. Prerequisite: 365, 380.

**475-3 to 39 (3 credits per topic) Recreation Workshop.** Critical examination and analysis of innovative programs and practices in one of the following areas: (a) Budget and Finance, (b) Campus Recreation Services, (c) Commercial, (d) Maintenance of Areas and Facilities, (e) Outdoor Recreation, (f) Personnel, (g) Technological Advances, (h) Therapeutic Recreation—Aging, (i) Therapeutic Recreation—Developmental Disability, (j) Therapeutic Recreation—Emotional Illness, (k) Therapeutic Recreation—Physical Disability, (l) Therapeutic Recreation—Prisons and Detention Centers, (m) Tourism.

**485-2 to 12 Practicum in Outdoor Education.** A supervised experience in a professional setting. Emphasis on administrative, supervisory, teaching, and program leadership in outdoor, conservation, or environmental education setting. Costs for travel are the responsibility of the student. Prerequisite: consent of instructor.

**490-12 Internship in Recreation.** Supervised practicum experience in a professional recreation setting. Emphasis on administrative, supervisory, teaching, and program leadership in the student's area of specialization. For undergraduate credit only. Must be taken during student's senior year. Prerequisite: completion of all requirements for major in recreation or consent of course coordinator; 2.25 grade point average.

## Rehabilitation (REHB)

**400-2 to 3 Introduction to Rehabilitation.** An introduction to the broad field of rehabilitation, to include the processes (services), facilities and personnel involved. Note: students can enroll in the didactic portion for two credits, or three credits if they elect the field trips. No student can take the field trips alone without taking the didactic portion as well.

**401-3 Rehabilitation for Non-Majors.** An introduction to the process and practice of rehabilitation for students not majoring in this field. An overview of counseling, evaluation, physical restoration, adjustment services, job placement, and rehabilitation administration will be presented. Also a survey of client characteristics will be provided. Clients with sensory, physical, developmental, and psychiatric disabilities will be discussed. Career opportunities in rehabilitation will be examined.

**403-3 Independent Living Rehabilitation.** Survey of principles and methods of independent living for persons with disabilities with attention to client assessment for rehabilitation, effective techniques for specific individuals with disabilities, and the variety of types and organization of independent living programs.

**405-3 Introduction to Aging and Rehabilitation.** Introduction to the field of aging. Includes social, political, economic and legal issues pertinent to an aging society and rehabilitation.

**406-3 Introduction to Behavior Analysis and Therapy.** A survey of the principles and procedures in behavior analysis and therapy and the scope of its application to human needs and problems.

**419-1 to 3 Cross-Cultural Rehabilitation.** (Same as Black American Studies 490.) Major focus on the relationship/comparison of basic cultural, economic, and psychosocial processes relative to the rehabilitation of people in contemporary societies. Prerequisite: consent of instructor.

**421-3 Vocational Development and Placement.** Relates the psychosocial meaning of work, process of vocational development, theories of occupational choice and labor market trends to current and innovative methods of job development, selective placement, and follow-up with the handicapped. Prerequisite: consent of instructor.

**425-1 to 6 Developing Employment Opportunities.** Designed to train rehabilitation personnel in the attitudes, methods, and skills pertinent to placement of handicapped persons with disabilities in competitive and other occupations. Prerequisite: special standing and consent of instructor.

**436-3 to 4 Vocational Evaluation and Adjustment Services.** Introduction to the philosophies of evaluation and adjustment services in rehabilitation settings with emphasis on the rationale for use of psychometric testing, functional behavioral analysis, work sampling, situational assessment, and on the job evaluation in relation to the development of individualized adjustment service programs.

**445-3 to 12 Rehabilitation Services with Special Populations.** Procedures and programs pertinent to the care and treatment of special populations. Three semester credits will ordinarily be granted for each unit. Prerequisite: consent of instructor.

(a)-9 (3,3,3) Alcohol and Drug Abuse.

(b)-9 (3,3,3) Emotionally Disturbed.

(c)-9 (3,3,3) Juvenile Offender.

(d)-9 (3,3,3) Mental Retardation.

(e)-9 (3,3,3) Physically Disabled.

(f)-9 (3,3,3) Public Offender.

(g)-9 (3,3,3) Sensory Disabled.

(h)-9 (3,3,3) Developmental Disabilities.

**446-3 Psychosocial Aspects of Aging.** Selected theories of psychosocial aspects of aging will be presented and the psychological and sociological processes of aging with the ensuing changes will be related to these conceptual frameworks. Included for discussion and related to field experience will be such concerns as stress reactions to retirement, physical disabilities, impact of reduced economic resources, and other personal-social changes in aging. Topics will address the knowledge base needed by students concerned with rehabilitation of aging clients in institutional, community and home settings. Therapeutic techniques to ameliorate these stresses will be an integral part of the course.

**447-3 Biomedical Aspect of Aging.** The aging process in a life-span developmental perspective; biological theories of aging, physiological changes in middle and old age and their effects on behavior, performance potential, and psychosocial functioning; senility and other age-related disabilities, their prevention and management; geriatric health maintenance and rehabilitation; institutionalization; death and dying. No prerequisites.

**452-3 Behavior Change Applications.** An overview of the development and evolution of applied behavior analysis. Applications of behavior analysis to problems of social significance in institutions, schools, and communities are surveyed. Prerequisite: 406 or consent of instructor.

**453-1 to 4 Personal and Family Life Styling.** The academic and personal competencies that are characteristic of fully-functioning, integrated persons within the context of our twentieth century environment will be systematically reviewed for adoption in every day living as well as in professional functions. Participants will focus on and experience life styling theories, models, and skills for their own growth and development and learn to assess basic risk-factors in their rehabilitation clients and families prior to helping them program a more balanced, synergistic, and holistic approach to living. Prerequisite: consent of instructor.

**461-3 Introduction to Alcoholism and Drug Abuse.** Orientation and introduction to a variety of topics related to alcohol and drug abuse; surveys history, theories of cause and development, consequences of abuse, classes and types of drugs, legislation, and other current issues relating to substance abuse and addiction.

**468-3 Sexuality and Disability.** Research and rehabilitation practices pertaining to the unique psychosexual aspects of various chronically disabling conditions will be examined.

**471-3 Rehabilitation and Treatment of the Alcohol and Drug Abusers.** A comprehensive examination of substance abuse treatment and rehabilitation; focus on various treatment approaches, treatment settings, and types of counseling to include an overview of individual, group, and family techniques; the rehabilitation counselor's role is addressed and necessary skills in treating drug and alcohol abusers. Prerequisite: 461 or consent of instructor.

**479-3 Technical Writing in Rehabilitation.** Fundamentals of writing skills for rehabilitation specialists, including preparation and drafting of program/grant proposals, vocational evaluation/work adjustment reports, news releases and other publicity materials. Prerequisite: consent of instructor.

**490-1 to 6 (1 to 3 per semester) Readings in Rehabilitation.** Supervised readings in selected areas. Prerequisite: consent of instructor.

**494-1 to 12 Work Experience in Rehabilitation.** Rehabilitation 494 and 594 both cannot be counted for a graduate degree, only one or the other can satisfy requirements toward a master's degree. Prerequisite: consent of department.

## Respiratory Therapy Technology (RESP)

**203-5 Principles of Respiratory Therapy.** A course designed for the beginning respiratory therapy student. An introduction to the state of the art and fundamental principles and devices used in respiratory care practice. Significance is given to indications and contra-indications for therapeutic modalities, appropriate equipment selection, airway management and rehabilitation. Five hours lecture per week. Prerequisite: respiratory therapy major, consent of instructor and completion of a college physics course.

**213-1 Respiratory Therapy Laboratory.** Concepts and theories are applied in a laboratory setting to provide and enhance a working knowledge with respiratory therapy equipment, the physical principles of equipment operation and pulmonary therapeutic techniques. One hour credit for two laboratory hours weekly. \$25 laboratory fee is required. Prerequisite: concurrent enrollment in 203, respiratory therapy major, consent of instructor.

**223-2 Patient Care Techniques.** Presents basic principles and essential skills necessary to perform patient care safely and effectively. Skills include medical asepsis, terminology, communication, patient assessment and positioning, medical ethics and behavioral problems unique to patients with respiratory illnesses. Lecture. Prerequisite: consent of program adviser.

**243-3 Basic Cardiopulmonary Physiology.** A presentation of physiological functions including acid-base relationships, gas perfusion, functions of ventilatory control, ventilation perfusion analysis, cardiopulmonary hemodynamics and blood gas analysis. Prerequisite: Allied Health Careers Specialties 141, physics, chemistry, zoology or equivalents.

**253-1 Clinical Practice I.** Orientation to the clinical setting with special emphasis on basic procedures and the role of the respiratory therapy department as part of the health care system. Equivalent to one eight-hour session per week for the semester. Prerequisite: concurrent enrollment in 203, 213, 223, 243 and 313.

**263-3 Principles of Mechanical Ventilation.** Introduces mechanical function of equipment used in continuous and intermittent ventilation of adult, pediatric and neonatal patients. Indication, contraindications, and hazards of continuous ventilation with significance given to ventilatory management and monitoring techniques. Three lecture hours per week. Prerequisite: 203, 213, concurrent enrollment in 273 and respiratory therapy major.

**273-1 Mechanical Ventilation Laboratory.** A laboratory practical course with emphasis on functional mechanical ventilation characteristics, assembly of patient circuits, ventilator monitoring and weaning techniques. Also included is the analysis of arterial blood gas parameters and assessment of the ventilator patient. A \$25 laboratory fee is required. Prerequisite: concurrent enrollment in 263, 213 and respiratory therapy major.

**283-3 Survey of Pulmonary Diseases.** An introduction to the nature, cause and treatment of pulmonary diseases which involve changes in structure and function. Prerequisite: 243, 313 and Allied Health Careers Specialties 141.

**293-2 Clinical Practice II.** Supervised clinical experience which emphasizes fundamental respiratory therapy procedures and introduces the student to critical care management. Equivalent to sixteen clinical hours per week. Prerequisite: 203, 213, 243, 313 and 253.

**303-1 Clinical Simulation Study.** Designed for the advanced respiratory care student or practitioner in preparation for the clinical simulation examination required for the NBRC advanced practitioner credential. Con-

tent will review format, matrix and examples of clinical simulations and typical case studies used on the examination. Conducted via independent study with a computer emphasis. One lecture/assessment hour per week. Computer lab as necessary. Prerequisite: consent of instructor.

**313-3 Respiratory Pharmacology.** This course is devoted to the study of drugs, their nature, properties and effects on the human body. Special emphasis is given to drugs which affect the cardiopulmonary and renal systems. Prerequisite: physics, chemistry, mathematics, Allied Health Careers Specialties 141.

**323-3 Respiratory Pathophysiology.** A discussion of pulmonary complications with obstructive and restrictive disease components and their relationship with pulmonary function studies and blood gas analysis. Emphasis is given to patients with complications directly or indirectly affecting respiration and clinical applications. Prerequisite: 243, physiology, and respiratory therapy major.

**343-2 Neonatal/Pediatric Respiratory Care.** Respiratory care of the neonate and pediatric patient is presented with emphasis on: physiology; cardiopulmonary disorders and diseases; assessment, evaluation and monitoring; and respiratory therapy modalities of treatment. Prerequisite: 243.

**353-8 Clinical Internship.** Integration of clinical practice and knowledge for the advanced student. Students receive clinical experience in neonatal and adult intensive care units with an emphasis in ventilatory management. Students should plan to attend a major medical institution off campus for sixteen weeks in the fall. Prerequisite: 263, 273, 293, 323, 343, 363.

**363-3 Cardiopulmonary Evaluation and Monitoring.** An intensive study of diagnostic testing and monitoring techniques used in the clinical evaluation of the cardiac and pulmonary systems. Cardiopulmonary assessment is presented using pulmonary function testing, electrocardiograph and noninvasive and invasive cardiopulmonary tests. Prerequisite: 243, 313, 203, 213.

**373A-2 Clinical Practice III.** Through a systematic review of all didactic material covered in prior respiratory therapy courses, and clinical internship experience with respiratory therapy therapeutic, diagnostic and monitoring procedures, students will demonstrate knowledge and proficiencies to be a practicing respiratory therapy graduate. Prerequisite: concurrent enrollment in 353.

**373B-2 Clinical Practice III.** Research seminar: a faculty supervised research project identifying rural clinical problems relevant to respiratory therapy is completed by the student. Project requires research instrument development and analysis. Prerequisite: 293 and respiratory therapy major.

## Russian (RUSS)

**136-8 (4,4) Elementary Russian.** Emphasis on basic skills of listening, speaking, reading, and writing. No previous knowledge of Russian required. Must be taken in a,b sequence.

**201-8 (4,4) Intermediate Russian.** Continuation of the language structure with practice in oral and written Russian. Must be taken in a,b sequence. Prerequisite: 136 or two years of high school Russian or equivalent.

**220-4 (2,2) Intermediate Russian Conversation.** Practice of oral skills on the intermediate level. May be taken as companion course to 201a,b or with consent of instructor. Prerequisite: 136b or equivalent.

**305-4 Advanced Conversation and Composition.** Improvement of self-expression, oral and written comprehension, free composition and conversation; readings based on the history of Russia, as well as readings of magazine and newspaper articles. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 201 or equivalent.

**306-3 Intermediate Readings in Russian.** Designed to improve skills in reading selections from Russian prose. Prerequisite: 201 or equivalent.

**320-3 Advanced Language Skills.** A review of fine points of grammar and polishing of student's syntax. Prerequisite: grade of B or better in 201b or permission of instructor.

**330-4 Introduction to Russian Literature.** Reading and analysis of the texts selected from Russian literature.

**350-3 Russian Phonetics.** Analysis of the sounds of Russian and their manner of production; intonation and stress; levels of speech, oral practice. Prerequisite: 201b.

**375-3 to 6 Travel Study in USSR.** Supervised travel-study program in the USSR. Prerequisite: 201 or equivalent.

**388-3 Russian as a Research Tool.** Intensive study of Russian as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

**390-1 to 6 (1 to 3, 1 to 3) Independent Study in Russian.** Directed independent study in a selected area of Russian studies. Prerequisite: consent of instructor.

**411-3 Russian Stylistics.** Writing styles in Russian and its application to the development of skills in written expression. This course satisfies the CoLA Writing Across the Curriculum requirement.

**415-3 Russian Linguistic Structure.** Structural analysis of present-day Russian with special attention to morphology and syntax.

**430-4 Business Russian.** A study of the style of commercial language and its application to the development of skill in business correspondence, such as: inquiries, offers, orders, contracts, agreements, as well as documents concerning transport, insurance, and customs. Prerequisite: 201 or equivalent.

**465-3 Soviet Russian Literature.** Major fiction writers and literary trends since 1917. Lectures, readings, and reports.

**470-3 Soviet Civilization.** Soviet culture and civilization is studied primarily through literary works, journalistic materials, and excerpts from non-literary works as general background reading. Lectures are illustrated with maps, slides, films and art works. Taught in English. Readings are in English and in bilingual edition. No prerequisite: May count toward Russian major with consent of graduate adviser.

**475-2 to 3 Travel-Study in USSR.** Specialized course comprising part of the travel-study program in the Union of Soviet Socialistic Republics. Prerequisite: 201 or equivalent.

**480-4 Russian Realism.** Authors in 19th century Russian literature. Special attention to stylistic devices. Lectures, readings, and individual class reports.

**485-3 Russian Poetry.** A study of literary trends and representative works of Russian poets.

**488-3 Advanced Russian as a Research Tool.** Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: 388 or one year of Russian or equivalent.

**490-1 to 6 Advanced Independent Study in Russian.** Directed independent study in a selected area of Russian studies. Prerequisite: consent of instructor.

**493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language.** Topics vary and are announced in advance; both students and faculty suggest ideas. Students taking the course for graduate credit will do a critical study of one aspect. May be repeated as the topic varies. Prerequisite: consent of instructor.

## Science, College (SCI)

**257-2 to 8 Concurrent Work Experience Credit.** Practical experience in a laboratory or other work directly related to course work in a College of Science program and to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit for ongoing work experience is sought by petition and must be approved by the dean and the executive officer of the student's major program before registration. Mandatory Pass/Fail.

**258-2 to 8 Work Experience Credit.** Practical experience in a laboratory or other work directly related to course work in a College of Science program and to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit for past work experience is sought by petition and must be approved by the dean and the executive officer of the student's major program. No grade for past work experience.

**259-2 to 24 Vocational Education Credit.** Formal, post-secondary, educational credit earned in a military service or other vocational, technical, or occupational program and directly related to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit is sought by petition and must be approved by the dean and the executive officer of the student's major program.

**388-0 to 36 Study Abroad.** Provides credit toward the undergraduate degree for study at accredited foreign institutions or approved overseas programs. Final determination of credit is made on the student's completion of the work. Zero to eighteen credits per semester, zero to nine for summer session. Prerequisite: one year of residence at Southern Illinois University at Carbondale, good academic standing, and prior approval of the course of study by the major department and the College of Science.

## Social Work (SOCW)

**275-3 Social Welfare as a Social Institution.** Explores the interdependence of social, cultural, political and economic factors in the history and practice of social welfare with special reference to development of the social work profession. Focus on service integration and coordination in community-based delivery systems in rural areas, especially for poor and oppressed populations. Prerequisite: Sociology 108, Political Science 114, Economics 113 or concurrent enrollment.

**291-3 Social Services and Minority Groups.** Exploration of the needs, experiences and attitudes of minority populations pertaining to delivery of social services in rural settings. Emphasis on relationship of cultural diversity to practice, policy and research content.

**295-1 to 6 Field Service Practicum in Southern Illinois.** This course is designed for freshman and sophomores who are volunteering service to community, social service, or health agencies in southern Illinois. Credit based upon time spent in direct service. Mandatory Pass/Fail.

**350-3 to 6 Seminar in Special Issues for Social Work.** (a) Practice. (b) Policy and planning. (c) Public welfare services. Topics will be selected from these three areas. Limited to no more than three credit hours per semester. May be repeated as topic varies up to six semester hours.

**361-3 Child and Family Services.** Problems of child-parent relationships and difficulties in social functioning of children and adolescents. Adoptions, foster home and institutional placements, protective services. Focus on services in rural areas.

**363-3 Social Work with the Aged.** Basic concepts of social work methods applied to the older adult group. Characteristics of the aged group, its needs and potentials. Social trends and institutions involved in services to the aged.

**366-3 Public Policies and Programs for the Aged.** An introduction to public policy, program and planning for the aged. A framework is utilized for analyzing policy issues, programs and research in such areas as income maintenance, long term care, transportation, leisure time, housing and social services in order to aid present and future practitioners who work with the aged.

**383-3 Interviewing and Interpersonal Helping Skills.** This is an introductory course in interpersonal skills in the social services in a systems context. Intake, interviewing and recording are emphasized. Focus on practice in multi-service settings. Prerequisite: Psychology 102.

**396-1 to 3 Readings in Social Work.** Varying topics not ordinarily covered in depth in regular courses and of specific interest to advanced students. Prerequisite: consent of instructor.

**400A-3 Human Behavior and Social Environment I.** The first of two courses that examine the normal and dysfunctional life span development from a systems theory perspective. The first course focuses on the behavior of individuals and families. It also explores the impact of the environment and the implications for generalist practice with rural populations. Not for graduate credit. Prerequisite: Plant Biology 115 or Zoology 115.

**400B-3 Human Behavior and Social Environment II.** Continuation of 400a. A systems perspective is used to examine the theoretical and practice implications of the life cycle as they relate to the development of groups, organizations and communities in rural settings. The course links content to generalist practice skills taught in 401 and 402. Not for graduate credit. Prerequisite: 400a, 401 and 421.

**401-3 Generalist Practice I.** The first of two courses which prepares for generalist practice. Focuses on intervention skills with individuals and families at a beginning level of proficiency. Emphasis on assessment and treatment in multi-service agencies in rural settings. Not for graduate credit. Prerequisite: 383.

**402-3 Generalist Practice II.** Continuation of 401. Generalist practice skills and knowledge with groups, organizations and communities at beginning level of proficiency. Emphasis on assessment and treatment in multi-service agencies in rural settings. Not for graduate credit. Prerequisite: 400A, 401 and 421.

**411-3 Methods of Social Research.** Social work research in generalist practice. Examines the principles, concepts and methods of scientific investigation in terms of its application to social work research and practices. Provides basic skills for self-assessment research in field practicum in spring semester. Not for graduate credit. Prerequisite: 400a, 401, 421, and an introduction to statistics course.

**421-3 Social Welfare Policy.** In-depth examination of current social welfare policy and program issues in the context of social welfare history in the United States. Utilizes a systematic analytical framework for critical study of multiple causal factors (socio-economic, cultural, governmental structure). Prerequisite: 275, 291 and 383.

**441-9 Advanced Field Practicum.** At least 15 to 20 hours per week of supervised experience in an approved social service agency. Utilizes learning contracts with goals, objectives and evaluation to integrate course content into practice, including practice self-assessment. Not for graduate credit. Field work practice begins only in spring semester. Mandatory Pass/Fail. Prerequisite: senior standing, 275, 291, 383, 400a, 400b, 401, 402, 411, 421; and a 2.5 grade point average in social work. Must be taken concurrently with weekly practicum seminar (Social Work 442).

**442-3 Advanced Field Practicum Seminar.** The seminar assists the student who is in field practicum to systematically conceptualize and integrate the field experience with generalist systems theory, skills and knowledge. The seminar builds on and reemphasizes content provided in previous social work courses. Seminar discussion focuses on shared field work experiences: practice issues related to social work principles, ethics and professionalism, and intervention strategies. Not for graduate credit. Prerequisite: must be taken concurrently with 441.

**446-1 to 4 Selected Topics in Social Work.** Seminar on selected problems and issues in the social work practice. Content varies with interests of instructor and students. Prerequisite: junior standing.

**478-1 to 6 International Social Work: Generalist Policy and Practice.** Provides an international perspective for the study of social work groups, organizations and communities. Focuses on the examination of assessment and problem solving interventions and cross-cultural comparisons of policy and practice in Austria, Switzerland and Germany.

**495-1 to 6 Advanced Field Service Practicum in Southern Illinois.** This course is directed at upperclassmen and graduate students volunteering service community, social service, or health agencies in Southern Illinois. Credit based on time spent in direct service. Not for graduate credit.

**496-1 to 6 Independent Research in Social Work.** Provides opportunity for students to conduct independent research with the guidance of a faculty member. Topics of research are identified by the student and faculty member. Prerequisite: consent of instructor.

## Sociology (SOC)

**108-3 Introduction to Sociology.** (University Core Curriculum) An introduction to the sociological perspective on human behavior, the structure and processes involved in social relationship, social stratification and inequality, social institution, and social change. A survey of major areas of interest in sociology.

**215-3 Race and Ethnic Relations in the United States.** (University Core Curriculum) Current theory, research and events in race-ethnic relations in the United States, including the intersection of class, gender and sexuality. Topics include the European colonization of North America, dynamics of immigration, identity formation among ethno-racial groups and political economy of racism.

**223-3 Women and Men in Contemporary Society.** (Same as Women's Studies 221.) Examines theories of women's and men's roles in society. Surveys contemporary gender inequalities in the U.S. and developing countries. Special attention given to employment, race, sexual assault, feminist movements, alternative family/lifestyles and childrearing.

**233-3 Sport and Modern Society.** (Same as Physical Education 245.) An overview of the social scientific study of sport is followed by an examination of sport and social institutions (education, politics, economics, etc.); sport and social inequality (racial, ethnic, gender, age, etc.); and sport and social change.

**298-1 Multicultural Applied Experience.** (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision. Graded Pass/Fail only.

**301-4 Principles of Sociological Analysis.** This course familiarizes students with major domains of sociological analysis and basic methods of sociological inquiry. Emphasis on conceptual structure and diverse theoretical perspectives in contemporary sociology. Required of majors and minors in sociology. Recommended for students with special interest in social science.

**302-3 Contemporary Social Problems.** Review of the basic sociological perspectives used in the study of social problems; discussion and analyses of selected contemporary social problems; assessment of alternative courses of action for the solution of problems.

**303-3 Sociology of Deviant Behavior.** An overview of sociological theories and research in the study of social deviance. Examines such deviant behaviors as mental illness, sexual deviation, crime, prostitution, drug abuse, eating disorders, alcoholism, and suicide.

**304I-3 Families of the World.** (University Core Curriculum) Surveys uniformity and diversity to family life among the world's societies and examines the theories concerning family patterns.

**305I-3 History of Crime in England and America.** (University Core Curriculum) Application of sociological perspective to the study of English and American crime and criminal justice, 1600-present. Examines effects of culture, social structure and social change on criminal behavior and social control.

**306I-3 Popular Culture in Society.** (University Core Curriculum) Sociological analysis of the meaning of popular culture, the organization of popular cultural production and the relationship between popular culture and social change.

**308-4 Statistics for Social Science.** Methods and application of statistics in the social sciences. Measures to describe distribution, measures of relationship, statistical inference.

**312-4 Elements of Sociological Research.** The student is introduced to a variety of research methods in the social sciences including use of the library, techniques of observation, and elementary steps in quantitative measurements and analysis. Satisfies the CoLA Writing-Across-the-Curriculum requirement.

**316-3 Political Socialization.** (See Political Science 316.)

**321-3 Society and the Individual.** Examines the relative influence of individual characteristics, face-to-face interactions, and larger social structures in shaping human behavior. Emphasis is on socialization through the life cycle and in various sectors of society (family, schools, work settings.) Explores related topics of attitude formation and change, social influence, the self and self esteem, groups processes, and social power.

**335-3 Urban Sociology.** Development of cities and urban social life; present day ecology of cities: suburbs, ghettos, blight; strategies of urban renewal; urban life styles; violence and acute urban problems; urban housing needs; designing safe neighborhoods; urbanization in Europe and developing countries.

**340-3 Family.** The family in historic and contemporary society; evolution of the modern family; changes in family functions, structure, roles; and an examination of variation and change in family systems.

**351-3 Sociology of Religion.** The origin and function of religious ideas and institutions in society, their relationship to social change and stability.

**371-3 Population Problems.** Characteristics and problems of population growth, composition, distribution, mortality, birth control and fertility, international and internal migration, and government policies.

**372-3 Criminology.** The nature of crime; criminal statistics; causal factors and theories of criminality; types of criminals.

**384-3 Introduction to Corrections.** (Same as Administration of Justice 384.) Various treatment methods used throughout the criminal justice system. Explanation and evaluation of various treatment techniques; e.g., behavior modification, transactional analysis and other individual and group therapies.

**385-3 Energy and Society.** Development of human social organizations accompanied by increasing control of power, technology, and energy resources. Review of changes in social institutions, social processes, and energy use. Aspects of energy development, conservation, and control.

**396-1 to 6 Readings in Sociology.** Instructor and student select reading topics which are not covered in depth in regular course offerings. Prerequisite: consent of department and instructor.

**397-3 Special Topics in Sociology.** Varying sociological topics selected by the instructor for study in depth and breadth. Topics will be announced in advance of registration for the course. Prerequisite: consent of department and instructor.

**406-4 Social Change.** Theories and problems of social change; their application, with emphasis on the modern industrial period.

**415-3 Logic of the Social Sciences.** (See Philosophy 415.)

**423-4 Sociology of Gender.** (Same as Women's Studies 442.) Examines social science theory and research on gender issues and contemporary roles of men and women. The impact of gender on social life is examined on the micro level, in work and family roles, in social institutions, and at the global, cross-cultural level.

**424-4 Social Movements and Collective Behavior.** A sociological analysis of the behavior of collectivities in uninstitutionalized settings; crowds, masses, publics, and social movements will be examined with relation to their social and cultural backgrounds, forms of expression and organization, and their functions in society.

**426-4 Social Factors in Personality and Adjustment.** (Same as Psychology 464.) Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodo-

logical approaches — symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization.

**435-4 Social Inequality.** Discussion of theories and evidence pertaining to the socio-structural causes and consequences of inequality based on social class, prestige, power, gender, wealth and income.

**437-4 Sociology of Development.** Survey of sociological theories of development including modernization, dependency, and world-system perspectives. Problem areas of development are examined: economic growth, state structures, multinational corporations, labor force, education, migration, population, and women's roles.

**438-4 Sociology of Ethnic Relations in World Perspective.** Examines theories, concepts and research on the structure of ethnic relations and ethnic problems in contemporary societies in major world regions. Assimilationist, pluralist, secessionist, and militant types of ethnic and racial group relations are covered in selected societies. Designed for students with advanced interest in comparative ethnic relations. Prerequisites: 215 is recommended.

**450-4 Social Thought.** A survey of Western social thought from the ancient world to the founding of the modern social sciences in the 19th century.

**460-4 Sociology of Medicine.** Examination of the sociological factors involved in health and illness, the role of medicine in society, the organization of medical care and health institutions in the United States, and the prospects for sociological research in this area.

**465-4 Sociology of Aging.** The adult life cycle from a sociological perspective, with emphasis on the later stages of adulthood. Special topics on aging include demographic aspects, family interaction, ethnicity, and cross-cultural trends.

**471-4 Introduction to Social Demography.** Survey of concepts, theories, and techniques of population analysis; contemporary trends and patterns in composition, growth, fertility, mortality, and migration. Emphasis is on relationship between population and social, economic, and political factors.

**473-4 Juvenile Delinquency.** (Same as Administration of Justice 473.) Nature of sociological theories of delinquency; analytical skills in studying the delinquent offenders; systematic assessment of efforts at prevention, control, and rehabilitation in light of theoretical perspectives. Prerequisite: 6 hours of social/behavioral science recommended.

**474-4 Sociology of Education.** Methods, principles, and data of sociology applied to the educational situation; relation of education to other institutions and groups.

**475-4 Political Sociology.** (Same as Political Science 419.) An examination of the nature and function of power in social systems at both the macro- and micro-sociological levels of analysis, the social bases of power and politics; and various formal and informal power structures; the chief focus will be on American society.

**476-4 Politics and Religion in Comparative Perspective.** Examination of the interaction between politics and religion in the United States, with a comparative look at other nations and global regions. Consideration given to politics and religion as cultural and institutional systems, and to the impact of each upon the other.

**484-3 Correctional Institutions.** (See Administration of Justice 484).

**497-4 Senior Seminar.** Contemporary issues in sociology and the analysis of these issues. Prerequisite: senior standing with 20 hours in sociology (including 301), or consent of instructor. Not for graduate credit. Satisfies the CoLA Writing-Across-the-Curriculum requirement.

**498-1 to 4 Independent Research.** With a faculty member the student arranges a research topic resulting in a paper or report. Prerequisite: senior standing with 20 hours of sociology (including 301), and consent of instructor. Satisfies the CoLA Writing-Across-the-Curriculum requirement.

## Spanish (SPAN)

**140-8 (4,4) Elementary Spanish.** The basic skills of listening, speaking, reading, and writing. No previous knowledge required. Must be taken in a,b sequence.

**175-5 Accelerated Elementary Spanish.** Elementary Spanish covered in one semester. The basic skills of listening, speaking, reading, and writing. Prerequisite: one year of high school Spanish or equivalent or permission of instructor.

**201-8 (4,4) Intermediate Spanish.** Continued development of the four basic language skills. Must be taken in a,b sequence. Prerequisite: 140b or 175 or two years of high-school Spanish.

**220-2 to 4 Intermediate Spanish Conversation.** Practice in spoken Spanish. Prepared and impromptu group discussions on general topics and everyday situations. Frequent short talks by students. Prerequisite: 140b or 175 or two years of high-school Spanish.

**273-2 Study in Spain or Latin America.** Course taught as part of the summer study abroad program. Prerequisite: one year of college Spanish, or the equivalent.

**305-2 to 4 Advanced Conversation.** Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms in Spanish. Prerequisite: 201b or equivalent or consent of instructor.

**306-3 Intermediate Readings in Spanish.** Designed to improve reading skills in Spanish. Prerequisite: 201b or equivalent.

**310-3 Spanish Literature.** Study of selected major works. Prerequisite: 306.

**315-3 Spanish American Literature.** Literature in Spanish America during the 19th and 20th centuries. Prerequisite: 306.

**320-4 Third-Year Grammar and Composition.** Extensive practice in translation and composition; special attention to grammar problems, idiomatic expressions, and syntactical features. Prerequisite: grade of B or better in 201b or permission of instructor.

**335-3 Introduction to Business Spanish.** The language of the Hispanic business community in readings, correspondence, and documents. Prerequisite: 320.

**370-3 Spanish Culture and Civilization.** The cultural patterns and heritage of the Spanish people from earliest times to the present. Class discussion in Spanish will be emphasized in order to improve conversational skills. Prerequisite: 201b or equivalent.

**371-3 Spanish-American Culture and Civilization.** A survey of the cultural heritage of the Spanish-American peoples. Class discussion in Spanish will be emphasized in order to improve conversational skills. Prerequisite: 201b or equivalent.

**388-3 Spanish as a Research Tool.** Intensive study of Spanish as a basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

**390-1 to 4 (1 to 2, 1 to 2) Independent Study in Spanish.** Individual exploration of some question, author, or theme of significance within the field of Spanish literature, language, or culture. Prerequisite: consent of instructor.

**410-3 Advanced Language Study.** Intensive writing practice with emphasis on style, organization, and problematic aspects of grammar. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 320.

**411-3 Linguistic Structure of Spanish.** (Same as Linguistics 414.) Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching.

**412-3 History of the Spanish Language.** Survey of internal and external history, from Vulgar Latin to Modern Spanish.

**419-3 Romance Philology.** (Same as French 419.) Historical and comparative study of the major Romance languages: their phonology, morphology, and syntax.

**425-3 Spanish Literature Before 1700.** The literature of Spain from its beginnings in the Middle Ages through the Golden Age.

**430-3 The Golden Age: Drama.** Plays of Lope de Vega, Calderon, Tirso de Molina, and others.

**431-3 Cervantes. *Don Quixote*.**

**434-3 Colonial Literature in Spanish America.** Study of the literature of Spanish America before 1825.

**435-3 Business Spanish.** Discussion and practice of the vocabulary, styles, and forms used in Spanish business correspondence, as well as report writing and documents dealing with trade, transportation, payment, banking, and advertising. Prerequisite: 320.

**460-3 Spanish Literature of the 20th Century.** The main currents and outstanding works in the literature of Spain since 1900.

**463-3 Chicano Literature.** An introduction to the literature written in the United States by Chicanos and other Hispanics.

**485-3 The Spanish American Short Story.** Survey of the genre in Spanish America.

**486-3 Spanish American Drama.** A survey of the development of the genre from the earliest times to the present.

**487-3 The Spanish American Novel.** Survey of the genre in Spanish America.

**488-3 Advanced Spanish as a Research Tool.** Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: 388 or one year of Spanish or equivalent.

**490-1 to 3 Advanced Independent Study.** Individual exploration of some topic in Hispanic literature, language, or culture. Prior consent of instructor required.

**493-3 to 9 (3 per topic) Special Topics in Literature and Language.** Topics vary and are announced in advance. May be repeated as the topic varies. Prerequisite: consent of instructor.

## Special Education (SPED)

**312-3 Teaching Reading in the Elementary School.** (Same as Curriculum and Instruction 312) Examination of the reading process with emphasis on the factors and conditions that affect reading. Emphasis on the formulation of a philosophy of reading and its implications in relation to methods, materials, organizational procedures and evaluation techniques. Prerequisite: junior standing and an overall gpa of 2.5.

**315-3 Teaching Mathematics in the Elementary School.** (Same as Curriculum and Instruction 315.) Objectives of mathematics education, learning theory as it is related to mathematics, major concepts to be taught, modern approaches to instruction with emphasis on the use of concrete learning aids. Four class hours and two laboratory hours per weeks. Prerequisite: Mathematics 114 and 314, or consent of instructor. Junior standing and an over all gpa of 2.5.

**400-3 Introduction to Special Education.** An overview of characteristics of all types of exceptional children and youth including physical, mental, emotional and social traits. The course also covers the effects of disabling conditions in learning situations, and an overview of the history of special education including legislation and litigation.

**401-3 Characteristics of Children and Youth Labeled Behavior Disordered.** Diagnosis, screening, classroom management, placement considerations, goals, and the effective use of ancillary services for individuals who experience emotional disturbance and/or social adjustment problems. Emphasis on the understanding of maladaptive behavior through principles of learning and behavior. Prerequisite: 400 or concurrent enrollment or consent of department chair.

**402-3 Characteristics of Children and Youth Labeled Mentally Retarded.** Emphasizes a developmental approach to understanding and dealing with children who have mildly and moderately reduced mental abilities. Considers historical, theoretical, and practical factors pertinent to mental retardation. Prerequisite: 400 or concurrent enrollment or consent of department chair.

**403-3 Characteristics of Children and Youth Labeled Gifted.** Designed to help teachers in the identification of and programming for children labeled gifted and talented. Prerequisite: 400 or concurrent enrollment or consent of instructor.

**404-3 Characteristics of Children and Youth Labeled Learning Disabled.** Behavioral, emotional, physical, and learning characteristics of children and youth, with learning disabilities. Emphasis on receptive and expressive modalities for learning; theories dealing with causes and management. Prerequisite: 400 or concurrent enrollment or consent of department chair.

**405-3 Introduction to Early Childhood Special Education: Infants, Toddlers, and Preschoolers with Special Needs and Families.** This course presents an overview of Early Childhood Special Education including typical and atypical early development, federal and state legislation, goal setting, IEP and IFSPs, working with families, service delivery, case-management, curriculum methods and procedures for enhancing development in young children with special needs. Prerequisite: 400 or concurrent enrollment or consent of instructor.

**406-3 Characteristics of Children and Youth with Moderate and Severe Disabilities.** Presents historical, theoretical, and research developments in service delivery for individuals of all ages (0-21) with severe disabilities. Provides the basic developmental, instructional and curricular background essential for prospective educators. Emphasizes a behavioral approach. Thirty hours of observation or equivalent applied experience is required.

**409-1 to 6 Cross-Cultural Studies.** Seminar and/or directed independent study concerned with socio-cultural variables affecting the personality characteristics and educational needs of children and youth with a disability. Prerequisite: 400 or consent of instructor and department chair.

**411-4 Assessment in Special Education.** Course covers general assessment information, intelligence and academic norm-referenced test, informal inventories, and adaptive behavior and rating scales. A laboratory fee is required to cover the cost of materials. Prerequisite: 400; one of 401, 402 or 404; or consent of department chair.

**412-3 Introduction to Assessment and Curriculum Methods in Early Childhood Special Education.** This course presents an introduction to child and family assessment and the development of child and family goals in Early Childhood Special Education. Topics will include types of assessment commonly used, rationale for assessment, methods of assessment, reporting assessment results, writing child and family goals. A fee for testing materials is required. Prerequisite: 400 or concurrent enrollment or consent of instructor.

**417-3 Methods and Materials for Teaching Children and Youth Labeled Behavior Disordered.** Psychoeducational procedures used in teaching children and youth labeled behavior disordered. Includes field trips, meetings with parents, and visits by resource persons from schools and agencies. Prerequisite: 400, 401.

**418-3 Methods and Materials for Teaching Children and Youth Labeled Mildly Retarded.** Psychoeducational strategies used in teaching children and youth with mild mental retardation. Prerequisite: 400, 402.

**419-3 Methods and Materials for Teaching Children and Youth Labeled Learning Disabled.** Psychoeducational strategies used in teaching children and youth labeled learning disabled. Prerequisite: 400, 404.

**421-3 Methods and Materials for Teaching Children and Youth Labeled Moderately and Severely Handicapped.** Emphasizes a behavioral approach (i.e., systematic instruction) in teaching young students with severe disabilities (e.g., moderate MR, severe MR, profound MR, multiple handicapped, autistic). Systematic instruction is discussed in relation to applications across various curriculum domains. Each student must have access to working with students labeled moderately and severely disabled during the semester. All students are to develop and implement an instructional program during the course of the semester. Prerequisite: 400, 406.

**423-3 General Procedures in Special Education.** Presents key provisions of Public Law 94-142 and subsequent amendments, including Individualized Education Programs (IEPS). Course content also includes principles of behavior management effective for use in the instruction of students with special needs. Prerequisite: 400; and one of 401, 402, 403 or 404; or consent of department chair.

**425-3 Home-School Coordination in Special Education.** Cover techniques used in parent interviews, conferences and referrals by school personnel; due process and procedural safeguards for parents of children and youth with disabilities. Prerequisite: 400 or consent of department chair.

**430-3 Secondary Programming for Students Labeled Mildly Disabled.** Deals with modifications of and additions to school programs to ensure that they are appropriate to the needs of the adolescents labeled mildly disabled. Includes detailed coverage of joint work-study programs as preparation for vocational adequacy, and addition of remedial and compensatory program models. Prerequisite: 400 and one of 401, 402, 403 or 404.

**431-3 Work-Study Programs for Adolescents Labeled Severely Disabled.** Deals with program offerings in public school special education programs designed to prepare adolescents labeled severely disabled for maximum vocational adequacy. Prerequisite: 400 and one of 401, 402, 404 or 406.

**490-1 to 4 Readings in Special Education.** Study of a highly specific problem area in the education of exceptional children. Open only to selected seniors. Not for graduate credit. Prerequisite: 400 and consent of department chair.

## Speech Communication (SPCM)

Courses in speech communication are listed according to numerical order. However, the second digit in the course number indicates its topical focus in the speech communication curriculum, as follows:

- 00-09 Communication Theory and Research Methods
- 10-19 Rhetorical Theory and Criticism
- 20-29 Oral Communication and Public Address
- 30-39 Communication Education
- 40-49 Language and Semiotic Communication; Cultural Studies
- 50-59 Political Communication; Media Studies
- 60-69 Interpersonal and Phenomenological Communication;  
Philosophy of Communication
- 70-79 Performance Studies: Oral Interpretation
- 80-89 Organizational Communication and Public Relations
- 90-99 Research Reporting: Applied Studies and Practicum

**100-3 Speech Communication Workshop.** A workshop in debate, oral interpretation, or public speaking for secondary school seniors interested in intensive study in one or more of these areas. Prerequisite: consent of instructor.

**101-3 Introduction to Oral Communication: Speech, Self and Society.** (University Core Curriculum) This course provides theory and practical application relevant to students' development of basic oral communication competencies appropriate to a variety of contexts as situated in a culturally diverse world.

**201-3 Performing Culture.** (University Core Curriculum) A critical examination of human communication - from everyday conversation to cultural formation - as performance. Lecture and discussion format with consideration of primary texts drawn from conversational transcripts, multicultural literature and popular culture.

**221-3 Advanced Public Speaking.** The components of effective speech with actual preparation and presentation of several types of speeches. Prerequisite: 101 or consent of instructor.

**230-3 Introduction to Speech Communication Theory.** Introduction to speech communication theory. Examination of history and theoretical issues as a basis for understanding applied communication areas.

**258-1 to 30 Work Experience.** Credit given for work experience by students enrolled in the Department of Speech Communication. Such credit is granted upon approval of the undergraduate adviser.

**261-3 Small Group Communication.** Introduction to small group communication and the small group process. Special emphasis given to problem-solving discussion groups. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirements for speech communication majors.

**262-3 Interpersonal Communication II.** Theoretical approaches and contemporary research on patterns of interpersonal communication in romantic, friendship, family, and work relationships. Emphasis on developing skills for analyzing interpersonal processes through close description and interpretation. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 101 or consent of instructor.

**280-3 Business and Professional Communication.** A survey of communication theory pertaining to business and professional settings. Provides practice applicable to interviews, conference briefings, and presentation techniques. Prerequisite: 101.

**281-3 Introduction to Public Relations.** Philosophies and principles of agency, business, governmental, and nonprofit public relations. Historical perspectives, current and future trends, and career opportunities explored.

**301I-3 Communication Across Cultures.** (University Core Curriculum) This course provides an introduction to communication between/among people from different cultures, focusing on the application of intercultural communication theory and research. Class assignments and exercises examine everyday encounters with individuals from different races, ethnicity, religions, gender, ages, sexual orientations and physical abilities.

**310-3 Speech Composition.** Rhetorical techniques of public address. Two major speeches prepared, with every possible refinement. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 221.

**325-3 Argumentation and Debate.** Through the study of argument, evidence, reasoning, and oral advocacy this course seeks to ensure competence in the ascertainment of truth by investigation and research and the establishment of truth through proof. The ultimate rationale for the course is the discovery and support of intelligent decisions. Prerequisite: 101, 221, 280, or consent of instructor.

**326-3 Persuasion.** The means of influencing individuals and groups through communication. Emphasizes the shaping of other's values, beliefs, attitudes and behavior primarily by the spoken word. Provides theoretical information about and practice in persuasive speaking, for sources and targets of persuasion. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors.

**340-3 Introduction to Language Acquisition.** Interdisciplinary approaches to the interaction between language acquisition and communication development. Topics include nonverbal communication, phonology, syntax, semantics, and pragmatics. Provides a background for those working with young children.

**341-3 Introduction to Intercultural Communication.** (Same as Linguistics 341.) Examination of the elements and structure of intercultural and transracial communication in the United States. Designed to analyze and describe the interaction between social perception and expression as manifest in verbal and nonverbal behavior. Emphasis on the functional communication of minority groups. Prerequisite: 101 or 262 or consent of instructor.

**358-3 Political Campaigns and Elections.** (See Political Science 318.)

**361-3 Nonverbal Communication.** Nonverbal factors that influence the communicative interaction among persons. Review research findings and conduct projects germane to nonverbal communication. Readings, discussions, and research projects. Prerequisite: 262 or consent of instructor.

**362-3 Communication and Social Process.** Introduction to the phenomenology of human communication and social process. Analysis and description of interpersonal communication in the development and operation of human communities. Special emphasis is given to the nature of persons, consciousness, and communication exchange in society.

**370-3 Oral Interpretation II.** Theory and practice in advanced interpretation techniques, with emphasis on the student as performer. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 201 or consent of the instructor.

**371-3 Storytelling and the Oral Tradition.** Theory and practice in the art of storytelling with emphasis upon practical application, source materials, and historical and ethnic backgrounds.

**381-3 Public Relations in Practice.** Application of public theory and principles through training and practice in the development of public relations production skills including message construction and delivery, verbal, nonverbal, and visual production work and special events components. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 281 with a grade of C or better and passage of language skills examination.

**382-3 Research Methods in Public Communication.** An introductory survey of methods and techniques of audience analysis and public opinion research. Designed especially for public relations specialization. Instruction in the design of research tools, sample selection, interviewing, and the use of the computer for data analysis.

**383-3 Interviewers and Interviewing.** Planning, conducting, and analyzing interviews with emphasis on roles of interviewer and respondent in professional and organizational communication settings. Study of factors affecting accuracy, openness, and goal attainment in use of interview methods for evaluation and research. Individual and small group projects with selected aspects of interviewing. Prerequisite: 262 or 280 or consent of instructor.

**390-1 to 6 Applied Communication.** Supervised individual and group performance in various communication arts. Emphasis on the practical application of verbal skills in the following areas: (a) communication education, (b) communication studies, (c) debate, (d) interpersonal communication, (e) organizational communication, (f) performance studies, (g) persuasive communication, (h) public relations. May be repeated for credit up to a maximum of six hours toward degree requirements. Prerequisite: consent of instructor and department adviser.

**401-3 Communication Theories and Models.** An introduction to theory construction and model utilization in communication research. Critical analysis of existing communication theories in the social sciences as a basis for generating new models. Emphasis on the heuristic nature and function of the language/speech act paradigm in communication studies. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication major.

**411-3 Rhetorical Criticism.** Designed to develop the student's ability to criticize public discourse, including speeches, written works and the mass media. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors.

**421-3 to 9 (3,3,3) Studies in Public Address.** Critical studies of speakers and issues relevant to social and political movements dominant in national and international affairs. A lecture, reading and discussion course. Students may repeat enrollment to a total of nine hours.

**430-3 Speech in Elementary Schools.** Survey of normal speech development with emphasis on the elementary school years. Concept of speech as skill basic to reading, writing, and spelling. Psychological and sociological variables affecting language as it relates to school learning. Speech experiences supportive of the child's linguistic, intellectual, and social development.

**431-3 Speech in Secondary School.** Philosophy of speech education, and effective teaching of speech through curricular and extra-curricular work. Prerequisite: twelve hours of speech and consent of instructor.

**432-3 Secondary School Forensic Program.** Designed to evaluate and plan the proper role of forensics in the secondary school and to prepare the students for their tasks as teachers and administrators in that program. Students enrolled as majors in speech communication with a specialization in communication education must complete this course before enrolling for student teaching. Not for graduate credit. Prerequisite: 325, 201.

**433-3 Children's Literature in Performance.** Study of children's fiction and poetry through analysis, creative drama, and performance, including solo and group work.

**435-3 to 6 (3,3) Topics in Performance Studies.** An exploration of advanced theories and techniques for conducting sessions in performance studies. Topics vary and are announced in advance. Students may repeat enrollment in the course, since the topics change. Lecture, discussion, class projects, school visitations.

**440-3 Language Behavior.** Study of linguistic approaches to speech communication based on behavioral determinants such as culture, history, speech community, value orientations, social perception and expression, and the nature and function of interpersonal transaction. Prerequisite: 340 or consent of instructor.

- 441-3 Intercultural Communication.** Application of semiotic and cultural theories to language behavior. Emphasis on speech communication as an approach to the study of intercultural communication. Prerequisite: 341 or consent of instructor.
- 442-3 Psychology of Human Communication.** Nature, development, and functions of verbal and nonverbal behavior; application of psychology theories and research to the communication process in individuals and groups. Emphasis on the systemic nature of communicative behavior.
- 443-3 General Semantics.** Formulations from the works of Alfred Korzybski and from neo-Korzybskian interpreters are presented. General semantics is discussed as an interdisciplinary approach to knowledge. Relationships are made to contemporary problems in human affairs.
- 444-3 Studies in Language Acquisition.** Research in and theories of the development of verbal and nonverbal language with attention to the maturational process. Includes investigation of social, phonological, syntactical, and semantic correlates of communication development. Appropriate for advanced students interested in working with or conducting research involving children.
- 445-3 Conversational Performance.** Analysis of performance acts within everyday interaction: stories, jokes, laughter, teasing, etc. Application of theories of play, metacommunication and framing. Re-performance of recorded, transcribed conversations as method of exploring aesthetic dimensions of communication. Prerequisite: 9 hours of SPCM courses or consent of instructor.
- 446-3 Sociology of Language Discourse and Signs.** Introduction to sociological semiotics, especially structuralism and post-structuralism. Reference to French theorists such as Barthes, Baudrillard, Bourdieu, Certeau, Deleuze and Guattari, Greimas, Group Mu, Lacan, Lyotard, and Perelman. Emphasis on the practice of discourse, language, and signs as a model for research in the human science of communicology.
- 451-3 Political Communication.** (Same as Political Science 418.) A critical review of theory and research which relate to the influence of communication variables on political values, attitudes, and behavior. Prerequisite: 358 or consent of instructor.
- 452-3 Interpersonal Communication and the Mass Media.** A review, synthesis, and analysis of communication theory and research which deals with the process, interactive nature of interpersonal, and mass channels of communication. Prerequisite: 401 or consent of instructor.
- 460-3 Small Group Communication: Theory and Research.** A critical examination of small group theory and research in speech communication. Emphasis is given to the development of principles of effective communication and decision-making in the small, task-oriented groups. Prerequisite: 261 or consent of instructor.
- 461-3 Laboratory in Interpersonal Communication I.** Interpersonal communication is studied as human encounter. The philosophy and theoretical bases of existential phenomenological approaches to human communication are discussed. Projects are evolved by small groups that contribute to the understanding of human communication.
- 462-3 Laboratory in Interpersonal Communications II.** Various theories of social and cultural change are explored. The role of interpersonal communication in the development of human consciousness is explicated. Projects are evolved by small groups that examine values and priorities of human nature and cultural nature.
- 463-3 Interpersonal Conflict.** Study of sources, patterns, and outcomes of conflict in interpersonal relationships. Emphasis on interactive, systems-level analysis of naturally-occurring conflict episodes. Practice in managing conflicts, reframing, negotiation, and mediation. Prerequisite: 262 or consent of instructor.
- 465-3 Philosophy of Language.** (See Philosophy 425.)
- 471-3 Prose Fiction in Performance.** Study of prose fiction through analysis and individual performance. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 370 or consent of instructor.
- 472-3 Poetry in Performance.** The study of poetic form through analysis and performance. Prerequisite: 201, 370 or consent of instructor.
- 474-3 Staging Literature.** Theory and practice of staging literary texts with emphasis on adaptation and directing. Prerequisite: 370 or 371 or consent of instructor.
- 475-3 to 6 (3,3) Production Texts and Contexts.** Advanced study related to theoretical and practical issues in performance staging with special emphasis on textual production, scripting, social contexts and performance practices. May be repeated for a total of six hours. Prerequisite: 6 hours of performance studies courses or consent of instructor.
- 476-3 Writing as Performance.** An examination of the practical and theoretical links between composition and performance. Lectures, reading and assignments focus on performance as a means and an end to creative writing. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors.
- 480-3 Dynamics of Organizational Communication.** Introduction to interrelationships of communicative behavioral and attitudes with organizational policies, structures, outcomes. Uses case studies and role-plays to teach principles. Individual research into selected aspects of organizational communication. Prerequisite: 280, 442, or consent of instructor.
- 481-3 Public Relations Cases and Campaigns.** Advanced course in public relations case analysis and campaign planning. Students critique public relations campaigns created by various profit, nonprofit and agency organizations. Students also design public relations campaigns from problem identification through evaluation stages. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for Speech Communication majors. Prerequisite: 381 and 382 with a grade of C or better.
- 483-3 Studies in Organizational Communication.** Study of communication systems and behaviors within organizations. Consideration of relevance of communication to management operations, employee morale, networks, superior-subordinate relations, production, and organizational climates. Individual research into selected aspects of organizational communication. Prerequisite: 480 or consent of instructor.

**490-1 to 6 Communication Practicum.** A supervised experience using communication skills. Emphasis on the development of performance skills in the following areas: (a) Communication studies. (b) Performance activity. (c) Interpersonal communication. (d) Debate and forensic activity. (e) Political communication. (f) Organizational communication. (g) Instructional communication. May be repeated for credit. Undergraduates limited to a total of six hours and graduate students to three to be counted toward degree requirements.

**491-1 to 3 Independent Study in Communication.** Readings, creative projects, or writing projects focusing on a theoretical study of communication. The independent study should normally be completed in one semester under the tutorial supervision of a faculty sponsor. Not for graduate credit. Prerequisite: twelve hours of speech, consent of instructor and departmental adviser.

**492-2 to 8 Workshop in Performance Studies.** Summer offering concentrating in specialized areas of performance studies. Prerequisite: 201 and 370 or consent of instructor.

**493-3 to 9 (3,3,3) Special Topics in Communication.** An exploration of selected current topics in communication arts and studies. Topics vary and are announced in advance; both students and faculty suggest ideas. Students may repeat enrollment in the course, as the topic varies.

**494-1 to 6 Internship in Public Relations.** A supervised experience using public relations skills in a professional or career setting. Maximum of six hours to be counted toward degree requirements. Not for graduate credit. Prerequisite: consent of instructor. Mandatory Pass/Fail.

## Theater (THEA)

**101-3 Theater Insight.** (University Core Curriculum) Through lectures, discussions, projects, text readings and written critiques, students examine how plays are written and produced and how these plays reflect the people and cultures that produce them.

**203-3 Introduction to Voice and Movement.** Fundamentals of vocal production and movement for the stage: breathing, phonation, kinesthetic awareness, warm-up, use of space and introduction to the International Phonetic Alphabet.

**205-2 Stage Make-up.** Theory and technique of various types of make-up. Supplies, at least \$25 per semester.

**217-3 Acting.** Preparing the actor's instrument through Stanislavskian technique; concentration/relaxation exercises; improvisations. The course objective is the discovery and development of the actor's inner resources. Contemporary American plays are studied from the actor's point of view.

**218-9 (3,3,3) Beginning Stagecraft.** (a) Fundamentals of scenic construction and stage rigging and fundamentals of stage lighting including basic tools, equipment, handling, focusing, and maintenance and basic techniques of constructing and handling stage costume. (b) Basic investigation of stage lighting design, theory, and professional practice. Special attention will be focused on color theory and its application to stage lighting. (c) Basic techniques of constructing and handling stage costume.

**260-1 to 15 Internship.** Off-campus internship which is related to the major program but not part of a regular instructional course. Written reports are required of student and supervisor. Prerequisite: theater major; written proposals must be approved by undergraduate adviser and curriculum committee prior to internship. Mandatory Pass/Fail.

**300-1 to 4 (1 per semester) Theater Practicum.** Offers students an opportunity to increase their skills in stagecraft, stage lighting, and costumes by working on department productions. Prerequisite: 218a,b, or c.

**303A-3 Movement for the Actor.** Intermediate studies in stage movement. Prerequisite: 203 and 217.

**303B-3 Voice for the Actor.** Intermediate studies in stage voice, IPA, standard speech, text analysis, scansion, cold readings. Prerequisite: 203.

**309-3 Drafting for the Theater.** Development of the student's skill in scenographic techniques including ground plans, sections, elevations, and detail construction drawings. Prerequisite: 218a or concurrent enrollment.

**311A-3 Play Analysis.** Development of basic skills in play analysis and application of these skills to a variety of dramatic forms through class discussions and written assignments. Satisfies CoLA Writing-Across-the-Curriculum requirement for Theater majors. Prerequisite: 101 or one course in dramatic literature.

**311B-3 to 6 Playwriting Workshop for Actors.** Practical experience in acting in original plays combined with class discussions and critiques. Actors attend class sessions as well as rehearsals and have their work progressively evaluated. Six credit hours are awarded for the more intensive workshop sessions in the summer while three credits are available during the academic year. Workshop productions are staged in cooperation with 511. Prerequisite: audition.

**317-6 (3,3) Intermediate Acting.** (a) The study and application of various theories of the acting process. Coursework includes monologue and scene work. Prerequisite: 217. (b) The study and application of Shakespeare in the development of the actor's process. Prerequisite: 317a and consent of instructor.

**322-1 to 12 SIUC Summer Theater.** Practical experience in summer stock play production. A maximum of twelve credit hours may be accumulated for performance or technical work in SIU Summer Theater only. Open to majors or non-majors. Prerequisite: audition or consent of instructor.

**323-1 to 6 Practicum for Non-Majors.** Practical experience in non-performing production areas for non-majors. Up to six hours may be taken at one time. This course may not be applied to a major in theater. Prerequisite: audition or consent of instructor.

**350-3 to 9 (3 per topic) Topical Seminar.** An intensive examination and application of selected areas of interest. Topics will vary and may include such areas as stage management, audition and interview, current political theater. Prerequisite: consent of instructor.

**354-6 (3,3) History of the Theater.** (a) Theater history from primitive times to the 17th century. (b) Theater history from the 17th century to the present.

**390-1 to 6 Independent Study.** Independent work on selected problems in academic or blend of academic and creative research. A maximum of three hours may be taken for a single project and a cumulative maximum of six hours may count toward the degree. Prerequisite: majors only; written proposals; consent of undergraduate adviser and instructor.

**400-1 to 6 (1 to 2 per semester) Production.** Practicum for support of major department productions in all areas. Roles in department productions may fulfill requirement.

**401-2 to 6 (2 per semester) Stage Management.** Study and practical application of the theories and skills required to successfully stage manage a theater production. Students will fulfill stage management assignments in departmental productions. Prerequisite: 218a and consent of instructor.

**402-6 (3,3) Play Directing. (a)** Introduction to directing. The history of the director; the evolution of the director into a position of predominance in modern theater hierarchy. The function of the director; and examination of theoretical viewpoint. Textual analysis; establishing the groundwork for the director's approach to production. Prerequisite: junior standing; 217 and 311a; or consent of instructor. **(b)** The principles of play direction including play selection, analysis and patterning of auditory and visual elements of production. Directing of a one-act play. Prerequisite: consent of instructor.

**403A-3 Advanced Movement for the Actor.** Advanced studies in stage movement with special attention to period styles. Prerequisite: 303a, 317a, 317b.

**403B-3 Advanced Voice for the Actor.** Advanced studies in voice with special attention to stage dialects. Prerequisite: 303b, 317a.

**404-3 Theater Management.** Discussion of legal and financial aspects concerning the professional and community theaters of the United States. Consideration of and practice in managerial activities of an educational theater including administration, purchasing, and accounting practices, direct sales, publicity, promotion and public relations.

**406-3 Properties and Crafts for the Stage.** Studio work in traditional and non-traditional crafts for theatrical events, including life masks, upholstery, puppetry, stage furniture and special effects.

**407-3 Scene Design.** Technical and artistic aspects of scene design. Theory and practice. Supplies at least \$25 per semester. Prerequisite: 218a, 309, 409, or consent of department.

**408-3 Model Making.** The craft of scenic model making for the stage and other dramatic media. Prerequisite: 218a or consent of department.

**409A-3 Scene Painting.** Studio work in lining, paneling, tromp l'oeil ornament and drapery. Prerequisite: 218a or consent of department.

**409B-3 Advanced Scene Painting.** Advanced studio work in scene painting, including dye painting, transparencies, color mixing and mural work. Prerequisite: 409a or consent of instructor.

**410-3 Children's Theater.** Study of methods and their practical application of introducing children to theater and theatrical productions as an art form. Practicum with the Touring Youth Theater is an important part of the course.

**411A-3 Playwriting — The One-Act Play.** Principles of dramatic construction and practice in the writing of two one-act plays. Problems of adaptation are treated. Individual plays have the opportunity to be produced in the theater's program for new plays. Prerequisite: one course in dramatic literature for non-majors and graduates; 311a for undergraduate theater and speech communication majors; or consent of instructor.

**411B-3 Playwriting — The Full-Length Play.** Principles of dramatic construction and practice in the writing of a full-length play, encompassing such varied types as the children's play, the musical, the outdoor historical drama, etc. In special cases, students may elect to write two short plays. Prerequisite: 411A or consent of instructor for non-majors; 311a for undergraduate theater majors.

**414-3 Costume Design.** History of western costume from Greek to Renaissance and its adaptation to stage use. Theory and practical application of design and color. Supplies at least \$25. Prerequisite: 218c or graduate standing.

**417-3 to 6 (3,3) Advanced Acting.** Utilization of the actor's process in the performance of European realism and various theories and styles of the Twentieth century. May be repeated once for credit. Prerequisite: 317b.

**418-3 Introduction to Lighting Design.** Investigation of stage lighting design, theory, and professional practice. Special attention to color theory and its application to stage lighting. Four hours lecture/laboratory. Prerequisite: 218b, graduate standing, or consent of instructor.

**419-3 Advanced Stagecraft.** Advanced study of principles and procedures of scenic construction and stage rigging. Includes scene shop organization, materials, and specialized stage equipment; preparation for professional technical direction. Lecture and laboratory to be arranged. Prerequisite: 218a,b, 309, 407; or graduate standing.

**450-3 to 9 Topical Seminar.** An intensive examination and application of selected areas of interest. Topics will vary and may include such areas as stage management, audition and interview, current political theater. Prerequisite: consent of instructor.

**454-3 American Theater.** The development of American theater from colonial times to the present. Includes a study of the American musical theater from preminstrels through contemporary music-drama.

## Tool and Manufacturing Technology (TT)

**101-1 to 6 Basic Tool and Manufacturing Laboratory.** The student will perform the basic operations covering the drill press, engine lathe, shaper, and basic bench work operations involving layout and hand tools. The operation of the shaper as a unit production machine is covered. Laboratory five to fifteen hours. Student will pay shop supply charge of \$1.50 per semester hour.

**102-1 to 6 Milling Machine and Grinding Laboratory.** The student will demonstrate ability to set up and operate the various milling machines and grinding machines common to the tool room and manufacturing operations. Laboratory five to fifteen hours. Student will pay shop supply charge of \$1.50 per semester hour. Prerequisite: 101 or consent of instructor.

**125-1 to 3 Introduction to Machine Tools.** The student will demonstrate his knowledge of the basic machine tool operations; also, bench and hand tool techniques. Lecture one to three hours.

**126-3 Machinability of Metals, Milling, and Abrasive Machining.** Students will demonstrate ability to select correct cutting speeds, feeds, and tool geometry for various alloy steels and to understand the relationship of the factors involved. They will be required to understand the various tool room and production milling machine and grinders; their construction, set-up, and operations. Lecture one to three hours. Prerequisite: 125 or consent of instructor.

**180-3 Oxy-Acetylene and Elementary Arc Welding Procedures.** Includes theory and practice of oxy-acetylene fusion welding, cutting, hard soldering, and introductory shielded metal arc welding with emphasis on flat and horizontal positions. Students will pay materials charge in the amount of \$1.50 per credit hour. Lecture one hour. Laboratory four hours.

**181-3 Intermediate Arc Welding and Elementary Inert Gas Welding.** Includes theory and practice of intermediate shielded metal arc welding with emphasis on vertical and overhead positions and an introduction to gas tungsten arc, gas metal arc, cored wire welding, and arc/air cutting procedures. Students will pay materials charge in the amount of \$1.50 per credit hour. Lecture one hour. Laboratory four hours.

**182-3 Advanced Shielded Metal Arc Welding Procedures.** Includes theory and practice of gas, tungsten arc, gas metal arc, cored wire welding. Major emphasis will be placed on the preparation of weld specimens for destructive testing and subsequent analysis of the weldment. Student will pay materials charge in the amount of \$1.50 per credit hour. Lecture one hour. Laboratory four hours. Prerequisite: 181 or consent of instructor.

**183-2 Welding Blueprint Reading.** Emphasizes the basic fundamentals of drawing interpretation as applied to welding and metal fabrication. The student will be expected to develop a core of blueprint reading skills in addition to a thorough familiarization of welding symbols and their significance. Through individualized instruction, students will progress at their own rate until course requirements have been satisfied as certified by the supervising faculty member.

**185-3 Technical Sketching/Blueprint Reading.** Upon completion of this course, the student should be able to read and sketch pictorial and multiview drawings which include auxiliary views, sectional views, assemblies, weldments, up-to-date types of precision dimensioning, and many types of fasteners and machine elements. Lecture one hour. Laboratory four hours.

**186-3 Computer Aided Design Drafting.** Upon completion of this course, the student should be familiar with basic computer operation and keyboard functions; be able to design and develop three dimensional drawings of tools, parts, drill jigs and fixtures. Lecture one hour, laboratory three hours. Prerequisite: 185 or consent of instructor.

**199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

**208-3 C.N.C. Programming.** The student will be introduced to the concepts and principles involved in controlling machine tool motion by computer. Emphasis on application of the microcomputer to numerical control programming and tool path simulation; to demonstrate their ability to program Computer Numerical Control machine tools using manual input. Lecture two hours, laboratory two hours. Prerequisite: 102 and 105b or consent of instructor.

**210-1 to 7 Tool and Die and Electrical Discharge Machining.** The student will construct blanking die, form die or special tooling. He/she will be introduced to punch press operations, electrical discharge machining, and machining precision parts utilizing various machine tools. Shop supply fee of \$2 per credit hour. Prerequisite: 102 or consent of instructor.

**211-1 to 7 Advanced C.N.C. and Tool and Die.** The student will demonstrate their ability to set-up and operate Computer Numerical Control machine tools; to use Computer Aided Manufacturing software to establish tool requirements and offsets for the generating of machine tool programming code in order to produce matching components for a progressive, compound, forming, or moulding die; to expand skills in machine tool operations. Laboratory fifteen hours. Student will pay shop charges of \$2 per credit hour. Prerequisite: 102 or consent of instructor.

**220-3 Tool and Die, E.D.M. and Inspection Practices.** The student will be introduced to basic die design and die components in relationship to blanking and forming dies; to understand the E.D.M. process and to select proper machine settings for a given application; and to understand inspection practices and precision measuring procedures in the manufacturing industry. Lecture three hours. Prerequisite: 126 or consent of instructor.

**221-3 C.A.M. and Production Machining.** The student will be introduced to the use of Computer Aided Manufacturing software to select tool requirements, simulate tool path, generate machine tool programming code, and subsequently produce finished parts on the Computer Numerical Control lathe and milling machine; to understand the theories and principles involved in production machining in the computer integrated manufacturing environment. Prerequisite: 220 or consent of instructor.

**225-2 Principles and Processes in Modern Manufacturing.** This is an introduction to the principles involved, and the materials used in modern manufacturing. Emphasis will be on analysis and comparison of several processes relating to the Tool and Manufacturing field. Special attention is given to new technological advances related to the modern machine tool industry, including CAD, CAM, CIM and plastics production.

**230-2 to 7 Tool Design I.** Tool design practices with emphasis on jigs, fixtures, and gages. Students will develop concepts and prepare working drawings of production tooling with particular emphasis on manufacturing sequence, quality control, and utilization of standard components. Laboratory 3 to 10 hours. Material and supply cost \$.75 per credit hour. Prerequisite: 186 or consent of instructor.

**231-2 to 7 Tool Design II.** Die design practices with emphasis on blanking, piercing, compound, and forming dies. Students will develop design concepts and prepare working drawings of dies in accordance with die design standards and utilization of standardized die components. Laboratory 3 to 10 hours. Material and supply cost \$.75 per credit hour. Prerequisite: 230 or consent of instructor.

**240-3 Fundamentals of Jig, Fixture and Gage Design.** A study of the principles involved in developing appropriate tool design concepts. Such factors as processing sequence, clamping techniques, locating devices, and dimensional tolerances will be studied with appropriate considerations given to such factors as tool costs, quantity production, machine selection and operator safety. Lecture three hours. Prerequisite: 186 or consent of instructor.

**241-3 Fundamentals of Die Design.** A study of the principles involved in the use and design of dies used for the fabrication of sheet metal parts in punch press. Emphasis will be on blanking, piercing, compound, and forming dies. Such factors as drafting room standards, die design standards, punch press capacity, and the use of standardized and interchangeable components will be studied in keeping with desirable levels of manufacturing costs and product quality. Lecture three hours. Prerequisite: 240 or consent of instructor.

**275-2 Ferrous Metallurgy.** The student will demonstrate understanding in the theory of alloys, characteristics of metals, simple phase diagrams and basic heat treating practices. Lecture two hours.

**276-2 Tool Steel Metallurgy.** Students will demonstrate ability to apply heat treating procedures with tool steel common to industrial uses. They must also be able to select the proper steel for the design criteria. Lecture one hour. Laboratory two hours. Prerequisite: 275 or consent of instructor.

**299-1 to 16 Individual Study.** Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair is required.

**310-3 to 24 Welder Qualification.** Students may choose a concentrated area of training such as pipe welding or structural welding of carbon steel, alloy steel, stainless steel, and aluminum. They may choose any one or all of the following welding processes: shielded metal arc, gas metal arc, gas tungsten arc, and cored wire welding. Upon completion of this course, the student should have developed skills required for pressure and nuclear piping fields, structural steel and bridge welding. Qualification is determined through visual inspection and mechanical testing according to ASME or AWS code requirements. Through individualized instruction, students will progress at their own rate and may complete instruction at any time depending upon individual progress. Qualification papers will be completed by the College of Applied Sciences and Arts and presented to the student or forwarded to an employer. A student will pay \$1.50 per semester hour lab fee. Lecture Lab six hours per three credit hour load. Prerequisite: 182 or graduate of an approved welding program or consent of coordinator.

**319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

**320-1 to 12 (1 to 4 per topic) Advanced Tool and Manufacturing Studies.** Provides students with an opportunity for advanced studies in their areas of interest in tool and manufacturing technology. Emphasis will be on literature search and advanced technical skills development in the student's areas of specialization. (a) Machine tool, i.e., numerical control programming, advanced diemaking, process planning, machinability studies. (b) Metal fabrication, i.e., design of welded structures, metallurgical aspects of welding, welding quality control procedures. (c) Tool design, i.e., plastic mold design, interchangeable die components, tooling for automatic processes. Students will develop written project objectives with the assistance of a sponsoring faculty member and submit a final paper detailing the semester's activities. Shop and supply charges to be individually determined and specified in project objectives. Credit to be individually arranged based on the nature and complexity of the project. Prerequisite: associate degree in tool and manufacturing technology or consent of instructor.

**321-1 to 6 Computer Aided Die Design.** This an introduction to the principles involved in advanced die design and production tooling. Emphasis will be on progressive dies, deep draw dies, forging dies, plastic injection molding dies, trim dies, and steel rule dies. Prerequisite: AAS degree in approved technical area or consent of coordinator.

**322-1 to 6 Complex Die Making.** This course will provide instruction in the high degree of precision skills required for complex die making. Emphasis will be on programming CNC machine tools to produce interchangeable complex die sections. Prerequisite: AAS in approved technical area or consent of coordinator.

**323-1 to 6 Computer Integrated Manufacturing.** This course will provide instruction with the manufacturing work cell. This will enable the student to design and build appropriate tooling to process raw material through a manufacturing line to produce a completed part fully automated. To accomplish this, the computer, robot, rotary table, conveyor, and CNC mill are programmed to complete the manufacturing process. Prerequisite: AAS in approved technical area or consent of program coordinator.

**350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions and health service occupations offered through various workshops, special short courses and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

## University (UNIV)

**001-1 to 6 (1 per year) Student Volunteer Community Service.** Provides university students an opportunity to participate in community service activity. A maximum of one semester hour of credit may be awarded per year for thirty hours or more of community service. Credit may not be used for graduation or toward semester eligibility for athletics, financial aid, student loan status or University honors. Grade of CR only.

## University Honors Program (UHON)

**111-3 Freshman Honors Colloquium.** Open to freshmen. Prerequisite: consent of director of University Honors Program.

**301-3 to 9 (3 per topic) Honors Seminar.** Open to undergraduates. Topics vary and will be announced by the University Honors Program each time the course is offered. Prerequisite: consent of the director of University Honors Program.

**351F-3 to 9 (3 per topic) Honors Seminar in Fine Arts.** Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in fine arts. Prerequisite: consent of the director of University Honors Program.

**351I-3 to 9 (3 per topic) Honors Seminar in Interdisciplinary Studies.** Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for interdisciplinary studies. Prerequisite: consent of the director of University Honors Program.

**351L-3 to 9 (3 per topic) Honors Seminar in Human Health.** Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in human health. Prerequisite: consent of the director of University Honors Program.

**351M-3 to 9 (3 per topic) Honors Seminar in Multicultural Diversity in the United States.** Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for Integrative Studies in Multicultural Diversity in the United States. Prerequisite: consent of the director of University Honors Program.

**351O-3 to 9 (3 per topic) Honors Seminar in Social Science.** Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in social science. Prerequisite: consent of the director of University Honors Program.

**351S-3 to 9 (3 per topic) Honors Seminar in Science.** Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in science. Prerequisite: consent of the director of University Honors Program.

**351U-3 to 9 (3 per topic) Honors Seminar in Humanities.** Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in humanities. Prerequisite: consent of the director of University Honors Program.

**399-1 to 15 Honors Project.** Preparation of honors paper or comparable project under joint supervision of a faculty member in appropriate discipline and director of University Honors Program. Prerequisite: consent of the director of University Honors Program.

**499-3 to 9 Undergraduate Honors Thesis.** Preparation of Honors thesis or comparable project under supervision of a committee consisting of one or more faculty members in appropriate disciplines and director of University Honors Program. Not for graduate credit. Prerequisite: consent of the director of University Honors Program.

## Women's Studies (WMST)

**101-3 Classical Civilization.** Same as Foreign Languages and Literatures 101 (University Core Curriculum) A survey of classical civilization from the Minoans to the Roman Empire with three foci: Homeric and Classical Greece, and the Roman Experience as seen by its artists.

**201-3 Multicultural Perspectives on Women.** (University Core Curriculum) This survey will cover important issues within women's studies in the United States and will be interdisciplinary and multicultural in nature. The topics will include language, media, education, family, labor, politics, literature and the arts. Issues of race, class, gender and culture will consistently be examined within each topic.

**221-3 The Sexes in the Modern World: The Social Science Perspective.** (See Sociology 223.)

**225-3 Women in Literature.** (See English 225.)

**230-3 Classical Mythology.** Same as Foreign Languages and Literatures 230 (University Core Curriculum) An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans.

**286-3 Marriage and Family Living.** (See Curriculum and Instruction 227.)

**326-3 Women in Communications and Fine Arts.**

**341-3 Psychology of Women.** (See Psychology 333.)

**347-3 Women in American History.** (See History 368.)

**348-3 Women in European Society 1600 to Present.** (See History 324.)

- 352-3 Images of Women in French Literature.** (See French 300.)
- 427-3 Women in the Visual Arts.** (See Art and Design 457.)
- 442-4 Sociology of Gender.** (See Sociology 423.)
- 445-3 Women and the American Political Process.** (See Political Science 429.)
- 454-3 to 6 Topics in Women's Literature.** (See English 496.)
- 456-3 Philosophical Perspectives on Women.** (See Philosophy 446.)
- 463-2 Greek Literature in Translation.** (See Classics 405.)
- 476-3 Women and the Criminal Justice System.** (See Administration of Justice 460.)
- 488-3 Women in the Home and Labor Market.** (Consumer Economics and Family Management 480.)
- 490-1 to 6 Readings.** Supervised readings in selected content areas of women's studies. Prerequisite: consent of instructor and women's studies coordinator.
- 491-1 to 6 Special Topics.** Concentration on a topic of interest not offered through the regular course listings. Prerequisite: consent of instructor and women's studies coordinator.
- 492-3 to 6 Seminar in Women's Studies.** A synthesizing experience required of seniors completing a minor in women's studies. Activity may include, but is not limited to, the preparation and presentation of a scholarly paper or the conduct of a research project. Prerequisite: 221, senior standing, and consent of women's studies coordinator.
- 493-2 to 6 Individual Research.** Exploration of a research project under the supervision of a faculty member having graduate faculty status. The project must result in a written research report which is filed with the coordinator of women's studies. Prerequisite: consent of instructor and coordinator of women's studies and senior standing.
- 494-1 to 6 Practicum.** Supervised practical experience in situations centering on women's issues, organizations, services, etc. The setting may be in one's own field of study or in the general content areas recognized in the women's studies program. Prerequisite: consent of instructor and coordinator of women's studies.

## Workforce Education and Development (WED)

- 258-1 to 30 Work Experience.** Credit granted for past work experience while employed in business, industry, labor, government service or military organizations. Credit determined by departmental evaluation. Prerequisite: Completion of 12 semester hours of WED courses with C or better.
- 259-1 to 60 Occupational Training.** Credit for documented occupational study in accredited and selected other programs. Credit determined by departmental evaluation. Prerequisite: Completion of 12 semester hours of WED courses with C or better.
- 202-3 Business Communications.** (Same as Management 202.) Creating and managing written and oral administrative communications including the analysis, planning and practice of composing different types of internal and external communications in various administrative and business contexts. To successfully complete this course, a communication competency examination (additional fee required) must be passed with at least 70% accuracy prior to University course drop date. Prerequisite: English 101 and 102 or equivalent.
- 306-3 Introduction to Computers and Information Systems.** An overview of computer technology and uses of information systems in education and the business. Hands-on applications with business and educational software is stressed. An introduction to programming languages is incorporated using the BASIC language.
- 310-3 Introduction to Business Education.** Teaching business in public and private schools and business and industry training. Curriculum structures, philosophical bases, student characteristics, employment requirements and career opportunities.
- 320-2 Home Economics as a Profession.** Social, psychological and philosophical interpretation of home economics in today's world. Overview of career areas, the homemaker-professional worker and vocational and occupational home economics programs.
- 321-2 Methods of Teaching for Non-Teaching Majors.** Educational principles for use in situations mostly outside of the formal classroom. Selection and organization of materials. Practice in using a variety of techniques and teaching aids.
- 322-2 Curriculum in Home Economics.** Curriculum planning for the total home economics program. Includes management of student organizations and business of a department. Prerequisite: Education 315.
- 324-4 History, Development and Principles of Extension Work.** History and philosophy of cooperative extension. Principles and practice of organizing and administering extension work in home economics. Offered alternate years. Transportation expense for field trips required.
- 327-3 Home Economics for Men and Women.** Survey of areas of home economics; child care; personal, family and community relations; economics and management of personal and family resources; food; nutrition; clothing selection and buying; financial management; consumer education and protection. Emphasis on life skills as reflected in needs of students. Field trip and practicum experiences. Cost: \$3 for supplies.
- 334-3 Careers in Fashion.** Explores the wide range of careers in the fashion industry from design, to production, to distribution and ultimate consumer of fashion goods. Field trips.
- 335-2 Basic Textiles.** Emphasis on recognition of fabrics and weaves, suitability, care, and maintenance, especially household textiles. Credit cannot be earned for 335 after receiving credit for 345a.
- 336-3 Survey of Clothing.** Multidisciplinary overview of study of clothing. Course includes aesthetic, cultural, economic, psychological, social and anthropological aspects.
- 337-3 Clothing for Consumers.** Clothing needs of individual family members within the context of developmental stage, life style, and societal setting; functional and fashion-motivated needs considered; clothing budgeting. Prerequisite: 336.

**338A-3 Clothing Construction – Beginning.** Basic clothing construction laboratory. Beginning skills: use of machine, fabric selection and preparation, pattern alteration, garment construction.

**338B-3 Clothing Construction – Intermediate.** Intermediate skills in fitting, construction, and pattern and fabric usage. Prerequisite: 338A.

**340-3 Flat Patternmaking and Drafting.** Drafting and fitting basic patterns; making sloper; making styles through flat pattern manipulation and drafting; testing and refining patterns to provide perfect fit. Prerequisite: 338b.

**341-3 (1,1,1) Fashion Retailing Seminars.** Comparison of practices drawn from student work experiences and information from readings or resource people. Individual and group projects. (a) Retail Theft, (b) Personnel, (c) Fashion Business Systems. Prerequisite: 100 clockhours of approved retail experience.

**342-3 Draping.** Application of draping principles and techniques to create original garment designs. Prerequisite: 338b.

**343-3 Apparel Accessories.** Product knowledge, levels of quality, selling points, care of plastics, leather goods, furs, jewelry, cosmetics.

**344-3 Fashion Illustration.** Original designs for male and female apparel and accessories using various media. Designs based on various sources of inspiration.

**345A-3 Textiles - Lecture.** Aspects of textiles having an influence on properties and performance of textiles and use products such as apparel and home furnishings. Characteristics of fibers, yarns and fabrics will be discussed and other factors such as manufacturing methods and legal constraints on the textile industry.

**345B-1 Textiles - Laboratory.** Investigation of fiber, yarn and fabric construction properties that influence textile performance. Prerequisite: concurrent enrollment in 345a.

**346-3 Visual Merchandizing.** Basics of apparel merchandise presentation using fashion shows, window displays, point-of-purchase displays, and mass merchandise presentations emphasizing the elements of design, lighting, and fixture/prop concepts.

**347-3 Fashion Motivation.** Psychological motivation for wearing clothing; societal functions of clothing, cultural differences in dress. Prerequisite: 336.

**348-3 Tailoring.** Basic principles of tailoring applied to coat or suit. Prerequisite: 338B.

**349-3 Fashion Merchandising.** Philosophies, principles and procedures used in fashion retailing establishments as they relate to functions, organization and operations. Topical coverage also includes merchandise and expense planning, inventory management and personnel training. Prerequisite 337.

**350-3 Retail Fashion Buying.** Responsibilities of a fashion retail buyer. Includes information sources, determination of consumer needs, characteristics of a buyer. Prerequisite: 336, 341-1.

**381-4 (2,2) Training Proposal and Report Writing.** (a) Theoretical and applied, guided self-study development of skills necessary to developing and documenting occupational study and experiences via resumes and related employment search correspondence. (b) Principles and practices of preparing training proposals and reporting results in corporate or agency settings.

**384-3 Adult Education and Training.** Planning and preparing adult and workforce programs. Characteristics of clientele, financial support, program development.

**386-3 (1,1,1) Post-Secondary Work Education.** Teaching in work education programs in post-secondary institutions and agencies. (a) Orientation to and preparation for teaching occupations, (b) Situations and issues which arise in professional education, (c) Interpersonal relations in teaching and other assignments.

**395-1 to 24 Field Experience.** Supervised work experience in a departmental approved position in business, industry, labor, government or military organizations for students specializing in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development or (f) Clothing and textiles. Clock hours/credit arranged by department coordinator.

**398-1 to 3 Special Problems.** Independent study for qualified students in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development or (f) Clothing and textiles. Prerequisite: consent of instructor.

**401-3 Authoring Computer Based Instruction in Workforce Education.** Develops the basic practical skills and theoretical knowledge required to create computer based instruction for workforce education. Planning and developing CBT lessons are included.

**408-3 Integrating and Managing Technology Applications for Workforce Education and Training.** Design of workforce training applications integrating professional advanced features of computer software, communication technologies and multimedia features, including management of educational LAN systems. Prerequisite: 306.

**409-3 Applications of Integrated Software for Education.** Computer applications of integrated software. Spreadsheet, database, wordprocessing and graphic and communications software will be applied to the solution of related problems. Individual student projects will be the focus of the applied nature of the class. Not of graduate credit. Prerequisite: 306 or Office Systems and Specialties 100, or equivalent.

**410-3 Issues in Business Training/Education.** Study of current issues in business training and education related to history, current status and trends. Organization of instruction, instructional settings, relation to general education, integration and impact of technology, curriculum development/review and evaluation of business training/education impact in the workplace.

**412-3 Office Systems Planning and Implementation.** (Same as Office Systems and Specialties 412) Planning for office systems development through investigation of procedures and systems used in various types of offices. Study of work flow, information processing, employee and group interactions, office information systems from end user perspective. Study of development and implementation processes and strategies detailed through field-tested projects. Students enrolled for graduate credit will develop an end-user office support system as a result of the project. Prerequisite: Office Systems and Specialties 341.

**415-7 (1,1,1,1,1,1) Instructional Methods for Business Education.** Specific methods, techniques and materials to deliver instruction in the business education areas of (a) Accounting, (b) Basic business and marketing, (c) Computer systems, (d) Keyboarding, (e) Information processing, (f) Shorthand, (g) Employability skills. Prerequisite: 310, 462 or Education 315.

**417-3 Administrative Office Communications.** Application of communication theory, human relations concepts, research methods and information technology to professional application of automated information systems. Projects include oral and written reports, systems-related documents (reports, proposals and procedures) and system documentation for users; emphasis on human factors of communication in a technological environment. Prerequisite: 302 or equivalent.

**418-3 Training and Development in Administrative Services.** Theories of learning and instructional development to the education/training of employees in office systems/administrative services. Analysis of office and administrative services occupations, instructional design, instructional and presentation strategies, training evaluation, use of instructional technology, and the implementation, evaluation and management of training in an organizational environment. Prerequisite: 412 or equivalent.

**428-3 Home Economics for Elementary Teachers.** Identification and development of home economics related experiences appropriate for various levels of elementary curriculum. Interpretation of current vocational education legislation and trends affecting elementary programs.

**431-3 Demonstration and Laboratory Techniques in Home Economics Education.** Practice in planning and carrying out instructional demonstrations in home economics for youth and adults. Use of audiovisual aids and hand-outs. Procedures for laboratory and guided practice to develop psychomotor skills. Attention given to TV presentations. \$5 to \$8 lab fee required. Prerequisite: 320.

**439-3 Historic Clothing: Western Cultures.** Development of clothing in western civilization to the present time. Consideration of social, economic, aesthetic factors and technical innovations influencing clothing. Prerequisite: 347.

**440-3 Experimental Custom Apparel Design.** Development of apparel to meet aesthetic, structural and functional needs; problem solving for exceptional proportions, rehabilitation, activity, performing arts, new technology, materials and environment. Prerequisite: 340, 342, 344 and 348.

**442-3 Clothing Economics.** Factors of production, distribution and consumption influencing clothing industry; management of these factors in clothing related businesses; place of clothing industry in national and international markets. Prerequisite: Economics 113 or 241.

**444-3 Mass-Market Apparel Design.** Design of a line to specifications; drafting; toiles, mass-production costs; work flow; use of industrial equipment. Field trips. Prerequisite: 340, 342, 344, 348.

**445-3 Textile Product Testing.** Exposure to and experience with methods used by retailers and manufacturers of textile items to measure performance and maintain quality. Standards, sampling and replication requirements and interpretation of results. Prerequisite: 345a and 345b.

**446-3 Professional Practices in Fashion Design.** Business principles of apparel design, including systems, forms and logistics of money and materials. Functions and responsibilities of the fashion designer. Career opportunities in the fashion industry. Prerequisite: 340, 342, 344, and 348.

**448-3 Custom Tailoring.** Individualizing, fitting and contouring of male or female garment for customers from commercial pattern or from original pattern. Organization of work and time. Prerequisite: 348.

**449-3 Historic Clothing: Non-Western Cultures.** Traditional dress in non-western cultures. Aesthetics, symbolism, and uses of costume in the culture; effect of clothing on economy. Cultures studied may vary with each offering. Prerequisite: 347.

**460-3 to 15 (3,3,3,3,3) Occupational Analysis and Curriculum Development.** System approach to curriculum development. Includes analyzing occupations, specifying objectives and developing curriculum in (a) administrative services training, (b) business education, (c) education, training and development, (d) home economics, and (e) vocational teacher development.

**462-3 to 15 (3,3,3,3,3) Instructional Methods and Materials.** Instructional methods in occupational training in (a) administrative services training, (b) business education, (c) education, training and development, (d) home economics, and (e) vocational teacher development. Prerequisite: 460.

**463-3 Assessment of Learner Performance.** Development and use of evaluation instruments to assess student performance in training classrooms and laboratories. Criterion- and norm-referenced objectives, applications of taxonomies in development of written tests, performance tests and attitude measures. Prerequisite: 460.

**464-3 Special Needs Learners and Work Education.** Theoretical and applied concepts in teaching special needs learners. Effective aspects of learning are emphasized. Curricula and teaching materials are examined and prepared. Field trips.

**466-3 Foundations of Work Education.** Examination of the historical, social, economic and psychological foundations of workforce education. Nature and role of education and training in preparing people for the world of work.

**468-3 Education/Labor Force Linkages.** Attention given to the following areas: overcoming barriers to the linkage process; developing effective lines of communication; resource sharing; conducting joint problem solving with other agencies and individuals within the community; and jointly developing and providing programs and services.

**469-3 Training Systems Management.** Insight and understanding of administration and management of organizational training. Principles and techniques of managing training organizations. Process of planning, organizing, programming, staffing, budgeting and evaluating a training organization.

**472-3 Organizing Cooperative Education.** Introduction to cooperative education including history, rational, legislation, goals and objectives. Programming, public relations and evaluation of cooperative education. In-

roduction of student selection and management of cooperative education programs. Fulfills three semester hours of six required for State of Illinois certification.

**473-3 Coordinating Cooperative Education.** Competencies required for coordination of cooperative education programs. Selection and maintenance of training stations, student placement, related instruction and program management. Fulfills the remaining three semester hours required for State of Illinois Certification. Prerequisite: 472.

**474-3 Individualizing Training.** Study and development of theory, characteristics, appropriateness and evaluation techniques of individualized training packages. Review of current state of individualized instruction in work education. Prerequisite: 460.

**484-3 Adult Training in Organizations, Business and Industry.** A study of adult and workforce education as offered in a variety of educational settings. Major topics include organization, funding, instruction, student characteristics and evaluation. Prerequisite: consent of instructor.

**490-1 to 4 Readings.** Supervised reading for qualified students. Includes the following areas: (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Prerequisite: consent of instructor.

**491-1 to 5 Advanced Occupational Skills.** Modern occupational practice in selected fields. For experienced professionals seeking advanced techniques in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Prerequisite: consent of instructor.

**494-1 to 4 Workshop.** Current work education issues for teachers, supervisors and administrators. Emphasis of each workshop will be identified in workshop announcements. (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles.

**495-2 to 12 Instructional Internship.** Internship in approved education and/or training centers. Intern instructor will increasingly assume responsibilities for preparing, presenting and guiding occupational learning in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Not for graduate credit. Prerequisite: 462 and 20 semester hours in specialization.

**496-2 to 12 Professional Internship.** Research, curriculum development or program management at approved education or training sites. The intern will follow the program of the supervising professional in regular and related activities. For students in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Not for graduate credit. Prerequisite: twenty semester hours in specialization.

**497-1 to 6 Practicum.** Applications of work education skills and knowledge. Cooperative arrangements with corporations and professional agencies to study under specialist. For (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Prerequisite: twenty hours in specialization.

**498-1 to 5 Special Problems.** Investigation of work education problems in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development or (f) Clothing textiles. Prerequisite: consent of instructor.

## Zoology (ZOOL)

Students enrolled in zoology courses may incur field or lab expenses of \$5 to \$25.

**115-3 General Biology.** Same as Plant Biology 115. (University Core Curriculum) Introduction to fundamental biological concepts for non-life science majors interested in learning about interrelationships of human, plant and animal communities. Integrated lecture and laboratory cover topics that include structure and function of living systems, reproduction and inheritance, evolution, biological diversity and environmental biology. Laboratory applies scientific methods to the study of living systems.

**118-4 Principles of Animal Biology.** An introduction to the basic concepts of animal biology including chemical organization of protoplasm; organization of matter into cells, tissues, organs and organ systems; classification and distribution of animals; ecology; heredity and organic evolution; economic biology and conservation; and animal behavior. A cost of \$5 may be incurred by the student. Three lectures and one two-hour laboratory per week. Prerequisite: high school biology.

**202-2 Human Genetics and Human Health.** Same as Microbiology 202. (University Core Curriculum) Acquaints the student with the role played by genetic information in human development and disease. Discussion topics will include genetics and human diversity, the interaction of genetic information and the environment, the concepts of genetic disease, the mechanisms and ethics of gene therapy and the possibilities of manipulating the genetic material.

**212-2 Birding.** Bird watching for pleasure. Consideration of identification, songs and ecology of birds, information on bird organization, equipment, and techniques. Credit may not be used toward a major in zoology. Two lectures per week. Offered Fall term.

**214-3 Human Heredity.** Principles of heredity as related to humans, with emphasis on the affects of environment on the biological inheritance. Credit may not be used toward a major in zoology.

**220-6 (3,3) Diversity of Animal Life.** Diversity and its taxonomic treatment of animals, emphasizing structure, function, life cycles, behavior, and phylogeny. (a) Invertebrates, (b) Vertebrates. Two lectures and one two-

hour laboratory per week. Need not be taken in a,b sequence. Fall, Spring. Prerequisite: 118 or Biology 200, or strong background in high school biology recommended.

**300-4 Vertebrate Embryology.** Main features of embryonic and fetal development from fish to humans. Two lectures and two 2-hour laboratories per week. Offered Fall and Spring terms. Prerequisite: 220b.

**305-2 Genetics Laboratory.** Experimental methods in applying basic principles of genetics. Monogenic and digenic inheritance, sex-linkage, gene interaction, linkage and chromosome mapping, mutation, artificial and natural selection, gene frequencies, and genetic drift. Two 2-hour laboratories per week. Offered Spring term. Prerequisite: Biology 305, or concurrent enrollment.

**309-3 Elementary Cell Biology.** Introduction to structure, function, and natural history of major cell types. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: consent of instructor.

**312I-3 Conservation of Natural Resources.** (University Core Curriculum) This course teaches an ecological perspective on current issues in natural resource conservation and management. Economic, political and social pressures that influence consumptive use of natural resources are considered, along with ecological consequences of resource exploitation. A conservation perspective is developed in which humans are viewed as participants in, rather than masters of the natural environment.

**316-3 Insect Pests and Their Control.** Classical and economic entomology including morphology, physiology, and taxonomy. Life history, damage, and control of principal injurious insects will be discussed. Two lectures and one 2-hour laboratory per week. Credit may not be used toward a major in zoology. Offered Fall term. Prerequisite: 118 or equivalent.

**351-4 Ecological Methods.** Basic ecological field techniques for analysis of community structure and functional relationships. Two 4-hour laboratories per week. Offered Spring term. Prerequisite: 220a,b and Biology 307.

**390-1 to 12 Internship.** Supervised off-campus training in a formalized internship program with a zoological institution or agency. May not be used for credit in zoology. Must submit letter from sponsoring agency and prospectus with duties and duration of internship to director of undergraduate studies. No more than three hours per semester may be taken if student is on-campus, or six hours if off-campus. Mandatory Pass/Fail. Prerequisite: major in zoology and prior approval by faculty supervisor.

**393-1 to 3 Individual Research.** Research on zoological problems. May not be used for minor in zoology. Some cost may be borne by student. Student must identify a zoology faculty supervisor to approve proposed research and evaluate performance. Approved proposal detailing research project and number of credit hours requested must be filed with director of undergraduate studies before the semester in which student is enrolled. Mandatory Pass/Fail. Prerequisite: minimum of 2.50 gpa ( $A = 4.00$ ), senior standing, and prior approval by faculty supervisor.

**400-3 Cell Biology of Development.** Cellular molecular mechanisms of embryogenesis and differentiation. Examination of the cell as a component of interacting tissues constituting the developing organism. Prerequisite: 300 or Biology 309 or advanced standing in Life Sciences or consent of instructor.

**401-3 Developmental Neurobiology.** This course presents a survey of the basic principles that underlie the development of the nervous system, including an examination of the important questions and issues currently being studied by neuroembryologists. Prerequisite: advanced standing in biology/science or consent of instructor.

**402-3 Natural History of Invertebrates.** Introduction to ecology, intraspecies communication and interspecies relationships of invertebrate animals. Recommended for teacher preparation programs. Two lectures and one 2-hour laboratory per week. Offered Fall term. Prerequisite: 220a.

**403-3 Natural History of Vertebrates.** Life histories, adaptations, and identification of fish, amphibians, reptiles, birds, and mammals, emphasizing local species. Recommended for teacher preparation programs. One lecture and two 2-hour laboratories per week. Offered Spring semester. Prerequisite: 220b or consent of instructor.

**404-3 Evolutionary Biology.** Concepts and principles of modern evolutionary theory at a level appropriate for upper-division majors and graduate students in any biological science. Prerequisite: 220a,b or equivalent and Biology 305 or consent of instructor.

**405-3 Systematic Zoology.** Theory and procedure of classification; population taxonomy; variation and its analysis; rule of zoological nomenclature; taxonomic publication. Three one-hour lecture-discussion meetings per week. Prerequisite: 220a, b or consent of instructor.

**406-3 Protozoology.** Taxonomy, cytology, reproduction, and physiology of unicellular animals. Laboratory methods for culture and study. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

**407-4 Parasitology.** Principles, collection, identification, morphology, life histories, and control measures. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 220a.

**408-3 Herpetology.** Taxonomic groups, identification, morphology, and natural history of amphibians and reptiles. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220b.

**409-4 Vertebrate Histology.** Microscopic structure of organs and tissues with emphasis on mammalian material. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 10 to 12 semester hours of biological science.

**413-4 The Invertebrates.** Structure, phylogeny, distinguishing features and habitats of the invertebrates. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 220a.

**414-4 Freshwater Invertebrates.** Taxonomic groups, identification, distribution, and habitats of the North American freshwater invertebrate fauna. Two lectures, two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

**415-3 Limnology.** Lakes and inland waters; the organisms living in them, and the factors affecting these organisms. Two lectures per week and one 4-hour laboratory alternate weeks. Offered Fall term. Prerequisite: 220a.

**418-4 Comparative Vertebrate Anatomy.** The comparative structure and evolution of vertebrate organ systems. Two lectures and two 2-hour laboratories per week. Offered spring term. Prerequisite: 220b.

**421-4 Histological Techniques.** Methods of preparing animal tissue for microscopic study and learn theories of staining and histochemistry. One lecture and two 3-hour laboratories per week. Offered Fall term. Prerequisite: 10 semester hours of biological science.

**426-3 Comparative Endocrinology.** Comparison of mechanisms in influencing hormone release, hormone biosynthesis, and the effects of hormones on target tissues. Include ablation and histology of glands and chemical and bio-assays with vertebrates and invertebrates. Two lectures and one 2-hour laboratory per week. Offered Spring term.

**458-3 Issues in Aquatic Ecology.** With its primary focus on freshwater ecosystems, this course will cover important issues in aquatic ecology, including: surface water and groundwater quality, global warming, use of fish hatcheries, exotic species, genetically manipulated organisms, stream habitat degradation, dams, diversions, the Great Lakes and local issues. Prerequisite: Biology 307 or consent of instructor.

**460-2 Upland Game Birds.** Biological overview and identification of upland and shoreline game birds plus raptors and selectively-managed species. One lecture and one 2-hour laboratory per week; there will be up to two Saturday field trips. Offered Spring term. Prerequisite: 220b or consent of instructor.

**461-3 Mammalogy.** Taxonomic characteristics, identification, and natural history of mammals. Two one-hour lectures and one 2-hour laboratory per week. Offered Spring semester. Prerequisite: 220b.

**462-3 Waterfowl.** Identification, life history, ecology, and management. Two lectures and one 2-hour laboratory per week; there will be three or four Saturday field trips. Prerequisite: 220b or consent of instructor.

**463-3 Game Mammals.** Natural history and management. Two lectures and one 2-hour laboratory per week. Prerequisite: 220b or consent of instructor.

**464-3 Wildlife Administration and Policy.** Responsibilities of private, state, and federal natural resources management agencies. Legal and political processes in areas of wildlife and natural resources. Three lectures per week. Offered Spring term. Prerequisite: consent of instructor.

**465-3 Ichthyology.** Taxonomic groups, identification, and natural history of fishes. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: 220b.

**466-3 Fish Management.** Sampling, age and growth, dynamics, habitat improvement, manipulation of fish populations, and management of freshwater and marine fish stock. Two lectures per week and one 4-hour laboratory alternate weeks. Offered Fall term. Prerequisite: 10 hours of biological science or consent of instructor.

**467-3 Ornithology.** Classification and recognition of birds and the study of their songs, nests, migratory habits, and other behavior. One lecture and one 4-hour laboratory per week. Offered Spring term. Prerequisite: 220b.

**468-3 Wildlife Biology Principles.** Basic concepts of wildlife ecology and management. Includes lectures on ecological physiology, population dynamics and wildlife management strategies. Prerequisite: Biology 307 and seven other semester hours of biological science.

**469-3 Wildlife Techniques.** Field-oriented course with instruction in techniques for management of wild species and their habitat. One 1 1/2-hour lecture and one 3-hour laboratory per week, two of which may be field trips on Saturdays. Prerequisite: 10 semester hours in biology and/or zoology or consent of instructor.

**470-3 Interdisciplinary Approaches to Environmental Issues.** (Same as Geography 470 and Agribusiness Economics 470) Application of concepts from the biological, physical, and social sciences, economics, humanities, and law, are used to understand the interdisciplinary complexities of environmental issues. Students will develop and demonstrate problem-solving skills as part of a team analyzing a regional environmental issues. Team-taught seminar style discussions. Prerequisite: Plant Biology 301i and admission to Environmental Studies minor program.

**471-4 Entomology.** Structure, classification, and life histories of insects. Two lectures and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

**473-4 Aquatic Entomology.** Structure, classification, and biology of aquatic insects. Two lectures and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

**475-3 Advanced Cell Biology.** (Same as Plant Biology 475.) Cell structure at molecular and cytological levels. Includes discussions of research methods, and plasma membrane, cell exterior and recognition, the endomembrane system and related organelles, self-replicating organelles, the cytoskeleton, nuclear structure and function in cell replication, cell differentiation and response, and eukaryotic cell evolution. Prerequisite: Biology 306 or equivalent.

**476-2 Advanced Cell Biology Laboratory.** (Same as Plant Biology 476.) Laboratory course to accompany 475. Light and electron microscopy, cell culturing, biochemical methods, and experimental protocols are used to study the structure of cell membranes, intracellular organelles, including the Golgi apparatus, ER, mitochondria, plastids, and lysosomes, the cytoskeleton and nucleus. Prerequisite: 475 or concurrent enrollment.

**477-3 Fish Culture.** Production of game, food and bait fishes. Design of facilities, chemical and biological variables, spawning techniques, diseases and nutrition. Two lectures per week and one four-hour laboratory alternate weeks. Prerequisite: ten hours of biological science or consent of instructor.

**478-3 Animal Behavior.** Biological basis of the behavior of animals. Two lectures and one 2-hour laboratory per week. Offered Fall semester. Prerequisite: one year of biological science or permission of instructor.

**480-3 to 4 Research Methods in Animal Behavior.** Skills relevant to conducting research in animal behavior. Guided self-instructional format, with two 2.5-hour periods scheduled weekly, primarily as question/answer

and evaluation sessions. Offered spring semester. Prerequisite: 478 and a course in statistics is recommended, or consent of instructor.

**482-1 Zoology Seminar for Seniors.** Each student reports on a selected topic, using original scientific literature, and the report is discussed by the class. One meeting per week. Offered Fall, Spring, Summer terms. Not for graduate credit. Prerequisite: senior standing or 24 hours of life science completed. Mandatory Pass/Fail.

**485-2 to 4 Special Topics in Zoology.** Examination of topics of special interest not available in other departmental courses. Offered in response to student need and faculty availability. Prerequisite: consent of instructor.

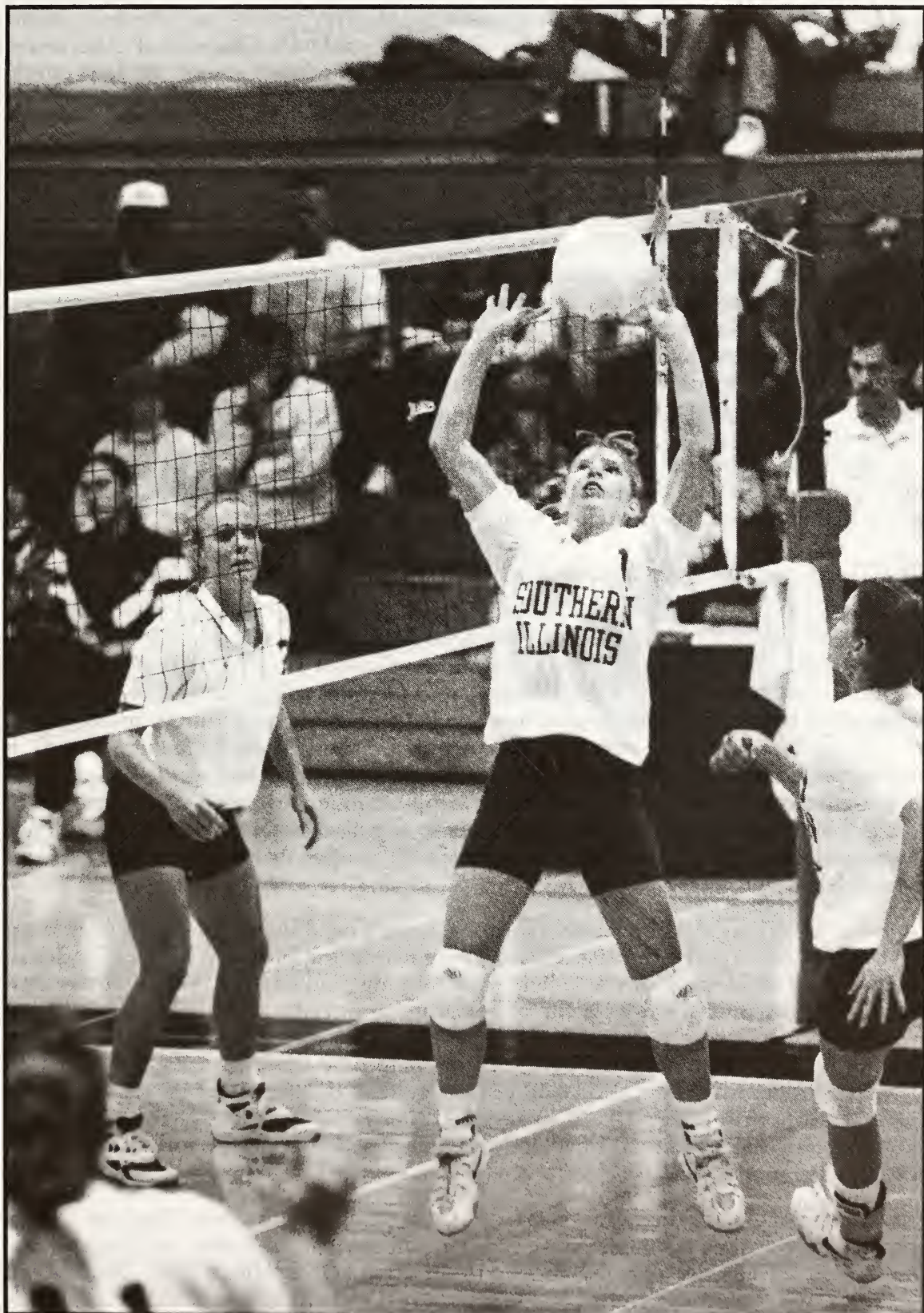
**493-1 to 6 Honors Research.** Individual research for honors students in zoology. For undergraduate credit only. Prerequisite: approval of departmental chair and a faculty supervisor.

**496-2 to 4 Zoology Field Studies.** A trip of four to eight weeks to acquaint students with animals in various environments and with methods of field study, collection, and preservation. Offered Fall, Spring, Summer terms. Prerequisite: consent of department.

**497-3 Helminthology.** Identification, structure, physiology, and life history of parasitic helminths. Three lectures per week. Prerequisite: 407.



# 6 / Student Services



## Campus Life

### STUDENT DEVELOPMENT

The central focus of Student Development is to promote individual student growth and personal achievement through a wide range of programs and services intentionally designed to complement and enhance the student's educational experience. A primary goal is to provide opportunities for student involvement, student development and experiential learning which contribute to student success and satisfaction. Programmatic emphases include:

### NEW STUDENT AND FAMILY/PARENT PROGRAMS

#### Student Orientation Programs

Student Development provides a comprehensive orientation program designed to assist new students in making a smooth transition into the University community and to introduce both new students and their parents to the University's vast array of resources, programs and services. Orientation sessions are offered prior to the beginning of each semester and on new student advisement and registration days. Specially trained upperclassmen, known as Student Life Advisers, serve as orientation peer advisers to help the new student learn about the campus and its services. The Student Orientation Committee is available year round to assist students. For additional information, contact Student Orientation Programs in the Student Development Complex on the third floor of the Student Center, 453-5714.

#### First Year Experience: A Magic Step Ahead

*It's MAGIC.* Project MAGIC, Maximize Academic Growth In College, is one of three unique first year experience programs designed as a general advisement program for new students. The purpose of the program is to help new students derive the greatest possible benefit from the people, programs and facilities at the University. This is accomplished by providing interested new students with the opportunity to develop a friendly and helpful relationship with a member of the University faculty or staff, a mentor, who can assist the new student in developing career and academic goals, in learning how to maximize the educational opportunities available at the University and in becoming acclimated to college life. To enroll, contact First Year Experience Programs in the Student Development Complex on the third floor of the Student Center, telephone 453-5714.

*Project STEP.* Project STEP, Success Through Experienced Peers, one of three in a series of first year experience programs, is a peer mentoring program for new students. The purpose of the program is to help prepare new students for success at the University by providing them with the opportunity to develop a friendly and informal mentoring relationship with an experienced Southern Illinois University at Carbondale student. Trained volunteer peer mentors help new students become acclimated to college life, develop educational and career goals and learn about involvement and leadership opportunities at the University. To participate, contact First Year Experience Programs in the Student Development Complex on the third floor of the Student Center, telephone 453-5714.

*Project AHEAD.* In cooperation with the College of Liberal Arts, Student Development provides an academic course, LAC 101, for first semester students at the University. Commonly referred to as Project AHEAD, A Humanistic Educational Approach to Development, the course is designed to help prepare students for suc-

cess in college and is one of the three programs specifically designed for new students. The course uses an experiential mode of learning activities and group discussions pertaining to the first year experience. Topics for discussion focus on factors and issues associated with successful adjustment in college and academic achievement. Students learn valuable tips on study skills, communication skills, reading skills, time management techniques and testing skills. Contact First Year Experience Programs in the Student Development Complex on the third floor of the Student Center, telephone 453-5714, for more information.

### **SIUC Parents Association**

Open to parents and families of students, as well as friends of the University, the SIUC Parents Association provides opportunities for parents and family members to become better informed and actively involved with their students' educational and University experiences. The nominal annual family membership fee entitles Association members to periodic newsletters, special event programs and a number of University and community discounts. The Parents Association Committee is available year round to assist students, their parents and families. Membership applications are available from the SIUC Parents Association in the Student Development Complex on the third floor of the Student Center, telephone 453-5714.

### **CAMPUS SAFETY PROGRAM**

All full-time students support, through their student activity fee, several student safety programs and services, including a Women's Night Safety Transit, and an Evening Van and Transit Car Service. For more information about these transit services, telephone 536-2338.

#### **Women's Night Safety Transit**

Operated Sunday through Friday during the evening hours, Women's Night Safety Transit is available to female students who are concerned about their safety. Rides are provided to students living off campus to bring them to campus for classes, library, and other activities and return home. For rides, telephone 453-2212.

#### **The Evening Van and Transit Car Service**

The Evening Van and Transit Car Service is designed to provide transportation of currently enrolled, disabled students to and from campus for academic purposes on an on-call basis. A similar Day Van Service is available to transport students with disabilities to and from campus for academic purposes on a scheduled basis. For rides, telephone 453-2004.

### **MULTICULTURAL PROGRAMS AND SERVICES**

A central goal of Multicultural Programs and Services is to facilitate the design, coordination and implementation of programs and services that foster educational achievement and personal growth and development of the minority student population. Educational, cultural, and social programs and activities, including historical commemorations and celebrations, are sponsored to promote cultural pluralism within the University community. For additional information, contact Multicultural Programs and Services in the Student Development Complex on the third floor of the Student Center, telephone 453-5714.

#### **Saluki Peers**

The Saluki Peers Program is a coordinated effort to monitor the progress of freshman minority students. The objectives of the program are to provide an orientation to the

University learning environment within the context of a multicultural/pluralistic perspective, to assist students with problem solving, to assist students with their studies as necessary, and to encourage students to utilize tutorial services. Contact Multicultural Programs and Services in the Student Development Complex on the third floor of the Student Center, telephone 453-5714.

### **Emerging Leaders Program**

The Emerging Leaders Program is designed to assist freshman minority students in developing their full potential as both scholars and citizens. Students who participate in the program not only gain insight into what it is like to be a campus leader, at SIUC, but also gain confidence in making or seeking leadership opportunities. Through their involvement in leadership activities, students are able to apply problem solving, interpersonal and persuasive skills to their lives after college. Program participants receive academic credit through a course offered in cooperation with Black American Studies. For additional information, contact Multicultural Programs and Services, located in the Student Development Complex on the third floor of the Student Center, telephone 453-5714.

### **NON-TRADITIONAL STUDENT SERVICES**

Designed to assist non-traditional students with their unique educational, personal and professional needs. Non-Traditional Student Services, NTSS, provides services for those students who are 24 years of age or older, are married, have dependents, are enrolled part time, or have been away from formal education for a period of time. Increasing the awareness of and response to non-traditional students and their spouses and families within the University environment are of primary concern. Services offered include assistance with the non-traditional student's transition into the University learning environment, general information and referral services, an emergency locator system for students who are parents, newsletter and handbook publications especially designed for the non-traditional student. For assistance or additional information, contact Non-Traditional Student Services in the Student Development Annex, located in Woody Hall, B Wing, telephone 536-2338.

### **Re-Entry Women's Program**

Assisting re-entry women students into and through the University is the central goal of the Re-Entry Women's Program. Services include child care referrals and information on University procedures, as well as networking opportunities to help re-entry women find support and encouragement from one another. For assistance, contact Non-Traditional Student Services, located in Woody Hall, B Wing, telephone 536-2338.

### **RAINBOW'S END CHILD DEVELOPMENT CENTER**

Rainbow's End is a comprehensive child development center designed to serve children, ages 6 weeks to 15 years, of University students, faculty and staff members. The center, which is licensed by the State of Illinois Department of Children and Family Services, is staffed by qualified professionals, is a participant in the State of Illinois Child Care Food Program, and serves as a replication site in an international research project through the Warner Institute's Center for Childhood Creativity at California State University at Northridge. Special features of Rainbow's End include a range of full and part time day care options, the assessment of tuition and fees based upon the number of hours for which the child is enrolled, and reduced tuition fees for student parents. Programs offered include infant/toddler, preschool, school age, summer school age, and before and after school care, in addition to an evening care program, an intergenerational program sponsored in cooperation with the Carbondale Senior

Citizens, and an anti-bias curriculum. Rainbow's End is open from 7:30 A.M. to 5:30 P.M. each day University classes are in session. Break hours are 8:00 A.M. to 5:00 P.M. Evening care services are offered Monday thru Thursday from 5:30 P.M. to 9:45 P.M. For additional information, telephone Rainbow's End at 453-6358.

## REGISTERED STUDENT ORGANIZATIONS PROGRAMS

Over 400 registered student organizations offer opportunities for student involvement, student leadership development and experiential learning. A core of volunteer faculty/staff advisers, along with the professional staff of Student Development, provide direction and consultation to the student organizations in the areas of fiscal and organizational management and University policies and procedures. The program also provides a variety of services including: membership referrals, student organization directories, leadership development workshops, equipment checkout services, copy duplicating service, mailbox service and a programming resource library. Among the registered organizations are student governmental groups, coordinating councils, public interest groups, fraternities and sororities, publication and media groups, scholastic and professional honoraries, departmental clubs, special interest groups, religious organizations and sports and recreation clubs. Interested students should contact RSO Programs in the Student Development Complex on the third floor of the Student Center, telephone 453-5714.

### Fraternal Education

The Fraternal Education Program promotes the growth and development of SIUC students who elect to affiliate with Greek letter organizations. Composed of thirteen fraternities and eight sororities, the University's social fraternal system represents one of several alternative lifestyles for college students to pursue. Primary program emphases of the SIUC Fraternal Education Program include: promoting the intellectual, vocational, social, moral and recreational development of students; providing training in leadership skills and other personal and social skills; promoting student involvement in extracurricular activities and community service; promoting Greek life as a productive and viable lifestyle on campus; and promoting an appreciation for different lifestyles and cultural heritages. The Inter-Greek Council, IGC, which consists of elected representatives from each of the nationally recognized chapters, serves as the activity coordinating council for the system. Sub-Councils include the Interfraternity Council, Panhellenic Council, and Pan-Hellenic Council. Major programs and activities sponsored by the Greek System include New Student Orientation Welcomefest, Greek Week, Operation Happy Holiday, and the Annual All-Campus Theta Xi Variety Show, in addition to numerous philanthropic and service projects. Rush, or membership recruitment, is sponsored as well as at designated times throughout the year. For additional information, contact Fraternal Education in the Student Development Complex on the third floor of the Student Center, telephone 453-5714 or stop by the IGC office on the third floor of the Student Center, telephone 453-2633.

### The Leadership Center

Student Development sponsors a student leadership development series designed to provide students with activities and experiences that enhance their skills and student involvement on the campus. Leadership workshops and, special topic seminars, ranging from student organizational management to group development, are offered throughout the years, as well as by special request. In addition, a collection of handbooks and manuals on such areas as parliamentary procedures, fund raising and budgeting has been developed to assist RSO leaders with their organizational management skills. To enroll in a seminar or to schedule a workshop, contact RSO Pro-

grams in the Student Development Complex, located on the third floor of the Student Center, telephone 453-5714.

### The Academy

Opportunities to enhance student leadership and citizenship potential are offered through The academy. This program provides a *catalog* of involvement opportunities that complement the student's in-classroom experience. Through specially designed modules, as well as documented University and community experiential learning, students may complete any one of three programmatic components: leadership development, student volunteer/community service-learning, citizenship development. Students who complete all three programmatic requirements are eligible to receive a Student Involvement Transcript. To enroll in The Academy, contact Student Development on the third floor of the Student Center, telephone 453-5714.

### Student Media and Publications

Special opportunities are available for students who have an interest in the areas of media and publications. These include serving as an editor, photographer, artist, writer for the *Monolith* new student record book; *Insight* a newsletter published especially for members of the SIUC Parents Association; *Southern Portrait* a monthly newsletter devoted to special features and items of particular interest to student leaders and members of RSOs; *Rainbow Connection* a letter for parents of children enrolled at Rainbow's End child development center; and a variety of other newsletters designed especially for specific target populations ranging from Student Life Advisers to non-traditional students to minority students. Student Development also serves as the office of record for all RSO media and official publications and provides assistance to RSOs in meeting University guidelines. For additional information or to volunteer for a student publication, contact RSO Programs in the Student Development Complex, located on the third floor of the Student Center, telephone 453-5714.

### Credit for Involvement

In cooperation with various academic units, Student Development provides opportunities for students to receive academic credit for their participation in student activities and student organizations. Opportunities available include leadership development courses for fraternity and sorority members, community service-learning programs for student volunteers, leadership development seminars for Student Life Advisers and Emerging Leaders, leadership development courses for student government members, and undergraduate and graduate internships in such areas as student development, early childhood education, and student media and publications. For additional information, contact Student Development on the third floor of the Student Center, telephone 453-5714.

### STUDENT JUDICIAL AFFAIRS

Student Development administers the *Student Conduct Code* and supervises the judicial program for social misconduct, through the Student Judicial Affairs Program. The purpose of the *Student Conduct Code* is to establish and maintain an orderly environment conducive for learning, free expression, free inquiry, intellectual honesty, respect for others, and participation in constructive change; to promote the development of ethically sensitive and responsible persons; and to protect relevant legal rights of students. The judicial program is designed to contribute to the teaching of appropriate individual and group behavior as well as to protecting the campus community from harm and disruption. Special emphasis is placed on the training and contributions of students and faculty who serve on judicial review boards. For additional information regarding the rights and responsibilities of students under the

*Student Conduct Code* or the judicial review process, contact Student Judicial Affairs in the Student Development Annex, located in Woody Hall, B Wing, telephone 536-2338.

## STUDENT VOLUNTEER AND COMMUNITY SERVICE-LEARNING PROGRAMS

SIUC recognizes and agrees that the nation's greatest social problems can only be addressed if individuals, groups and institutions become actively engaged in providing service to the community. Through the Saluki Volunteer Corps and other Student Development programs, SIUC is making every effort to prepare students for a life of involvement and committed citizenship. The Saluki Volunteer Corps, SVC, promotes the ideas of citizenship and concerns for others through student involvement in community service. Students are encouraged, throughout their college career, to participate in community service at least 30 hours each academic year. The Saluki Volunteer Corps not only acts as a clearinghouse for service requests from campus and community agencies, but also documents community service hours, which may be recorded on the student's academic transcript, and prepares a Student Involvement Transcript listing all the community service and leadership education opportunities/activities in which the student has participated. For additional information, contact the Saluki Volunteer Corps in the Student Development Complex, located on the third floor of the Student Center, telephone 453-5714.

## TRANSITIONAL PROGRAMS

### Early Warning System

While adjusting to college life can be one of the most stressful transitions students may experience, special assistance is offered through the Early Warning System. Trained faculty and staff volunteers are available to assist students by lending support and making appropriate referrals to University professional staff members or campus agencies. Additional information may be obtained by contacting the Early Warning System through Transitional Programs in the Student Development Annex, Woody Hall, B Wing, telephone 536-2338.

### Undergraduate Student Withdrawals

Exit interviews are conducted for all undergraduate students contemplating withdrawal from the University. The purpose of the exit interview is to assess the student's need, suggest alternatives to withdrawal, explain the implications of withdrawal and guide the student through the process. Because withdrawal from the University may have an adverse effect on the student's financial obligations including eligibility to continue to receive financial assistance, and upon the student's permanent academic record including eligibility to be readmitted to the University, each withdrawal request is reviewed independently from each request for a credit/refund of tuition and fees. Contact Transitional Programs in the Student Development Annex, located in Woody Hall, B Wing, telephone 536-2338, for complete details on how to withdraw from the University.

### Motor Vehicle Parking Exemptions

Regulations concerning the use of motor vehicles on the SIUC campus require that a student have achieved junior status, be 21 years of age or older, married, a veteran, or hold graduate student status. Exceptions are made only on a limited basis and only for students whose need for a motor vehicle is justified and can be documented. Contact Transitional Programs in the Student Development Annex, located in Woody Hall, B Wing, telephone 536-2338, for details on how to apply for an exemption.

### **Student Absence Reports**

Student Development, through Transitional Programs, provides a system to verify and document the reasons for student absences from class. Verified information is forwarded to the student's Academic Dean for transmittal to the individual faculty member for approval or disapproval. This service is provided largely for students who are ill or hospitalized, upon verification by Student Health Programs. However, the service also is provided in cases of family illness, death, or other personal tragedy. For additional information, contact Transitional Programs in the Student Development Annex, located in Woody Hall, B Wing, telephone 536-2338.

### **Student Death Notices**

Student Development, through Transitional Programs, is the office of record regarding all student deaths, including those of former students. When a student death is verified, a notice is sent to appropriate University offices so that institutional records may be adjusted to remove the name of the deceased student. Professional staff members are also available to provide appropriate assistance to the surviving parents or family members. To report a student death, contact Transitional Programs in the Student Development Annex, located in Woody Hall, B Wing, telephone 536-2338.

### **Power of Attorney**

If a student is unable to be on campus to claim a check, arrangements may be made for Student Development, through Transitional Programs, to act for the student to negotiate the check to pay any outstanding bills owed to SIUC. This service is provided to student graduates who cannot remain on campus until the check is available or to continuing students who may be away from the campus for a practicum, internships, or student teaching assignment. The student must sign a power of attorney form, have the signature notarized, and authorize negotiation of the check. Exclusions to this service include negotiating grant and student loan checks. For details, contact Transitional Programs in the Student Development Annex, located in Woody Hall, B Wing, telephone 536-2338.

## **Campus Services**

### **Student Center**

The Student Center is the community center of the University for all students, faculty, staff, alumni, and guests. It is not just a building—it is an organization and a program which together represent a well-considered plan for the community life of the University.

The Student Center offers students many work and cocurricular opportunities. Approximately 450 students annually have job opportunities in the Student Center and the center receives sizable student work aid to supplement work opportunities. There are also academic credit and work-related opportunities in conjunction with Commercial Graphics-Design, and the Departments of Educational Administration and Higher Education, Food and Nutrition, and Recreation. In addition, through Student Center and Student Programming Council programs, nonmajors may become actively involved in theater, dance, and other performing arts activities.

As a community center it performs four important missions. It supplies support services which complement the academic mission of the university through the bookstore, food service, information services, and meeting facilities. It is part of the educational program of the University and serves as a laboratory of citizenship and leadership through participation in its various boards and committees that provide a

campus-wide social, cultural, and recreational program. It is an extension of the classroom which allows practicum students, graduate assistants and interns the opportunity to develop on-the-job expertise in their fields of learning. It serves as a unifying force in the University, cultivating interactions on a common ground between students, faculty, staff, alumni, and friends. It is a focal point to which alumni and students can relate when returning to campus.

The Student Center covers almost eight acres of floor space and is open approximately 16 hours a day, seven days a week. The University Bookstore sells new and used textbooks and school and personal supplies. An extensive food service includes fast food offerings such as McDonald's, Pizza Hut Express and Yogurt and Cream as well as traditional services, Marketplace Cafeteria, Old Main Restaurant, Bakery, Pecos Pete's and catering. Other facilities and services include a campus-wide ID system, automated post office, automated banking, event ticket sales, check cashing, Student Health Assessment Center, bowling lanes, billiard room, craft shop, art exhibit and display case areas, television and video lounges, and general lounges for study and relaxation.

Other available facilities include ballrooms, an auditorium, and several private meeting and dining rooms. Offices in the Student Center are the Student Development Office, the University Programming Office, and student organization and student government offices.

### University Bookstore

The University Bookstore is an integral part of the Student Center and is located on the ground floor with the main entrance at the cross halls.

As part of the educational process, the University Bookstore provides textbooks and specialized supplies for all classes. It also has a general book department with references and current best sellers. In the supply sections, the University Bookstore carries a variety of office supplies, school supplies, art and engineering materials, computer supplies, imprinted apparel, gift items and greeting cards, and personal products.

The University Bookstore also provides the following services: book and thesis binding, laminating, rubber stamp ordering, class ring sales, technical pen cleaning, gift wrapping, document placquing, geological survey maps, postage stamps, Visa and Mastercard, cap and gown rental and sales, special order services for books and supplies, and textbook buy back service. Money spent at the University Bookstore returns to the operation of the Student Center.

Another important mission of the University Bookstore is to provide job opportunities, retailing and marketing experiences, internships, and a laboratory for research.

### SIU Arena

The SIU Arena hosts a variety of athletic events, meetings, musical programs, stage performances and similar activities that demand an indoor participant area or a facility capable of accommodating large audiences. The SIU Arena is the site of the University's largest commencement ceremonies, graduating a total of 3,282 graduates in 1996. The staff of the SIU Arena is available to assist in achieving the goals of the educational programs of various University departments, in scheduling the facility for a number of indoor sporting events and practices for the Department of Intercollegiate Athletics, and in providing equipment and facilities for various University student groups. Finally, the SIU Arena presents a popular entertainment series that helps to fulfill the educational, cultural and entertainment needs of the University and its surrounding communities.

### **Shryock Auditorium**

Located on the old campus of Southern Illinois University at Carbondale, Shryock Auditorium stands as the finest performing arts center in southern Illinois.

Constructed in 1917 and named after University president Henry William Shryock, the facility was renovated in 1970 at a cost of 1.5 million dollars. Upon re-opening in January, 1971, guests were pleased and surprised to find a new decor of opulent grand opera splendor, while the original motif of the building had been retained.

As the largest auditorium on campus, seating over 1,200, Shryock Auditorium is well equipped to handle almost any type of event, from the performing arts on a grand scale to large group meetings and conferences. Facilities include dressing rooms capable of accommodating up to 70 performers, modern stage rigging, lighting and sound systems, and air conditioning throughout the audience areas.

The Shryock Auditorium Celebrity Series annually presents the finest in touring musicals, plays, ballet, modern dance, opera, international entertainment, and big bands. In addition, the Auditorium is utilized by functional units of the University, by recognized student organizations, and by non-student on-campus groups when the event is of educational, cultural, or social significance.

The beautiful decor and appointments of Shryock Auditorium, with the nostalgic memories surrounding this old campus landmark, make it one of the places to which students and alumni return and proudly show campus visitors year after year.

### **University Museum**

The University Museum serves the campus community and surrounding area through its active exhibit program and in its cooperative ventures with other academic units to improve the quality of instruction.

The exhibits housed in the University Museum facility, Faner Hall, C wing, are designed to give viewers an authentic glimpse of the area's past. Changing exhibits displayed in the University Museum include a series of graduate student thesis presentations, faculty art, and photography, as well as exhibits from the permanent collections and special national and international exhibits designed around a particular theme. In addition to these formal exhibits, many permanent collection objects are displayed at several other campus locations.

The University Museum also serves students in more specific ways, by providing on-the-job training, courses in museum studies, and opportunity for creating and installing practicum exhibits of art, history, and science. Through these avenues, students are able to draw on the extensive collections which include works of fine art, ethnographic artifacts from many areas of the world and 19th and 20th century historic objects.

The University Museum provides a community service through guided tours, lecture programs, a loan program, and exhibits in public places; and works with many area groups to provide meaningful learning experiences.

### **Campus Communications Media**

#### **SIUC BROADCASTING SERVICE**

The SIUC Broadcasting Service operates public television stations WSIU-TV8 in Carbondale and WUSI-TV16 in Olney, and public radio stations WSIU-FM 91.9 in Carbondale and WUSI-FM 90.3 in Olney. Students are provided opportunities to get hands-on experience in a wide range of radio and television specialties. The Broadcasting Service encourages active student volunteer participation in all areas of its operations. Students are able to work with modern equipment in actual on-the-air situations. They can become involved in the creation of radio and television programming, and they can compete for paid student staff positions.

The stations of the SIUC Broadcasting Service are affiliated with a variety of national organizations such as National Public Radio and the Public Broadcasting Service. Students who work at the stations have learning experiences available to them which are extremely valuable upon entering the job market. Southern Illinois University at Carbondale is known nationally and admired for the practical experience it provides its students through participation in radio and television station activities.

#### NEWSPAPER

The *Daily Egyptian*, campus newspaper, is published when the University is in session Mondays through Fridays, spring and fall semesters and Wednesday through Fridays during the summer session, and serves as a morning daily newspaper for the University community. Paid tuition entitles students to a copy of the *Daily Egyptian* newspaper. The publication also serves as a laboratory newspaper for students in the School of Journalism, produced under professional supervision, using student editors and staff. About 100 students work at news gathering, editing and layout, production, advertising and distribution. The circulation is about 23,000. Students do not have to be enrolled in journalism to be employed in the newspaper departments of news, photography, camera, paste-up, typesetting, advertising, business, printing, and circulation. The newspaper is published and printed in a plant equipped with electronic facilities to produce a 40-page daily newspaper on a web offset press.

#### Intercollegiate Athletics

Excellence within the realm of competition and the classroom remains the standard for Southern Illinois University at Carbondale's athletics program which provides 18 sports for men and women. All intercollegiate sports compete at the NCAA Division I level.

Sports are offered in basketball, baseball, cross country, football, golf, softball, swimming and diving, tennis, track and field, and volleyball. All saluki sports compete within the Missouri Valley Conference (MVC), except for swimming and diving, which is an independent, and football, which belongs to the Gateway Conference.

Many former Salukis have starred professionally and in the highest amateur circles. Steve Finley (Houston Astros) and Dave Stieb (Toronto Blue Jays) have made their marks in the major leagues. In football, SIUC had free agent signees this spring in Scott Gabbert (Cleveland Browns) and Yonel Jourdain (Buffalo Bills). In track and field, Connie Price, Darrin Plab and Cameron Wright rank among '96 Olympic hopefuls for the U.S.

SIUC athletes routinely gain high marks in the classroom. Forty-three percent of the University's 368 sports participants had at least B averages during fall '92. In particular, teams sparkled academically in women's tennis (3.39 gpa) and women's golf (3.33 gpa); eleven members of the women's track team were among 46 Dean's List honorees. In 1991, six student athletes were named GTE Academic All-Americans.

#### Intramural-Recreational Sports

The Office of Intramural-Recreational Sports provides campus-wide, year-round programs and services to meet the needs of students and their families who wish to participate in sport or leisure time activities. A wide variety of programs are held at the Student Recreation Center, playfields and tennis courts located across campus, Pulliam Hall, and the Lake-on-the-Campus beach and boat dock activity areas.

The Student Recreation Center houses an Olympic-size swimming pool, two indoor tracks, fourteen racquetball/handball courts, two squash courts, a rock climbing practice wall, a weight room, a martial arts room, an indoor tennis court, seven activity areas for basketball, volleyball and badminton play, an equipment check-out

desk, saunas in each locker room, a dance studio and aerobic area, a sports medicine office, and a fitness forum filled with toning and conditioning equipment.

The Office of Intramural-Recreational Sports also provides a broad range of structured programs, including aerobic classes for every skill level and more than 40 intramural competitive events and over thirty sport clubs. The special populations area provides unique entertainment and recreation tailored to specific groups such as re-entry students, international students, disabled students, and the family members of students and eligible users. Instruction is available in a wide variety of activities, including Yoga, massage, weight-training, golf, tennis, and more. In addition, the Adventure Resource Center provides outdoor recreational information and sponsors day and overnight outdoor trips as well as informative clinics on topics such as fishing, hunting, rock-climbing, nature photography, and more. Windsurfing, sailing, and lifeguarding lessons are available courtesy of the Aquatics staff. The Sports Medicine office, operated cooperatively by the Wellness Center and Intramural-Recreational Sports, offers injury rehabilitation, fitness assessments, blood pressure and body fat checks, nutrition analyses, and a supervised workout and exercise program.

Recreational equipment is available for indoor and outdoor use. The equipment check-out counter offers free use of an extensive selection of sports equipment. Base Camp, Intramural-Recreational Sports' outdoor equipment rental program, offers camping, canoeing, hiking, and fishing equipment for a nominal daily fee.

For detailed information concerning the programs and facilities, contact Intramural-Recreational Sports at 536-5531.

### **Campus Ministries**

Campus Ministries at Southern Illinois University at Carbondale, with an awareness of the diverse religious and cultural traditions existing in society, are committed to all efforts unifying the people of God with loving concern for one another. The member ministries see the University as a unique setting for the development of personal growth and commitment in a richly varied environment, providing dialogue and interaction in all aspects of a person's life. They share with the University community in a joint search for truth and an ever deeper meaning in life. Sixteen individual ministries, Jewish and Christian, constitute the Campus Ministries organization. For a current brochure containing more detailed information about their worship, programs, and fellowship offerings, telephone (618) 457-8165 or write Campus Ministries, 816 S. Illinois, Carbondale, IL 62901.

### **Student Health Programs**

The University provides an extensive health benefits plan through the Student Health Program. Student input to the plan is provided through the Student Health Program Advisory Board. Interested students may contact the chair of the Student Health Program Advisory Board, 536-7575.

#### **ELIGIBILITY**

Any student who is enrolled at Southern Illinois University at Carbondale and has paid the student medical benefit fees is eligible for services. Dependents of students or staff members of the University are not eligible for Student Health Program benefits.

#### **FEES**

The medical benefit fees are assessed each semester and summer session. A student who receives a refund of any portion of the fees is not eligible for the benefits of that

program but would continue to be eligible for benefits of any programs for which the fees have been paid.

#### AREAS OF SERVICE

The Student Health Program (SHP) offers the following interrelated programs.

*On-Campus Outpatient Care.* This care or primary care is the same as that offered by private general physicians. The SHP Clinic is staffed by physicians, a psychiatrist, a clinical psychologist, nurse practitioners and registered nurses. The student benefits include routine office care and a wide range of diagnostic tests, including X-ray and Laboratory procedures. The benefit does not cover pharmacy charges. To be seen at the SHP Clinic, call for an appointment, 453-3311.

*Dial-A-Nurse.* The Dial-A-Nurse program provides an after-hours advisory service during Fall and Spring semesters. The number to call is 536-5585 from 4:30 p.m. - 10:30 p.m. (Monday - Friday) and 2:30 p.m. - 10:30 p.m. Saturday and Sundays.

*Counseling Center.* A program staffed by professional psychologists trained to help students discover ways to cope with problems in living. The Counseling Center's staff is committed to meeting the special needs of individuals from diverse backgrounds including differences of race, culture, gender, ability and sexual orientation. For more information call 453-5371.

*Women's Services.* Provides workshops, consultation, resource materials, short term individual counseling, campus safety programming, re-entry services for University women and other programs offering services to women. For information call 453-3655.

*SHP Student Dental Services.* The SHP Student Dental Services provides dental care to resolve emergency dental disorders. There is a nominal front door fee and there may be additional charges for specialized services. For appointments or information call 536-2421.

*Wellness Center.* The Wellness Center offers programs and services to help students achieve optimal health and to skillfully administer self-care when ill. Individual and small group counseling, workshops, and seminars in the Student Center, residence halls, and Student Recreation Center, classroom presentations and special programs are offered throughout the year. For information call 536-4441.

#### LOCATION OF SERVICES

Student Health Programs on-campus services are available at the following locations. The SHP Clinic, X-ray and Laboratory services are located in Beimfohr Hall, Greek Row. Call 453-3311 for appointments. The Pharmacy (453-4417), Wellness Center (536-4441), and administration offices (536-7575) are located at Kesnar Hall, Small Group Housing. The SHP Student Dental Service is located at the College of Applied Sciences and Arts building, Room 25D, 536-2421. The Student Health Assessment Center (453-5238) is located in the Student Center.

Off-campus services for after-hours emergency care are available at Memorial Hospital of Carbondale at 404 West Main Street, 549-0721; and at the Urgent Care Center at the Carbondale Clinic, 2601 West Main Street, 549-5361.

## EXTENDED MEDICAL CARE PLAN (STUDENT INSURANCE)

The SMB Extended Care fee is assessed each semester and summer session and funds the insurance benefits listed below.

Emergency Room  
Ambulance  
Specialty Care  
Hospitalization

Outpatient Surgery  
Mental Health Care Benefits  
Accidental Death and  
Dismemberment Benefit

For additional information on benefits please call the Student Medical Benefits Office at 453-4413 and request a copy of the Insurance Benefits Brochure.

## MEDICAL FEE REFUND

Students who carry their own medical insurance or are covered under their parents' policy may be eligible for a refund of portions of either or both the Health or Insurance Fees. Students who think they may qualify for a refund may apply no later than the end of the second week of fall and spring semesters or by the end of the first week of the summer session. When applying, students should provide a copy of their insurance policy and insurance identification card to the Student Medical Benefits Office, located in Room 118, Kesnar Hall, Small Group Housing, 453-4413.

## CONFIDENTIALITY OF INFORMATION

All visits to any division of the Student Health Programs are confidential. Medical information may be released when authorized by the student. Medical information may also be released without authorization from the student to a court when subpoenaed, to the University legal counsel when the university is being sued and the medical information would be pertinent, and to the public health department as required by law when a student is suffering from a reportable communicable disease. In addition, cases involving firearms and criminal offenses must be reported to the police.

## Women's Services

Women's Services is a component of the Counseling Center which is devoted to the support, education, and personal growth of women. Women's Services offers short-term individual counseling, theme-oriented support and training groups, workshops and workshops by request, classroom presentations, and consultation to other University units on matters of concern to women. Among other services provided are information and referral, advocacy, an extensive women's resource file, and a lending library. Women's Services also cosponsors and promotes small and large scale events such as Women's Safety Week and the Take Back the Night march held each fall. A newsletter, *Women in Transition*, keeps University and community women informed of current issues and upcoming events.

Women's Services coordinates the Campus Safety Program. The Campus Safety Program coordinates and promotes efforts to increase women's safety on campus and provides services to women who have been physically or sexually assaulted. Safety related offerings include the Program for Rape Education and Prevention (PREP), self-defense classes, counseling and support for victims of sexual assault, the Brightway Path, and women's night transit.

Women's Services is located on the second floor of Woody Hall in room B244 (453-3655). Services are available to all persons from the University or community who have a concern relevant to women. Men having questions or concerns relating to women's issues are welcome to use Women's Services. No appointment is necessary; walk-ins are always welcome.

## University Career Services

From your arrival on campus through graduation, our goal is to assist your quest to shape an education that is both meaningful and marketable. Individual consultation appointments, professional development seminars, career entry tests, on-campus interviews, job listing and referral services, and career fairs are just a sampling of the activities we sponsor to assist you.

Career specialists are available to help you answer your questions surrounding all aspects of career planning, including choosing a major and finding careers that match interests, personality, and values. Staff counselors representing each instructional unit or college assist students and alumni in developing job search skills and strategies as well as introducing you to prospective employers.

Negotiating entry into college, specific majors, graduate school and even some professions can involve the taking of one or more standard tests. As a regional testing center, University Career Services is committed to providing opportunities for you to successfully complete your goals by offering undergraduate/graduate admission, placement, proficiency, and other specialized tests.

Make your career a priority: stop in and visit with us often! University Career Services is located in Woody Hall, B204, 453-2391.

## Counseling Center

The Counseling Center provides services to students who want to resolve various personal, developmental, or emotional problems. It is staffed with professional psychologists and counselors who are qualified to help with such concerns as relationship adjustment difficulties, family conflict, sex role awareness development, unusual eating behaviors, managing anger, drug and alcohol abuse, recovering from sexual abuse, social skills development, becoming more assertive, and others. The Counseling Center provides individual, couple, and group counseling, as well as crisis intervention, within an atmosphere of confidentiality and trust. For more information or to set up an initial (intake) appointment call 453-5371, or stop by A302 Woody Hall.

## Services to Students with Disabilities

The University maintains a strong commitment to make all services, programs, and activities equally available to students with disabilities. Students who have disabilities are integrated into regular programs and services. Academic support services are provided through the Disability Support Services Office and other departments in order that this student population may obtain the maximum academic, social, and cultural benefits within the University community. Services and programs include pre-admission information, pre-enrollment planning, orientation, transportation, recreational activities, proctoring academic examinations, alternate materials and equipment for visually impaired students, learning disabled, and hearing impaired students, reader recruitment and referral, recruitment and referral of personal attendants, interpreters and notetakers for hearing impaired students, wheelchair repair, special parking, liaison with academic departments and service offices, and liaison with agencies such as Department of Rehabilitation Services.

The campus is quite accessible to students who use wheelchairs, and by those who are semi-ambulatory, visually handicapped, hearing impaired, learning disabled or otherwise disabled. The University Housing Office provides modified housing in the Thompson Point Residential Area and in the family housing areas.

Persons with disabilities apply and are considered for admission in the same manner as non-disabled persons. The nature or severity of disability is not considered in the admission determination. Persons with disabilities interested in attending Southern Illinois University at Carbondale are encouraged to visit the campus in order to

discuss programs and services and to tour the campus. Prospective students who have a disability are also encouraged to formally apply for admission as far in advance as possible to ensure sufficient time for planning support services after being admitted but before the starting date of the semester.

Any further information may be obtained by writing to the Office of Admissions or the Disability Support Services Office (DSS). The DSS may be reached by calling (Area Code 618) 453-5738 (Voice) or 618-453-2293 (TDD).

### **Office of the University Ombudsman**

The Office of the University Ombudsman was established to assist individuals in resolving problems that arise in the University. The office is independent from other offices of the University and reports directly to the president. The office acts on complaints or suggestions from students, faculty, and staff in an attempt to ensure that members of the University community receive fair and equitable treatment within the University system. This includes ensuring that decisions affecting individuals are made promptly and with due process, not only with respect to the adequacy of the procedures used in decision making, but also with respect to the appropriateness of the criteria and rules upon which decisions are based.

The office helps individuals resolve a broad range of problems expeditiously, including academic matters, employment matters, and matters regarding University services. Such assistance may include: advising individuals on steps to take so that their claims may be heard or their questions answered; making referrals to other offices; investigating claims of unfair treatment or erroneous procedures; engaging in mediation to obtain a fair settlement; and assisting in accessing University grievance mechanisms when other methods are unsuccessful. In addition, the ombudsman will intervene in the bureaucratic process on behalf of individuals when such process unnecessarily or unfairly impinges upon them.

The ombudsman office also brings to the attention of those in authority any gaps or inadequacies in existing University procedures that might jeopardize the human rights and civil liberties of members of the University community.

The ombudsman has the authority to access official files as required to fulfill the functions of the office. However, names of persons requesting help cannot be used in the investigation of a case without permission; and all ombudsman records, contacts and communications are kept in the strictest confidence.

The office is located in Woody Hall C302; hours are 8:00 to 4:30, Monday through Friday; and the telephone number is 453-2411.

### **Clinical Center**

The Clinical Center is staffed by professionally trained faculty and by supervised student diagnosticians, therapists, and counselors. It provides diagnostic and treatment services to faculty, staff, University students, and other individuals in the community.

Services include diagnostic assessment of psychological, speech, hearing, reading, and general educational problems. Therapy services encompass various forms of counseling and behavior modification, speech and hearing therapies, physical therapy, and educational remediation.

### **Alumni Services**

Founded in 1896, the Southern Illinois University Alumni Association provides services and support to alumni and students of the university. The Association publishes the quarterly *Alumnus* magazine and sponsors alumni chapters, college alumni societies, reunions, Homecoming activities, and a number of special events throughout the year. Ongoing services to students include externships, opportunities for juniors

and seniors to serve career internships with alumni, and the Student Alumni Council, a registered student organization that links current students with alumni.

## International Programs and Services

International Programs and Services is an administrative unit within the Office of International and Economic Development. Programs and services offered by the unit are operated through three divisions: International Students and Scholars, Study Abroad, and International Development.

*International Students and Scholars.* A comprehensive range of programs and services is provided to international students and the broader community to facilitate educational and cultural exchange by the International Students and Scholars division. These include the areas of immigration and financial services, educative and supportive services, and intercultural community activities.

Immigration and financial services include processing financial clearance for admissions of foreign students, serving as a liaison with foreign governments and sponsoring agencies, and providing certification for foreign currency exchange. Information about sources of financial aid for international students is available. Also, assistance with U.S. immigration regulations, visas, and interpretation of the law pertaining to non-immigrant students and scholars is provided. Forms prescribed for use by the Immigration and Naturalization Service for documenting foreign students and scholars are available here.

Educative and supportive services add a full complement of programs and activities from pre-arrival information for new students to preparation for going home workshops. Within this area are: a monthly newsletter, the *International Dateline*; individual foreign student advisement and counseling; advisement of international student associations and the International Student Council; assistance with initial arrival and settling in; and referrals to community or other campus agencies. The annual International Festival is a major event of interest to the University community.

International Programs and Services works closely with the International Friends Club, a community volunteer organization, on community programs. Eight programs are offered to international students and their families and international visitors for the purpose of intercultural understanding and exchange. The programs include the Hospitality Program, English in Action, Language Exchange, Speakers' Bureau, International Custom Cooking Demonstration, American Cuisine, International Spouses Group, and a Loan Closet. An extension of the Speakers' Bureau is the IN GEAR program, an International Network for Global Educational Activities in Rural Schools, whereby international students are invited to speak in public school classrooms. Information about any of these programs may be obtained from International Programs and Services. International Students and Scholars is located at 910 South Forest. The telephone number is 453-5774.

*Study Abroad Programs.* The study abroad division coordinates services for American students and faculty, including international grant programs, exchanges, and study abroad programs. It is the central referral point for information on the student and faculty Fulbright programs and on the British Marshall, International Research and Exchange Board (IREX), Belgian-American Educational Association, and Rhodes scholarships. Students may also participate in inter-university international exchange programs, semester abroad programs, and in travel/study programs offered during the summer and intersession periods. Study Abroad Programs is located at 803 South Oakland. The telephone number is 453-7670.

*International Development.* The International Development division provides University-wide coordination, support, and leadership for a wide variety of developmental activities. These activities include research and dissemination of information on externally funded programs, maintenance of an international resource collection, development of proposals for grants and projects, administration of international agreements, coordination of services for visiting international scholars and delegations, reports, planning statements, and studies on international activities.

Assistance is provided to faculty and staff in the exploration of international linkages, grant or project ideas, identification of external funding sources, proposal development, campus coordination, and follow-up activities. International Development is located at 803 South Oakland. The telephone number is 453-7670.

# 7 / University Policies



## Determination of Residency Status

The following is a direct quotation from the Board of Trustees' Residency Status Policies, which govern the determination of residency status for admission and assessment of student tuition.

For the purpose of these regulations an *adult* is considered to be a student eighteen years of age or over; a *minor* student is a student under eighteen years of age. The term *the State* means the State of Illinois except in the following instances: (1) For the purposes of assessing graduate level student tuition, the Chancellors, with the agreement of the President, may take the term the State to include the Kentucky Counties of Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall, Trigg, and Union. (2) For purposes of assessing graduate level student tuition for not more than six semester or nine quarter hours, the Chancellors, with the agreement of the President, may take the term the State to include the State of Missouri. Neither exception may apply to the assessment of tuition at the School of Dental Medicine, the School of Law, or the School of Medicine. Except for those exceptions clearly indicated in these regulations, in all cases where records establish that the person does not meet the requirements for resident status as defined in these regulations the nonresident status shall be assigned.

Effective with Spring Semester 1982, the above policy exceptions for Kentucky and Missouri residents were approved for *graduate students only*. Graduate students from Missouri who take more than six semester hours per term will be charged nonresident tuition for *all* semester hours taken during the term.

### Residency Determination

Evidence for determination of residence status of each applicant for admission to the University shall be submitted to the Director of Admissions at the time of application for admission. A student may be reclassified at any time by the University upon the basis of additional or changed information. However, if the University has erroneously classified the student as a resident, the change in tuition shall be applicable beginning with the term following the reclassification; if the University has erroneously classified the student as a nonresident, the change in tuition shall be applicable to the term in which the reclassification occurs, provided the student has filed a written request for review in accordance with these regulations. If the University has classified a student as a resident based on false or falsified documents, the reclassification to nonresident status shall be retroactive to the first term during which residency status was based on the false or falsified documents.

### Adult Student

An adult, to be considered a resident, must have been a bona fide resident of the State for a period of at least three consecutive months immediately preceding the beginning of any term for which the individual registers at the University, and must continue to maintain a bona fide residence in the State, except that an adult student whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a resident student.

### Minor Student

The residence of a minor shall be considered to be, and to change with and follow:

- a. That of the parents, if they are living together, or living parent, if one is dead; or
- b. If the parents are separated or divorced, that of the parent to whom the custody of the person has been awarded by court decree or order, or, in the absence of a court

decree or order, that of the parent with which the person has continuously resided for a period of at least three consecutive months immediately preceding registration at the University; or

c. That of the adoptive parents, if the person has been legally adopted and, in the event the adoptive parents become divorced or separated, that of the adoptive parent whose residence would govern under the foregoing rules if that parent had been a natural parent; or

d. That of the legally appointed guardian of the person; or

e. That of the *natural* guardian, such as a grandparent, adult brother or adult sister, adult uncle or aunt, or other adult relative with whom the person has resided and by whom the student has been supported for a period of at least three consecutive months immediately preceding registration at the University for any term, if the person's parents are dead or have abandoned said person and if no legal guardian of the person has been appointed and qualified.

### **Parent or Guardian**

No parent or legal or natural guardian will be considered a resident of the State unless said person (a) maintains a bona fide and permanent place of abode within the State, and (b) lives, except when temporarily absent from the State with no intention of changing the legal residence to some other State or country, within the State.

### **Emancipated Minor**

If a minor has been emancipated, is completely self-supporting, and actually resides in the State, the minor shall be considered to be a resident even though the parents or guardian may reside outside the State. An emancipated minor who is completely self-supporting shall be considered to actually reside in the State of Illinois if a dwelling place has been maintained within the State uninterrupted for a period of at least three consecutive months immediately preceding the term registration at the University. Marriage or active military service shall be regarded as effecting the emancipation of minors, whether male or female, for the purposes of this regulation. An emancipated minor whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a resident student.

### **Married Student**

A nonresident student, whether male or female, or a minor or adult, or a citizen or noncitizen of the United States (see below), who is married to a resident of the State, may be classified as a resident so long as the individual continues to reside in the State; however, a spouse through which a student claims residency must demonstrate residency in compliance with the requirements applicable to students seeking resident status.

### **Persons Without United States Citizenship**

A person who is not a citizen of the United States of America who meets and complies with all of the other applicable requirements of these regulations may establish residence status unless the person holds a visa which on its face precludes an intent to reside in the United States.

### **Armed Forces Personnel**

A person who is actively serving in one of the Armed Forces of the United States and who is stationed and present in the State in connection with that service and submits evidence of such service and station, shall be treated as a resident as long as the person remains stationed and present in Illinois. If the spouse or dependent children of such member of the Armed Forces also live in the State, similar treatment shall be granted to them.

A person who is actively serving in one of the Armed Forces of the United States and who is stationed outside the State may be considered a resident only if the individual was a resident of the State at the time of entry into military service, except as otherwise specified by Board policy.

A person who is separated from active military service will be considered a resident of Illinois immediately upon separation providing this person (a) was a resident of the State at the time of enlistment in the military service, (b) became treated as a resident while in the military by attending school at SIU while stationed in the State, or (c) has resided in the State for a period of three months after separation.

### **State and Federal Penitentiary**

A person who is incarcerated in a State or Federal place of detention within the State of Illinois will be treated as a resident for tuition assessment purposes as long as said person remains in that place of detention. If bona fide residence is established in Illinois upon release from detention, the duration of residence shall be deemed to include the prior period of detention.

### **Minor Children of Parents Transferred Outside the United States**

The minor children of persons who have resided in the State for at least three consecutive months immediately prior to a transfer by their employers to some location outside the United States shall be considered residents. However, this shall apply only when the minor children of such parents enroll in the University within five years from the time their parents are transferred by their employer to some location outside the United States.

### **Dependents of University Employees**

The spouses and dependent children of all staff members (academic, administrative, non-academic) on appointment with the University shall be considered as resident students for purposes of tuition assessment.

### **Contractual Agreements**

The Chancellors, with the approval of the President, may enter into agreements with other institutions in or out of state under the terms of which students at the other institutions are defined as residents of the State of Illinois.

### **Definition of Terminology**

To the extent that the terms *bona fide residence*, *independent*, *dependent*, and *emancipation* are not defined in these regulations, definitions shall be determined by according due consideration to all of the facts pertinent and material to the question and to the applicable laws and court decisions of the State of Illinois.

A bona fide residence is a domicile of an individual which is the true, fixed, and permanent home and place of habitation. It is the place to which, whenever absent, the individual has the intention of returning. Criteria to determine this intention include but are not limited to year-around residence, voter registration, place of filing tax returns (home state indicated on federal tax return for purposes of revenue sharing), property ownership, driver's license, car registration, vacations, and employment.

### **Procedure for Review of Residency Status or Tuition Assessment**

A student who takes exception to the residency status assigned or tuition assessed shall pay the tuition assessed but may file a claim in writing to the appropriate official for a reconsideration of residency status and an adjustment of the tuition assessed. The written claim must be filed within 30 school days from the date of assessment of tuition or the date designated in the official University calendar as that upon which instruction begins for the academic period for which the tuition is pay-

able, whichever is later, or the student loses all rights to a change of status and adjustment of the tuition assessed for the term in question. If the student is dissatisfied with the ruling in response to the written claim made within said period, the student may appeal the ruling to the Chancellor or his designee by filing with that official within twenty days of the notice of the ruling a written request.

## Immunization Policy

Students who enroll in on-campus courses shall present to the Student Health Programs proof of immunity evidencing the following immunizations, UNLESS they are exempt from doing so as hereinafter provided:

### I. Diphtheria, Tetanus

- A) Any combination of three or more doses of DPT, DT, or Td vaccine, with the most recent dose having been received within 10 years prior to enrollment.
- B) The minimum time interval between the first and second dose must have been at least four weeks, with the third dose having been received at least six months after the second or last dose of the basic series.
- C) Receipt of Tetanus Toxoid (T.T.) vaccine is not acceptable in fulfilling this requirement.

### II. Measles

- A) Immunization with two live measles virus vaccines on or after the first birthday. If vaccine was received prior to 1968, proof must be provided that a live virus vaccine, without gamma globulin, was administered a minimum of 30 days apart; or
- B) Laboratory (serologic) evidence of measles immunity; or
- C) A physician's signed confirmation of disease history and date of conclusive diagnosis.

### III. Rubella

- A) Immunization with rubella vaccine on or after the first birthday; or
- B) Laboratory (serologic) evidence of rubella immunity.
- C) History of disease is not acceptable as proof of immunity.

### IV. Mumps

- A) Immunization with live mumps vaccine on or after the first birthday; or
- B) A Physician's signed confirmation of disease history and date of conclusive diagnosis.
- C) Laboratory (serologic) evidence of mumps is now acceptable as proof of immunity.

## Proof of Immunity

- I. Proof of immunity may be provided by a certificate of immunity containing the following information:
  - A) The month, day, and year of vaccine receipt for measles, mumps, and rubella. Whole year dates (e.g. 1980) are acceptable only when it is clear that the student was at least twelve months of age when the vaccine was received.
  - B) The month, day, and year of vaccine receipt for diphtheria and tetanus.
- II. Proof of immunity may also be provided by a copy of the student's Illinois high school health record which complies with the immunization requirements.

## Exemptions

### I. This policy does not apply to:

- A) persons enrolled at the University prior to Fall Semester 1989;
- B) persons born before January 1, 1957;
- C) persons whose instruction solely involves research, field work or study outside of a classroom environment.

### II. Medical Exemption

- A) No proof of immunization shall be required if a physician licensed to practice medicine in all of its branches, certifies that any immunization required herein is medically contraindicated.

### III. Religious Exemption

- A) No proof of immunization shall be required if the person or his or her parent(s) or guardian state, in writing, an objection to immunization on religious grounds.

A student to whom this requirement applies who enrolls without providing the required proof of immunity shall be precluded from enrolling in a subsequent term until such time as appropriate documentation is presented to the Student Health Programs or until a medical or religious exemption is granted by the University.

These requirements are drafted in accordance with the College Immunization Code promulgated by the State Department of Public Health. In the event that said Code is changed and conflicts with these requirements, The Code shall be controlling. If students have any questions concerning these requirements, they should contact the Student Health Programs Immunization Office at 453-4454.

## Policy on the Release of Student Information and Access to Student Records at Southern Illinois University at Carbondale

### I. Purpose

Southern Illinois University at Carbondale, hereinafter referred to as the University, maintains individual records and information about students for the purpose of providing educational, vocational, and personal services to the student. For the purpose of complying with federal regulations regarding the maintenance of confidentiality of student educational records, as required by the Family Educational Rights and Privacy Act of 1974, the following policy has been enacted.

### II. Definitions

- A. Student is defined as a person who is or has been enrolled at Southern Illinois University at Carbondale in a course of study either on campus or off campus. Solely for purpose of this policy, any student attending Southern Illinois University at Carbondale will be considered to be an adult and to have sole control over the release of their information except as provided in this policy. The term enrolled is defined as having registered and paid fees into a course of study.
- B. Education records means those records which are directly related to a student, and are maintained by Southern Illinois University at Carbondale or any subunit or by any party acting for Southern Illinois University at Carbondale. The term does *not* include
  - 1. Personal records of instructional, supervisory, and administrative personnel which are not revealed to other individuals.

2. Records of a law enforcement unit of an educational institution which are (a) maintained apart from the education records, (b) maintained solely for law enforcement purposes, and are not disclosed to individuals other than law enforcement officials of the same jurisdiction.

For purposes of this policy, the Southern Illinois University at Carbondale Security Office will be treated as an outside agency and will therefore be required to comply with all regulations relating to the disclosure of information from students' educational records, as set forth in the policy.

3. Employment records, so long as they are maintained separately from any educational record.
  4. Records of a physician, psychologist, or other recognized professional or paraprofessional acting in his or her professional capacity which are used only in connection with treatment and are not disclosed to individuals other than those providing the treatment; Provided that these records can be personally reviewed by a physician or other appropriate professional of the student's choice.
  5. Records which contain only information relating to a person after that person was no longer a student at Southern Illinois University at Carbondale, such as alumni files.
- C. Student Information means any information contained in an educational record as defined in II. B.
- D. Personally identifiable information includes
1. The name of a student, the student's parents, student's spouse, or other family member.
  2. The address of the student.
  3. A personal identifier such as the student's social security number or student number.
  4. A list of personal characteristics which would make the student's identity easily traceable.
  5. Other information that would make the student's identity easily traceable.
- E. Directory information includes
1. Student name.
  2. Student local address and telephone number.
  3. Student home address and telephone number.
  4. Current term hours carried.
  5. Classification (freshman, sophomore, etc.)
  6. Academic unit.
  7. Major.
  8. Date of attendance.
  9. Degrees and honors earned and dates.
  10. The most previous educational agency or institution attended prior to enrollment at Southern Illinois University.
  11. Participation in officially recognized activity or sport.
  12. Weight, height, and pictures of members of athletic teams.
  13. Date of birth.
  14. Picture.

### III. Basic Policy Regarding Disclosure of Information from Educational Records

- A. Disclosure not requiring prior consent
1. The appropriate recordkeeping office shall obtain the written consent of the student before disclosing personally identifiable information

from the records of a student, except in the case of directory information or disclosures to:

- a. The student themselves.
- b. University personnel who have a legitimate educational need to permit their functioning or research. The sufficiency of the need will be determined by the head of the unit from which the records are sought.

Student information supplied to any Southern Illinois University at Carbondale personnel or unit is provided on the basis that it is needed to permit their necessary functioning. All members of the faculty, administration, and clerical staff must respect confidential information about students they require in the course of their work. They are bound by the conditions outlined in this policy statement relative to the release of student information. All institutional personnel should be alert to refer promptly to the appropriate office requests for transcripts, certifications, or other information which that office typically provides. They should restrict their responses to acknowledging, when appropriate, the receipt of requests for student information germane to their sphere of responsibility.

- c. Officials of other schools or school systems in which the student seeks or intends to enroll, if there is a legitimate need. The sufficiency of the need will be determined by the head of the unit from which the records are sought. A copy of any information sent will be provided to the student upon request.
- d. Faculty or students conducting student characteristic research providing the research project has written approval of the academic unit executive officer sponsoring the research and providing guarantees are made that no personally identifiable information will be published or released.
- e. Certain state and federal representatives specified by law for the sole purpose of the evaluation and auditing of governmentally funded programs in which the University participates, with the guarantee that the identity of the students will be protected.
- f. State and local officials as directed by the State Statute adopted prior to November 19, 1974, as approved by University Legal Counsel.
- g. Organizations conducting studies for, or on behalf of, state or federal educational agencies or institutions for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction, with the guarantee that the identity of the student shall be protected.
- h. In connection with financial aid for which the student has applied or received.
- i. Accrediting organizations to carry out their accrediting function, with the guarantee that the identity of the student shall be protected.
- j. Appropriate persons in connection with an emergency, if knowledge of such information is necessary to protect the health or safety of a student or other persons.
- k. Comply with a judicial order or subpoena, but the University should make a reasonable effort to notify the student first. The sufficiency of the order or subpoena will be determined by the University Legal Counsel and that office shall send the required notice to the student.

**B. Disclosure Requiring Prior Consent**

1. Except as listed in III. A. above, all requests for student information other than directory information must be accompanied by a written consent of the student.
2. The written consent required by this section must be signed and dated by the student giving the consent and shall include (a) a specification of the records to be disclosed, and (b) the party or parties to whom the disclosure may be made.
3. When the disclosure is made pursuant to this section, the appropriate recordkeeping office shall, upon request, provide a copy of the records which are disclosed to the student.
4. Student information will not be released to parents of students without the student's permission.

**C. Disclosure of Directory Information**

Directory information pertaining to students may be released by the University at any time provided that it publish the definition at least once each academic year in the campus student newspaper or other designated publication with wide circulation, and the individual student is given a reasonable period of time to inform the University in writing, through Admissions and Records, that they do not wish such information about themselves be released without their prior consent. Admissions and Records will be responsible for identifying or deleting all information which the student desires not to be released outside the University and for informing all University recipients of that information that such information is not to be released. The student must request deletion of information each year.

The procedural requirements of this section do not apply to the disclosure of directory information from the educational records of an individual who is no longer in attendance at the University. Thus, the University (or appropriate recordkeeping office) is not required to give public notice of the above to former students.

All recipients of student information will be bound by this policy. Lists of student information are never knowingly provided to any requesting party for a commercial or political purpose. If a student directory is published, it shall be equally available to all.

**D. Records of Disclosure Made**

Records of disclosure are not required to be kept in the record of a student when the disclosure is initiated by the student themselves.

The University may disclose personally identifiable information from the education records of a student only on the condition that the party to whom the disclosure is made will not further disclose the information without the student's written consent, except in the case of disclosure of directory information.

The University shall, except for the disclosure of directory information, inform the party to whom disclosure is made of the obligation to receive the student's consent before further disclosure to other parties.

**E. Waiver of Right to Inspect and Review Education Records**

1. The student may waive their right to inspect and review education records. The waiver, in order to be valid, must be in writing and signed by the student. The University (or each appropriate recordkeeping office) may not require a waiver of rights but it may request such a waiver.
2. If a student has waived their right to see confidential letters of recommendation placed in their record after January 1, 1975, the waiver will be effective only if (a) the applicant or student is, upon request,

notified of the names of all individuals providing the letters or statements; (b) the letters or statements are used only for the purpose for which they were originally intended, and (c) such waiver is not required by the University as a condition of admission to or receipt of any other service or benefit from the University.

3. A waiver may be revoked, but the revocation must be in writing and signed by the student. Revocation of waiver will affect only documents received after its execution.

#### **IV. Identification and Description of Student Information**

##### **A. Academic Records**

Admissions and Records retains the official academic record of a student. It is a cumulative history of a student's admission, registration, and academic participation and performance. Certain biographic and demographic information is also kept for identification for enrollment and research-related purposes. For information concerning these records contact the director of Admissions and Records.

Academic records may also be maintained in academic units, departments, and divisions. For information concerning these records contact the head of the academic unit, department, or division in question. Institutional Research and Studies also maintains some academic records.

##### **B. Financial Records**

Offices within the Business area maintain certain financial records which relate to payment and accounting of tuition, fees, and other charges. They also maintain records which record student loans and grants. For information concerning these records, contact the Bursar's Office.

For billing purposes, Admissions and Records maintains a record of financial aid received and tuition and fees paid. For information concerning these records, contact the director of Admissions and Records.

Financial Aid maintains records of student receiving loans, grants, and aid along with scholarship information and some academic information. It also maintains records pertinent to student employment including the family financial statement. For information concerning these records, contact the director of Financial Aid.

Housing maintains records of housing accounts. For information concerning these records, contact the director of Housing.

##### **C. Medical/Counseling/Clinical Center Records**

The Health Service Clinic maintains medical records of students who have required medical assistance through Student Health Programs. Only information pertinent to the health of the individual is contained therein. For information concerning these records, contact either the director of Student Health Programs or the medical chief of staff of the Health Service Clinic.

The Counseling Center maintains records pertinent to services rendered by that office. For information concerning these records, contact the coordinator of the Counseling Center.

The Clinical Center maintains records pertinent to services rendered by that office. For information concerning these records, contact the director of the Clinical Center.

##### **D. Disciplinary Records**

Student Affairs maintains records of disciplinary action which has been taken against a student with documentation pertaining thereto. That office also maintains only the academic information necessary to permit its functioning. For information concerning these records, contact the dean of students.

**E. Placement Records**

The University Placement Center creates a record for those persons who wish to avail themselves of its services, with student's voluntary participation. This information is distributed to potential employers. It consists of self-completed resumes and various personal references. For information concerning these records, contact the director of the University Career Services.

**V. Access to Records****A. Right to Inspect or Review Educational Records**

1. The student has the right to physically review their records in the presence of a designated University representative.
2. Requests for review may be required to be submitted in writing to the appropriate office.
3. That office shall comply with the request within a reasonable time, but in any case, compliance shall be no more than thirty (30) days after the receipt of the request.
4. Where necessary, interpretation of the record shall be provided by qualified University personnel.
5. Original records cannot be removed from University premises. A copy will be provided if requested, but only if not providing a copy would preclude review of the educational records by the student.
6. Copies of transcripts from other educational institutions will be provided only if the original source of those transcripts is no longer available or going to the original source would cause undue hardship as determined by this University.

**B. Limitations on Right to Inspect or Review**

1. The student may not inspect the following records:
  - a. Financial records and statements of their parents.
  - b. Confidential letters or materials placed in records before January 1, 1975 so long as they were solicited with an understanding of confidentiality and are used only for the purpose for which they were written.
  - c. Confidential letters of recommendation and confidential statements of recommendation placed in the education records of the student after January 1, 1975, are subject to the student's right to inspect and review unless the student has signed a written waiver.
2. Reports that involve two or more persons may be censored to protect the identity of the other person(s).

**C. Administrative Hold on University Records**

On occasion it is necessary for a University to place an administrative hold on a student's ability to request a transcript, to register for a subsequent term, to reenter the University after a period of attendance interruption, or to be officially graduated.

In cases where an administrative hold has been placed on a student's record, the student may view such records but will not be able to obtain a copy of said record until the administrative hold is removed through the appropriate University channels.

**VI. Challenging Contents of a Student's Educational Record****A. Purpose**

A student has the right to challenge the content of a record on the ground that they believe it is inaccurate, misleading, or otherwise in violation of their privacy or other rights and to have inserted in the record their written explanation of its contents. Academic grade review procedures are

covered in the University Catalog and/or such particular academic unit, department or division and not by this policy.

**B. Procedure**

To initiate such a challenge, the student shall, within sixty (60) days after they have inspected and reviewed the record in question for the first time, file with the University office responsible for maintaining such record a written request for correction, on a form specified by the University. Within thirty (30) days following receipt of such request, the head of such office, or their representative, shall review the record in question with the student and either order the correction or deletion of such alleged inaccurate, misleading, or otherwise inappropriate data as specified in the request or notify the student of the right to a hearing at which the student and other persons directly involved in the establishment of the record shall have an opportunity to present evidence to support or refute the contention that the data specified in the request are inaccurate, misleading, or otherwise inappropriate.

**C. Hearing**

The student shall be given written notice sent to their last known address of the time and place of such hearing not less than ten (10) days in advance. The hearing will be conducted by a University representative who does not have a direct interest in the outcome. The student might well challenge the hearing officer. Any disagreement regarding the hearing officer will be resolved by the appropriate Vice President.

The student shall have the right to attend the hearing, to be advised by an individual of their choice at their own expense, including an attorney, and to call witnesses in their behalf. The student shall be notified in writing of the decision within ten (10) days following the hearing or within five (5) days of a decision without a hearing. Such decision is final. The decision reached shall be based solely upon the evidence presented at the hearing and shall include a summary of the evidence and reasons for the decision.

(Note: A hearing may not be requested by a student to contest the assignment of a grade; however, a hearing may be requested to contest whether or not the assigned grade was recorded accurately in the education records of the student.)

**VII. Destruction of Records**

The University may destroy education records when they are no longer necessary, with the following limitations:

1. Education records may not be destroyed if there is an outstanding request to inspect and review them.
2. Explanations placed in the record by the student and the record of disclosure of information must be maintained as long as the education record to which it pertains is maintained.

**VIII. Right to File Complaints**

- A. If the student thinks his or her rights have been violated, he or she should first file a complaint with the head of the office which maintains the records in question.
- B. After exhausting all the internal remedies available within the University, if the student still thinks his or her rights have been violated, written complaints can be filed with

The Family Educational Rights and Privacy Act Office  
Department of Education  
330 Independence Avenue S.W.

Washington, D.C. 20201

The office shall notify the complainant and the University of the receipt of the complaint and an investigation will follow.

## Policy Accommodating Religious Observances of Students

### Admissions/Registration

The University's admissions process provides ample opportunity for admission and registration activities without conflicting with religious holidays and observances. However, students may receive another appointment when an appointment for admission counseling, or an appointment for academic advisement, or an appointment for registration for classes falls on a date or at a time that would conflict with the student's observances of major religious holidays. The individual student must notify in writing the appropriate admissions officer or academic adviser of the conflict with the student's observance of the religious holiday. That notification shall be made immediately after the student's receipt of the appointment or at least five (5) work days prior to the appointment time, whichever is later.

### Class Attendance

Students absent from classes because of observances of major religious holidays will be excused. Students *must notify the instructor at least three regular class periods in advance of an absence from class for a religious holiday* and must take the responsibility for making up work missed.

### Examinations

Instructors are requested not to schedule class examinations on dates that would conflict with major religious holidays. In the event an examination must be scheduled on a date that conflicts with a student's required observance of a religious holiday, the student should be given reasonable opportunity to make up the examination. It is the student's responsibility to notify the instructor of the class when the examination will be missed. That notification must occur at least three regular class meeting periods in advance of the absence or at the time the announcement of the examination is made, whichever is later.

### Grievance Procedure

A student who believes that he or she has been unreasonably denied an educational benefit due to his or her religious belief or practices may petition in writing as follows:

Cases involving class attendance or class examinations that are unresolved at the class instructor level may be appealed by the student by filing a petition in writing, within thirty calendar days of the incident being appealed, to the chair or coordinator of the department or program in which the course is offered. In the event the case is not resolved to the student's satisfaction at the department/program level within five (5) working days after the chair's receipt of the petition, the student may petition in writing to the dean of the school or college to which that teaching department or program reports. The student's petition to the school or college level must be filed with the dean within five (5) working days of the decision at the department level. Should the case not be resolved to the student's satisfaction at the school or college level within five (5) working days of the petition filing at that level, the student may

petition the Vice President for Academic Affairs. If the student is still not satisfied at that level within the five working day time period, he or she may petition to the Chancellor within another five working days. Decisions of the Chancellor may be appealed to the President, and to the Board of Trustees if necessary, in accordance with Bylaws of the Board of Trustees.

In cases involving admissions, *the grievance process should follow the time frames described above*, with the initial petition being filed with the Director of Admissions and Records, which is the only filing point prior to the Vice Chancellor for Academic Affairs.

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