

*Apryle's*

**CALIFORNIA UNIVERSITY  
OF  
PENNSYLVANIA**



**UNDERGRADUATE CATALOGUE 1992-1994**



**CALIFORNIA UNIVERSITY OF PENNSYLVANIA**

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**UNDERGRADUATE CATALOG**  
**1992-1994**

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California University of Pennsylvania  
is one of the fourteen institutions of higher learning  
of the State System of Higher Education of the Commonwealth of Pennsylvania

**California University of Pennsylvania is**

**A MEMBER OF  
the Association of State Colleges and Universities  
the American Association of Colleges of Teacher Education**

**ACCREDITED BY  
the Middle States Association of Colleges and Secondary Schools**

**ACCREDITED IN TEACHER EDUCATION BY  
the National Council for Accreditation of Teacher Education**

**ACCREDITED IN SOCIAL WORK BY  
Council on Social Work Education**

**ACCREDITED IN ATHLETIC TRAINING BY  
the National Athletic Trainers Association**

**ACCREDITED IN NURSING BY  
the National League for Nursing**

California University of Pennsylvania admits students of any sex, race, color, national and ethnic origin to all rights, privileges, programs and activities generally accorded or made available to students at the University. The same policy is followed with respect to all employees regardless of rank or classification. The University does not discriminate on the basis of sex, race, color, religion, sexual preference, present or previous military service, ethnic and national origin in the administration of its educational policies, admissions processes, scholarships and loan programs, employment practices and athletic and other University administrative programs. The University does not discriminate on the basis of handicap in admission or access to its programs. Inquiries regarding Title IX compliance and Section 504 of the Rehabilitation Act of 1973 may be directed to the Title IX Coordinator (412) 938-4351, the Social Equity Officer (412) 938-4185, the Title 504 Coordinator (412) 938-4076, or the Director of Office of Civil Rights Region III, U.S. Department of Education, Philadelphia, PA 17101.

This catalog contains regulations, facts, and requirements that were correct at the time of publication. The governing personnel of California University of Pennsylvania reserve the right and authority to alter any and/or all of the statements contained herein.

In keeping with the educational mission of the University, the educational and financial policies and procedures are continually being reviewed and changed. Consequently, this document cannot be considered binding and must be used solely as an informational guide.

Students are responsible for keeping informed of official policies and for meeting all relevant requirements.



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<b>Academic Calendar: 1992-1994</b>
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**Spring 1992**

Registration/Orientation	Monday, Tuesday	January 13-14
Classes Begin	Wednesday	January 15
Spring Recess		
Begins after classes	Friday	March 6
Ends at 8:00 a.m.	Monday	March 16
Easter Recess		
Begins after classes	Thursday	April 16
Ends at 8:00 a.m.	Monday	April 20
Classes End	Friday	May 1
Commencement	Saturday	May 2

**Fall 1992**

Registration/Orientation	Monday, Tuesday	August 31-September 1
Classes Begin	Wednesday	September 2
Labor Day Recess		
Begins after classes	Friday	September 4
Ends at 8:00 a.m.	Tuesday	September 8
Thanksgiving Recess		
Begins after classes	Tuesday	November 24
Ends at 8:00 a.m.	Monday	November 30
Classes End	Thursday	December 17

**Spring 1993**

Registration/Orientation	Monday, Tuesday	January 18-19
Classes Begin	Wednesday	January 20
Spring Recess		
Begins after classes	Friday	March 12
Ends at 8:00 a.m.	Monday	March 22
Easter Recess		
Begins after classes	Thursday	April 8
Ends at 8:00 a.m.	Monday	April 12
Classes End	Friday	May 7
Commencement	Saturday	May 8

**Fall 1993**

Registration/Orientation Classes Begin	Monday, Tuesday Wednesday	August 30-31 September 1
Labor Day Recess Begins after classes Ends at 8:00 a.m.	Friday Tuesday	September 3 September 7
Thanksgiving Recess Begins after classes Ends at 8:00 a.m.	Tuesday Monday	November 23 November 29
Classes End	Tuesday	December 14

**Spring 1994**

Registration/Orientation Classes Begin	Monday, Tuesday Wednesday	January 17-18 January 19
Spring Recess Begins after classes Ends at 8:00 a.m.	Friday Monday	- March 11 - March 21
Easter Recess Begins after classes Ends at 8:00 a.m.	Thursday Monday	March 31 April 4
Classes End	Friday	May 6
Commencement	Saturday	May 7

**Fall 1994**

Registration/Orientation Classes Begin	Monday, Tuesday Wednesday	August 29-30 August 31
Labor Day Recess Begins after classes Ends at 8:00 a.m.	Friday Tuesday	September 2 September 6
Thanksgiving Recess Begins after classes Ends at 8:00 a.m.	Tuesday Monday	November 22 November 28
Classes End	Friday	December 16



## **THE UNIVERSITY**

- The Campus and the Region**
- Some History**
- Programs Offered**
- Equality of Opportunity**
- The Missions, Goals, and Objectives of the University**

## THE CAMPUS

The University is in the Borough of California, a community of approximately 6000 residents, located in Washington County, on the banks of the Monongahela River, about an hour's drive south of Pittsburgh. It is accessible via Interstate 70, Exits 15 (PA 43), 16 (Speers), or 17 (PA 88, Charleroi) or via U.S. 40 (PA 43 or 88). The recent completion of the first spur of the limited-access Mid-Mon Valley / Fayette Expressway (PA 43) links California to the federal Interstate system. The University is approximately 30 minutes from Exit 8 (New Stanton) on the Pennsylvania Turnpike, and an hour from Greater Pittsburgh International Airport.

The main campus consists of 33 buildings situated on 59 acres. A modern football stadium, including an all-weather track, seven tennis courts, a baseball diamond, playing areas for intramural sports, and picnic facilities is located on some 83 acres at the George H. Roadman Recreation Center on Route 88, approximately two miles south of the main campus.

## The Area

The geographic location of the University gives the resident student opportunities to explore and pursue a wide variety of activities. Located in the Appalachian Plateau, an area of low rolling hills, the University is a short drive from camping, hiking, fishing, hunting, white water rafting and canoeing, and skiing activities in the Laurel Mountains. In addition to cultural activities provided on campus, the student has easy access to the Pittsburgh metropolitan area. This provides the student an opportunity to enjoy the Pittsburgh Symphony, the Pittsburgh Ballet, the Civic Light Opera, the David L. Lawrence Convention Center, the Pittsburgh Steelers, Penguins, and Pirates, various museums and all of the excitements and attractions of a major metropolitan area.

## CALIFORNIA UNIVERSITY OF PENNSYLVANIA: A BRIEF HISTORY

For more than a century, the institution that is now California University of Pennsylvania has been growing and changing, until now it has developed into a varied and vital multi-purpose university. California is one of the fourteen state-owned institutions of higher education in the State System of Higher Education, but it has its unique history, and we present some of the highlights of it here. (Fuller information may be found in the book by Regis J. Serinko, *California State College: The People's College in the Monongahela Valley*, published in 1975.)

1852: A two-story Academy, offering education from kindergarten through college was established in the recently founded community of California. The institution was supported by local taxes and the donations of some of the residents of the community.

1864: A ten-acre plot for the Academy, still the center of the University, was purchased.

1865: The Academy obtained a charter as a Normal School for its district and became a teacher-preparatory institution.

1874: The institution was renamed the South Western State Normal School.

1914: The Commonwealth acquired the institution and renamed it the California State Normal School. The curriculum was now exclusively a two-year preparatory course for elementary school teachers.

1928: The institution became California State Teachers College, returning to its previous status as a four-year degree-granting institution, with increasing opportunities for growth and development. Under the presidency of Robert Steele (1928-1951), California began to concentrate on industrial arts and atypical education (what is now called special education) and otherwise expanded its curricula. The campus grew to 35 acres, and a number of new buildings were erected.

1959: During the presidency of Michael Duda (1956-68), liberal arts curricula were introduced, and the college became California State College. In 1962 a graduate program was introduced. The degrees of M.A. and M.S. were initiated in 1968. During Dr. Duda's presidency more than a dozen new buildings were completed, and the size of the student body and faculty increased more than four-fold.

1974: During the presidency of George H. Roadman (1969-1977), the college developed a special mission in Science and Technology, to complement its traditional roles in Liberal Arts and Education.

1983: On July 1, 1983, the college became California University of Pennsylvania, in recognition of its multiple roles and purposes, in the State System of Higher Education, during the presidency of John Pierce Watkins. The College of Science and Technology became fully operational, offering programs in such varied areas as mathematics and computer science, industrial management, nursing, energy technology, robotics, and electrical engineering technology.



*Si monumentum requiris, circumspice.*

DR. JOHN PIERCE WATKINS, president of California University of Pennsylvania from 1977 to 1992, is a member of the California class of 1953. He taught in the Edgewood schools and received a master's degree at West Virginia University before returning in 1957 as a professor of English at California, where he has spent the remainder of his academic career.

Dr. Watkins received his Ph.D. in English in 1963 from the University of Pittsburgh, where he was a Danforth Fellow from 1960 to 1962. At California his courses in medieval literature and in Shakespeare are particularly remembered. He served as chair of the English department and as vice-president for academic affairs before becoming president. He has traveled widely in this country and abroad on behalf of this university and has served on numerous state, regional, national, and international bodies dealing with higher education.

Since 1977, California University has experienced unprecedented development. The university has been reorganized into four vice-presidential areas of responsibility. The College of Science and Technology was founded and given a special mission in the State System in that area, and the academic organization of the university has consequently been restructured. So many new programs have been introduced in Science and Technology, Education and Human Services, Liberal Arts, and the Graduate School that a majority of students are now enrolled in programs that did not exist 15 years ago. The university has strengthened its commitment to social equity in recruitment and retention of students, staff, and faculty. The new Manderino Library has become a center for state-of-the-art information technology. An attractive, commodious, and secure campus provides an appropriate setting for study or work. Major buildings have been renovated—chief among them certainly Old Main, which has been restored to its former grace, dignity, and utility. Academic achievement has been encouraged and rewarded by increased scholarships and awards, Learning Centers, an Honors program, and a presidential Honors Convocation. Students have benefitted from improved residence halls and dining facilities, new programs for physical fitness and recreation, broadened athletic programs, and an expanded Student Union. Special provisions have been made for educationally, socially, economically, or physically disadvantaged students and for mature, non-traditional students. Increasing numbers of new faculty members have come to California, from throughout the country and abroad. Generous provisions have been made for faculty professional development in both teaching and research, and the faculty and administration have been increasingly successful in procuring grants for their own programs and research and for the university. California's tradition as a center for teacher education has increased through such programs as the Teacher Enhancement Centers, which bring together experienced faculty from both the public schools and the university. Since 1983 the Mon Valley Renaissance has brought the university into partnership with local business, industry, and government to help revitalize the economy of the region. By 1992, California University of Pennsylvania has become not only a center for public higher education but a multi-purpose university serving the various needs of Southwestern Pennsylvania.



JOHN PIERCE WATKINS

## UNDERGRADUATE ACADEMIC MAJORS AND OPTIONS

In order to provide educational opportunities for students with different backgrounds and interests, the University offers a wide variety of academic programs. All of the degree programs are based on a broad general education designed to assist the individual to develop skills in communication, grow in cultural and intellectual interests, and develop the ability to do critical thinking. This extensive foundation in the arts, sciences, and humanities is enriching and essential in providing a liberal education for all students.

The University offers degrees from four separate divisions: the College of Education and Human Services, which awards the bachelor of science degree in education in thirty major programs, and two associate degree programs and the bachelor of arts degree in two programs; the College of Liberal Arts, which awards the bachelor of arts and the bachelor of science degrees in forty-three; the College of Science and Technology, which awards the bachelor of science degree in forty-six programs; and the associate of science degree in ten areas; and the Graduate School, which offers the master of science, master of arts, and master of education degrees. The following programs are offered at the undergraduate level.

### I. BACCALAUREATE DEGREE PROGRAMS

#### COLLEGE OF LIBERAL ARTS

Anthropology

Art

Art: Teacher Certification

(with W&J or Carlow College)

Communication Studies

—Public Relations

—Radio & Television

Earth Science

—Meteorology

—Oceanography

Economics

English

—Business & Commercial Writing

—Creative Writing

—Journalism

—Radio & TV Writing

—Scientific & Technical Writing

French

Geography

—Applied Geography

—Travel & Tourism

Geology

German

History

Humanities Area

Industrial Organizational Psychology

International Studies

—Business & Economics

—Foreign Language

—Geography

—Political Science

Parks & Recreation Management

Philosophy

—Philosophy/Pre-Law

Political Science

—Pre-Law

—Public Administration

Psychology

Russian & Soviet Studies

Social Science Area

Sociology

Spanish

Theatre

Urban Studies

General Studies in Liberal Arts

(for undecided students)

<b>COLLEGE OF SCIENCE AND TECHNOLOGY</b>
--

**Administration & Management****Biology**

—Pre-Chiropractic Medicine

—Pre-Dentistry

—Pre-Medicine

—Pre-Osteopathic Medicine

—Pre-Optometry

—Pre-Podiatric Medicine

—Pre-Pharmacy

—Pre-Veterinary Medicine

**Business Administration**

—Accounting

—Business Economics

—Computer Based Systems Management

—Finance

—Human Resources Management

—Management

—Marketing

**Chemistry****Electrical Engineering Technology****Environmental Studies**

—Environmental Conservation

—Environmental Pollution Control

—Environmental Resources

—Environmental Science

**Graphic Communication Technology**

—Electrographics

—Photolithography (Offset)

—Screen Printing

**Industrial Management Technology**

—Management &amp; Computer Science

—Manufacturing

—Printing Management

**Industrial Technology****Manufacturing Technology****Mathematics**

Mathematics &amp; Computer Science

Applied Computer Science

Medical Technology

Mortuary Science (Cooperative)

Natural science

Physics

Pre-Engineering

General Studies in Science &amp; Technology

(for undecided students)

<b>COLLEGE OF EDUCATION AND HUMAN SERVICES</b>
--

**Athletic Training**

Athletic Training/Dual Major

Early Childhood Education

Elementary Education

Elementary &amp; Early Childhood Education

General Studies in Education

(for undecided students)

Gerontology

Mentally and/or Physically Handicapped  
and Early Childhood EducationMentally and/or Physically Handicapped  
and Elementary Education**Secondary Education**

—Art (See Liberal Arts above)

—Biology

—General Science

—Chemistry

—Comprehensive Social Science

—Communication

—Earth Science

—English

—French

—German

—Mathematics

—Physics

—Spanish

Social Work  
 Special Education  
 —Community Service Personnel  
 —Mentally and/or Physically  
 Handicapped  
 —Mentally and/or Physically  
 Handicapped with Physical Education  
 & Recreation

Speech Pathology and Audiology  
 Technology Education

## II. ASSOCIATE DEGREE PROGRAMS

Besides the many four-year baccalaureate programs, California University also offers a variety of two-year vocational programs to meet the educational needs of students who wish to pursue career-oriented education. The degrees are designed to prepare students for technical and vocational occupations immediately upon graduation.

Such areas as Automation Technology (with options in robotics and numerical control), Drafting Technology, Administration and Management (with options in accounting, computer-based systems management, and banking), Computer Science Technology, Screen Process Printing Technology, Electronics Technology, Early Childhood Education, and Community Living Arrangements provide the educational base for exciting careers in the nineties and beyond.

### COLLEGE OF SCIENCE AND TECHNOLOGY

Accounting  
 Administration & Management  
 —Computer Based Management Systems  
 —Banking  
 Computer Science Technology  
 Automation Technology  
 —Numerical Control  
 —Robotics

Drafting Technology  
 Electronics Technology  
 Nursing at Washington Hospital  
 (Degree from Washington Hospital)  
 (Apply to Washington Hospital)  
 —Pre-Nursing at Washington Hospital  
 (No Degree)  
 Screen Printing Technology

### COLLEGE OF EDUCATION AND HUMAN SERVICES

Community Living Arrangements

Early Childhood

**III. CERTIFICATION PROGRAMS**  
**(for those with previous certification or degree)**

**COLLEGE OF EDUCATION AND HUMAN SERVICES**

- |   |  |
|---|--|
| Early Childhood Certification                           | —Driver’s Training Certification       |
| Elementary Certification                                | — Science Certification                |
| Technology Education Certification                      | —English Certification                 |
| Mentally and/or Physically Handicapped<br>Certification | —Environmental Education Certification |
| Secondary Education Certification                       | —French Certification                  |
| —Biology Certification                                  | —General Science Certification         |
| —Chemistry Certification                                | —German Certification                  |
| —Communication Certification                            | —Mathematics Certification             |
| —Comprehensive Social Science<br>Certification          | —Physics Certification                 |
|   | —Spanish Certification                 |

**IV. UPPER DIVISION PROGRAMS**  
**(available only to those with previous special certification and/or degree)**

**COLLEGE OF SCIENCE AND TECHNOLOGY**

- |                                      |                                   |
|--------------------------------------|-----------------------------------|
| Nursing (BSN-Upper Division for RNs) | Electrical Engineering Technology |
| —Pre-BSN Nursing                     | (completed Associate EET program) |
| (prerequisites needed for RNs)       |                                   |

**COLLEGE OF EDUCATION AND HUMAN SERVICES**

- |   |                                 |
|---|---------------------------------|
| Certified Registered Nurse Anesthetist<br>(for CRNAs) | Public School Nursing (for RNs) |
| Dental Hygienist (for Dental Hygienists)              |                                 |

## EQUALITY OF OPPORTUNITY

California University of Pennsylvania acknowledges that equality of opportunity is the cornerstone of a free and democratic society. As a state-owned institution, it accepts the duty of putting the principle of equal opportunity into practice. As an institution of higher education, it accepts the responsibility of teaching that principle by its policies and actions. Consequently, California University of Pennsylvania commits itself, ethically and legally, to the equal opportunity policies of a system of fair and open recruitment and acceptance of students regardless of sex, race, color, religious creed, lifestyle, affectional or sexual preference, disability, present or previous military service, ancestry, national origin, union and political affiliation, and age. Nevertheless, mindful of the reality of past injustices and present societal needs, the university reserves the right to employ a limited use of racial, ethnic, and sexual criteria to accomplish remedial objectives when necessary.

Once students are admitted to California University of Pennsylvania, the same rights, privileges, programs and activities are made available to all without regard to arbitrary and irrelevant criteria. Financial aids, especially scholarships, guaranteed loans, National Direct Student Loans, grants, work study programs, assistantships, and internships, are provided on an equal opportunity basis. Likewise, advisors and counselors are available to all students. Special programs, in particular have been established to meet the needs of students who meet the federally prescribed financial and academic criteria. Residence halls are available on a first-come, first-served basis to all students without regard to race, national origin, or religion. However, in the case of living arrangements, sex and disability distinctions are made to better serve and accommodate all students. Finally, in accordance with recent federal and state legislation, architectural and programmatic modifications have been implemented to ensure that no qualified student is prevented from succeeding at California University of Pennsylvania because of disability.

In addition, California University of Pennsylvania engages in an open and equitable system of recruitment and employment of faculty and staff candidates. It practices a non-discriminatory system of compensation, including pay, promotion, tenure, transfer, education, training and other benefits of employment.

Finally, California University of Pennsylvania prides itself on having created a workplace and learning environment free from discrimination and harassment. If situations or conditions to the contrary occur, an immediate and appropriate redress will take place. Persons aware of such situations or conditions are encouraged to contact the Social Equity Officer (938-4185), or the Title IX Coordinator (938-4351), or the Section 504 Coordinator (938-4076).



## **THE MISSION, GOALS, AND OBJECTIVES OF CALIFORNIA UNIVERSITY OF PENNSYLVANIA**

California University of Pennsylvania's mission is to provide quality education at a reasonable cost. To this end the university:

- (1) offers undergraduate instruction in the liberal arts, education, human resources, the professions, business, science and technology;
- (2) offers a graduate education to, and beyond, the master's degree, in certain areas of study;
- (3) helps meet the region's economic, social, cultural, and recreational needs; (4) fosters research and service;
- (5) encourages the intellectual growth of its faculty, as well as of its students.

California's special mission is to develop programs in science, technology, and applied engineering.

### **Goals**

California University of Pennsylvania is a multipurpose, regional university firmly committed to offering students of widely varied ages, backgrounds, interests and needs, a broad range of education opportunities and experiences. Thus, the university endeavors to provide a contemporary array of degree programs—associate, baccalaureate and masters—which will enable the student to develop as an intelligent, caring individual who will be able to function as a contributing, productive member of society. The university recognizes the important relationship that exists between those disciplines which enhance one's ability to think critically, reason analytically, communicate effectively, maintain historical perspective and promote good citizenship and those disciplines which provide the specialized knowledge and the critical intellectual skills to perform effectively in a wide variety of settings. To this end, it is the purpose of the university to prepare men and women to meet the challenges of the world of work in education, business, industry, government, the professions, the human services, and graduate and professional schools.

The principal goal of the College of Education and Human Services, the university's oldest division, is to maintain a diversity of contemporary curricula appropriate for the preparation of new teachers and the improvement of teachers already in the field. More recently, the college has elected to sponsor the development and delivery of a variety of special programs for the purpose of educating practitioners in a number of human service areas.

Through traditional courses of study, the College of Liberal Arts attempts to teach reflective thinking that enables graduates to make responsible social decisions in a multi-cultural world. The Liberal Arts programs are designed to present students with options that

call upon precise knowledge, cultural perspectives, aesthetics, and personal and social communication skills in order to create informed, as well as technologically literate, graduates.

As the newest division of the university, the College of Science and Technology's goal is to make available an array of scientific, technological and career-oriented programs which prepare students for the increasingly complex demands of the industrial, business, health fields as well as for further study in graduate and professional schools.

The goal of the Graduate School is to provide an opportunity for those who already have undergraduate training to further develop their experience at the graduate or post-graduate level.

As a regional institution, the university strives to present a diversity of programs and services for those residing in its service area. A principal goal of the Office of Development and External Relations, especially in its Mon Valley Renaissance program, is to provide different kinds of assistance related to economic development. The university also offers to local residents access to many social and cultural activities.

## Objectives

The faculty and students of the university are participating members of an educational institution charged with preservation, discovery, and dissemination of knowledge in the arts, sciences, technologies, vocations and professions, and with the creative application of that knowledge in their lives both as individuals and members of society.

The objectives of the university are:

- (1) To provide a liberal education which aims at developing analytical thinking and individual initiative and responsibility;
- (2) To provide flexible, innovative programs and support services that are responsive to a broad range of student and regional needs;
- (3) To provide a professional faculty and an effective administration;
- (4) To create and maintain a learning environment in which the rights of all are respected;
- (5) To provide a wide range of learning opportunities for students interested in associate, baccalaureate, graduate, and non-degree programs;
- (6) To promote effective communication among faculty, students, administration, and the general public;
- (7) To provide a diversity of intellectual, cultural, social and recreational activities and experiences for the university and surrounding communities;
- (8) To encourage thoughtful and responsible faculty and student participation in local, state, national, and international affairs;
- (9) To require high standards of teaching and scholarship and to encourage participation in professional activities;
- (10) To foster academic research which contributes to human knowledge and the vitality of the institution; and
- (11) To maintain an on-going system of self-evaluation whereby the goals of the institution serve as the criteria for determining the institution's effectiveness.

## **GENERAL INFORMATION**

- Orientation**
- Computer Facilities**
- The Library**
- Learning Resource Centers**
- Honors Opportunities**
- Placement and Career Services**
- Cooperative Education**
- Internships**
- National Student Exchange**
- Visiting Student Program**
- Veterans Affairs**
- Athletics**
- Women’s Center**
- Campus Ministry**
- Confidentiality of Records**
- Public Safety and Security**

## **ORIENTATION**

A comprehensive one-day orientation program, under the direction of the Offices of Academic Affairs and Student Development, is conducted for entering students and their parents during the summer months before the student's beginning fall semester. This initial formal encounter with the University community provides students and parents with an intimate view of the University's total program, including both academic and social aspects. Students and parents discuss the academic requirements of various curricula with academic personnel and review an individual student's interest, capabilities, and career plans. At the close of the program the students have registered for their first semester of courses, and both parents and students have made valuable contacts with University personnel, in both areas, academic and student affairs.

## **COMPUTER FACILITIES**

### **COMPUTER CENTER**

The University Computer Center is located in the basement of Manderino Library. Staff offices are open Monday through Friday from 8:00 a.m. until 4:00 p.m. User facilities in the World Culture Building are available for student use at least 80 hours each week. In addition, dialup access is available almost 24 hours a day.

The computer facilities at the University are separated into two distinct functional areas. The first area deals with the providing of computer resources to meet the instructional and research needs of the University, such as student access for coursework and the Manderino Library VULCAT on-line catalog. The second area deals with providing resources to meet the administrative needs of the University, including, for example, the following functions: student scheduling and registration, library circulation control, revenue and accounts receivable, student data base maintenance, personnel data base maintenance, and the University budgeting system.

#### **Computer Accounts**

Any student may obtain a computer account by stopping in at the computer center office in the basement of Manderino Library to fill out a user account request form. The forms are available from the Computer Center secretary. There is no charge for the service or for the use of the computer.

Students enrolled in courses where VAX computer assignments are given have an account generated for them automatically. Other students must fill out an account request form, which must be signed by a faculty advisor or instructor, then returned to the Computer Center office. Individual user account requests normally take 24 hours to process.

#### **User Guide**

An *Introductory Users' Manual for VAX/VMS Users* is available for \$3.75 at the information desk in the lobby of the Student Union. This manual is a must for all new or infrequent VAX users. It describes some of the essential bits of knowledge required to effectively utilize the VAX computers on campus, including how to log in here at California University of Pennsylvania, how to use the file editor, and how to compile programs.

### World Culture User Center

The World Culture User Center located in the basement of the World Culture building is the main center for campus VAX access. This facility contains a VAX terminal room, various printers, a graphics room, a PC micro laboratory, and two classrooms.

Tektronix 4105 terminals and a 4696 color ink-jet screen copier are available to support computer graphics courses. The PC micro lab currently houses IBM-PCs, PC clones, MacIntoshes, and Apple microcomputers.

Entrance to the User Center is through the University Avenue (west) entrance or via the elevator. Hours are, generally, Monday through Thursday, 8:00 a.m. to 10:30 p.m.; Friday and Saturday, 8:00 a.m. to 4:00 p.m.; and Sunday, 3:00 p.m. to 10:30 p.m., but may vary. The User Center is usually closed Saturdays during summer sessions.

### Other Campus Facilities

Every department has microcomputers for student and staff use; only some of the major facilities are listed here.

Two specialized VAX terminal laboratories, the Computer Aided Design and Drafting laboratory and the Numerical Control Machine laboratory, are located in the Coover Annex and operated by the Industry and Technology department. These laboratories are reserved for students taking specific computer-aided drafting and numerical control course. Each laboratory is equipped with Tektronix 4107 and 4207 terminals with graphics tablets.

Additional campus microcomputer laboratories are located in and operated by various departments on campus, including Industry and Technology, Business and Economics, Mathematics and Computer Science, Education, and the English Department's Word Processing Laboratory (see page 21 below).

### Instructional Applications

The University maintains the following applications packages in support of instructional computing. Graphic packages run using the Tektronix 4100 series and 4200 series terminals are available in the World Culture and Coover Annex terminal laboratories.

SPSS-X	Statistical Package for the Social Sciences, Extended
EQINOX	Computer Aided Manufacturing and Numerical control.
ANVIL-5000	Computer Aided Design and Drafting.
GKS	Graphical Kernel System (subroutine library).
PLOT-10	Tektronix graphical subroutine packages.
KERMIT and XMODEM	PC to VAX file transfer packages.
VULCAT	Library On-Line Catalog.
TeX and LaTeX	Typesetting packages.
POPLOG	PROLOG AND LISP development package.

### **Campus Network**

University VAX computers, terminal laboratories and many campus buildings are connected together using a high-speed "Ethernet" local area network. This industry-standard network allows users to share and more easily access campus computing resources.

### **Computer Center Facilities**

The VAX computers which service the campus are maintained by the Computer Center. The main system consists of a five node VAX cluster composed of the following processors: one 14 megabyte 11/780, one 32 megabyte 8350 dual processor, and three 16 megabyte 8250 single processors. An HSC50 intelligent disk processor supplies the cluster nodes with access to any of the four gigabytes of disk storage currently available.

Data backup is done using a TU78 6250 BPI or TU80 1600 BPI tape drive. A 1200 LPM Fujitsu printer and a 600 LPM LP26 printer produce administrative printouts.

Additionally, a Microvax II system supports the Computer Aided Design and Drafting users.

User terminal access to all systems is via the Ethernet network. Some direct wire connections remain to the 11/780 and microvax processor, but these will be replaced in the future.

## **WORD PROCESSING LAB**

The Word Processing Lab in Dixon Hall has more than 40 computers for the use of students. During the regular academic year, the Lab is open at least 70 hours a week (including weekends), and during the summer for 40 hours a week. The lab is staffed by trained student workers, and a faculty coordinator is usually on duty during the day.

Both MS-DOS and Macintosh computers, and a variety of word processing and related software, are available. In addition, the lab provides fast, high-quality, dot matrix and laser printing.

For more elaborate art, layout, and design work, the lab offers desktop publishing equipment and software, including major layout and art programs, pre-packaged art, big screens, a scanner, and a light table. Students in the Professional Writing Program receive instruction in desk-top publishing.

Apart from the purchase of an inexpensive storage disk, there are no fees or charges for the use of the Word Processing Lab. The atmosphere is informal, and students in all curricula are invited and encouraged to use this friendly, high-tech writing facility.

## **TEACHER EDUCATION COMPUTER LABORATORY**

The College of Education and Human Services maintains a computer laboratory in the Keystone Education Building, Room 402. The facility is equipped and designed to train prospective teachers to use computers as tools to support their teaching and instructional management roles.



Equipment includes 16 teaching stations, each consisting of one of the Apple Macintosh family of computers with one hard drive, one floppy drive, and a color monitor. In addition, each station is part of an AppleTalk Network linked to a Macintosh IIs. Each position is linked to a laser printer or one of several dot matrix printers. There are more than 100 titles of instructional software available for examination and evaluation.

The laboratory facilities are used for formal instruction for the course EDF 301, Computers for Teachers, about one half of each weekday. During the remainder of the day until 10:00 p.m. the laboratory is staffed and available to complete assignments for the course, which is required of all Teacher Education majors, or other uses students may have. Other than the inexpensive data disks, there is no cost to students.



## THE LIBRARY

At the entrance to the University, the Louis L. Manderino Library is one of the most prominent and most important buildings on campus. With more than a quarter million books in open stacks, subscriptions to 1700 newspapers, magazines, and other periodicals, it is first of all the chief and most accessible source of information on any subject. With a seating capacity of more than 1500, it is also a place to study and to read, whether the reading is required for a course or a term paper, or for browsing or recreational reading. During the fall and spring semesters the library is open 15 hours a day during the week and 9-10 hours a day on weekends. During the summer, the library is open 13 hours a day Monday through Thursday and eight hours a day on Friday and Sunday. During examination periods towards the end of the semester, library hours are extended still further.

Computerized information retrieval has made library research faster, more thorough, and more efficient at Manderino. Instead of a card catalog, the library has VULCAT, its "on-line" catalog that enables the student to sit at any of a dozen or more terminals and, by means of an easy series of commands, not only quickly locate any books in the library's collection but print out automatically the titles and call numbers of those books. VULCAT can also be accessed from various on-campus terminals and, by means of a telephone modem, by anyone who has a home computer.

To look up magazine or periodical articles, another set of terminals and printers runs computerized CD-ROM discs to current bibliographies—replacing the need to consult printed volumes of them issue by issue and year by year. Chief among these discs are: *The Readers' Guide to Periodical Literature*, the *Business Periodicals Index*, the *Applied Science and Technology Index*, the *Cumulative Index to Nursing and Allied Health Literature*, the *Social Sciences Index*, the *Humanities Index*, the *MLA International Bibliography*, the *Education Index*, and ERIC (including the *Current Index to Journal in Education*.) Through a Tower System these on-line sources may be used by a number of people at one time. Other specialized sources on disc include the Fortune 500 Prospector (of particular use to Business majors), U.S. Census data, PC Globe and PC USA, which feature maps, a Word Cruncher disc (containing, among other things, the complete works of Shakespeare, historical documents and speeches, and many complete works of American literature), and *Books in Print*. Brief tutorial sessions, specially written pamphlets, and individual assistance from specialist librarians in bibliographical instruction assist the student who may be unfamiliar with such on-line searching.

The library also offers such services as a large Reference Collection, inexpensive photocopiers, out-of-state telephone directories, a large collection of college and university catalogs, a pamphlet file, syllabi for all courses offered at the University, a certain amount of computer software, a collection of specially housed art slides, and data on important business and industries. Some of the special services in or available through the library are:

- Library privileges at 92 other local colleges and universities.
- A Curriculum Library for Teacher Education students, with a large collection of children's books and textbooks.

- A Media Center with both hardware (such as videocassette and tape players) and software (such as films, records, and tapes) that the student may use or, in some cases, charge out for class, home, or dorm use.
- Government documents of many different categories. Manderino Library is an official Federal Government Document Depository and regularly receives, in hard copy, microform, or CD-ROM format, large numbers of these documents—for example, census data, reports, maps, and books. The Documents Librarian will assist with the use of this important resource.
- Hundreds of thousands of documents on microform in the ERIC system relating to all aspects of education, and easily located through the CD-ROM discs.
- Special files on business firms—local, national, and international.

The staff of the Manderino Library are “user-friendly” and welcome any suggestions not only for books to add to the collection but for improvement of services.



**LEARNING RESOURCE CENTERS****WRITING CENTER**

The Writing Center is a non-credit service provided by the English Department to assist students and faculty from every academic discipline with writing projects. Located in Dixon 119, the Center is open during the regular academic year from 8:00 a.m. to 4:00 p.m., Monday through Friday. The center also offers writing assistance during summer sessions on a slightly more limited basis.

The Writing Center lends its assistance in these ways:

- (1) Tutorials are offered on a one-to-one basis. Tutors may be peers, graduate assistants, or English instructors who are trained to provide conference-based writing assistance.
- (2) Tutors function as coaches and collaborators, neither evaluating writing, lecturing students, nor completing students' work. Instead, students collaborate with writers in ways that facilitate the process of writers finding their own answers and developing their own ideas.
- (3) Each student's individual needs are the focus of the tutorial. Students are encouraged to participate actively in setting the agenda for how the tutor and student will spend their time together.
- (4) The Center serves the university and the entire community, including writers completing academic papers, business and lab reports, school applications, résumés, graduate theses, writings for contests, and any other writing projects with which writers are involved.

The Writing Center, which offers tutoring by appointment or on a walk-in basis, is a free service to all University students.

**READING CENTER**

When your class reading assignments make you feel as if you've just entered the university jungle, come to the Reading Center for a free one-hour tutoring session. Staffed by one faculty member and two graduate assistants, the Center teaches techniques to improve reading comprehension and vocabulary. The Center offers help in identifying main ideas, making inferences, drawing conclusions, understanding concepts and facts, test-taking skills and building vocabulary. Students make appointments to work privately with a tutor or schedule an independent lab session that is staff directed. A recent addition to the Elementary Education Department, the Reading Center is housed in the Keystone Building, Room 200A and is open from 8:00 a.m. to 4:00 p.m., Monday through Friday.

## MATHEMATICS LABORATORY

Offered in the Mathematics Laboratory in 115 Noss Hall are the following services and resources:

1. Mathematics and computer science tutoring.
2. Computer software for mathematics courses and for math anxiety.
3. Reference books for mathematics courses and for math anxiety.

If you wish to take advantage of the free tutoring service please call 938-5893 to schedule a 30-minute appointment. Before calling, we ask that you read your text and start your homework. If you have trouble completing an assignment, schedule an appointment for a tutoring session.

We have computer-directed-instruction software and 12 Apple IIe microcomputers available for your use. The computer software includes topics from basic mathematics through calculus.

We also have some mathematics-anxiety software. Most people feel up-tight about mathematics in some way or another. If you're one of these people, you may want to try some of these materials. (Mathematics anxiety books are available too.)

The Mathematics Laboratory is usually open from 9:a.m. to 6:00 p.m. on Mondays to Thursdays during the fall and spring semesters and the summer and from 9:00 a.m. to 4:00 p.m. on Fridays during the fall and spring semesters. The phone number is 938-5893.

## CARE: Services for the Learning Disabled

California University meets the special needs of learning disabled students both in high school and as undergraduates at the University with CARE—the Center for Academic Research and Enhancement. More information and application procedures may be obtained from the CARE office, (412) 938-5781, in the Keystone Education Building, Room 112.

### Summer Program

The Summer Program brings learning disabled students who have completed their junior year of high school to live and study on campus for five weeks. During this period the students are given intensive remedial instruction in reading, mathematics, spelling, English, social skills, study skills, survival skills, and Learning Strategies. Following classes each day are mandatory study sessions, as well as evening recreational periods.

Students who successfully complete the first summer are invited to return the following summer after their senior year of high school. This second-summer program offers continued remediation and study skills, with increased emphasis on preparation for college. A limited number of places may be available to new applicants who have completed their senior year of high school but did not participate after their junior year.

The Summer Program serves approximately 24 students each year on a fee-for-service basis.

\* \* \* \* \*

Procedures and standards for admission to the university for the learning disabled are the same as those for all other applicants. The two programs described are available to the learning disabled student enrolled at the university. *Application for admission to these programs is a separate procedure and requires documentation separate from that which is submitted to the Admissions Office at California.* Such documents should be sent directly to the CARE office.

### **Specialized Support Service Program**

The Specialized Support Service Program (SSSP) serves a maximum of 40 participants on a fee-for-service basis. The SSSP operates under contractual agreement with the participants, parents, and the CARE staff.

In the first semester, all students must participate in Structured Academic Management Seminars for two hours a day, four days a week. Subsequent levels of participation are based on the participant's academic performance. The seminars provide:

- Development of a daily study plan with assigned monitors.
- Assistance in sequencing course assignments into manageable tasks.
- Daily monitoring of academic performance, including student training in recording assignments and grades.
- Individual and small group tutoring in specific content areas with CARE staff.
- Referral for tutoring to other campus resources. (See the descriptions of the Writing Center, the Mathematics Laboratory, the Reading Center, described on pages 25-26 above, and the Department of Academic Development Services on page 121 in this catalog.)
- The assistance of community-based specialized tutors when needed.
- Word processing equipment, software and the necessary training.

The CARE staff also monitors student academic performance, sends progress reports to parents on students' overall academic status, assists in scheduling, and works closely with students' academic advisors.

Additional services such as extended test time, oral testing, use of the Kurzweil Reader, etc. are provided as needed.

### **Modified Basic Support Program**

The Modified Basic Support Program (MBSP) insures the availability of basic support services to *all* identified learning disabled students enrolled in the university who elect to receive such services but are either not eligible for participation in the Specialized Support Service Program due to program capacity or choose to receive a less intensive level of service.

The following services are available to students in the MBSP:

- A regularly scheduled, weekly conference with a member of the CARE staff.
- Review of assignment and study patterns.
- Guidance for referrals to existing University resources.

- Assistance in the development of self-advocacy as required by the learning disability.
  - Guidance to assist the student to work independently within the University setting.
- Enrollment in the MBSP is unlimited, and there is no fee for these services.





## HONORS PROGRAM

The University Honors Program has been established to promote and reward outstanding intellectual achievement. Each year, the applications of all new freshmen and transfer students are reviewed, and those students with the very highest indicators of past and future academic success are invited to participate in the Honors Program. Students in any undergraduate program or division of the University may participate.

The Honors Program allows academically talented students to work at their own level of ability, in courses at any stage of their undergraduate career, but it also provides special opportunities for the inquiring mind to explore important or interesting subjects that are not commonly offered in undergraduate curricula or that cut across traditional academic boundaries.

Certain courses, designated as Honors Courses, are restricted to members of the Honors Program, and they are offered at all class levels. Some of these Honors courses may be interdisciplinary, cutting across the boundaries that often separate different fields of study. A course in history, for example, might entail art, music, and literature and cover not just a single period of time but many different eras and civilizations. Other Honors courses may represent advanced study, singly or with others, in the Honors student's major field of study. These two kinds of courses are open only to members of the Honors Program; and enrollment is kept low, to encourage close interaction between student and professor and to ensure close attention.

Some of the other, "regular" University course offerings at all levels may have an Honors component. In such courses, Honors students fulfill the same requirements as other student in the class but perform certain additional independent work agreed on by student and professor.

In all such courses, successful completion of the course or of its Honors component is indicated on the student's transcript.

In addition to this course work, Honors students may participate in a number of special activities, seminars, projects, etc. Guest speakers, who are eminent specialists in their fields, address the Honors students from time to time. A special Honors Center, with its own small library and computer, is reserved for the use of Honors Students.

Inquiries about the Honors Program may be made of the director, California University of Pennsylvania, California, PA 15419, (412) 938-4535.

## HONOR SOCIETIES

Many units or departments of the University sponsor undergraduate (or graduate) honor societies that recognize high levels of academic accomplishment in particular fields of study. These societies meet regularly with specially assigned faculty advisers, to discuss matters of professional interest, to honor new inductees, to conduct research either independently or in cooperation with faculty members, to attend scholarly meetings, or to prepare students for graduate study or career opportunities. Some of these societies are described in further detail elsewhere in this catalog; fuller information on all of them may be obtained in the appropriate offices of the University.

Alpha Mu Gamma (AMΓ)	National Collegiate Foreign Language Honor Society
Alpha Psi Omega (AΨΩ)	National Honorary Dramatics Fraternity
Beta Beta Beta (BBB)	National Honorary Biological Society
Gamma Theta Upsilon (ΓΘΥ)	National Honorary Geographical Society
Epsilon Pi Tau (ΕΠΤ)	International Honor Society in Industry and Technology
Kappa Delta Pi (ΚΔΠ)	Honor Society in Education
Lambda Alpha (ΛΑ)	National Honorary Anthropology Fraternity
Omicron Delta Epsilon (ΟΔΕ)	International Honor Society in Economics
Pi Gamma Mu (ΠΓΜ)	National Social Science Honor Society
Pi Kappa Delta (ΠΚΔ)	National Honorary Forensic Fraternity
Rho Phi Alpha (ΡΦΑ)	National Honorary Parks and Recreation Administration Fraternity
Sigma Gamma Epsilon (ΣΓΕ)	National Honorary Earth Sciences Fraternity
Sigma Pi Epsilon Delta (ΣΠΕΔ)	National Honorary Fraternity in Special Education
Sigma Tau Delta (ΣΤΔ)	National Honorary English Fraternity
Phi Alpha (ΦΑ)	Social Work Honorary Fraternity
Phi Alpha Theta (ΦΑΘ)	International Honorary History Fraternity
Chi Gamma Psi (ΧΓΨ)	Honorary Fraternity in the Field of Science

## HONORS AT GRADUATION

Commencement Honors are awarded to a limited number of students in the graduating class. A minimum of 64 earned credits at California University in a baccalaureate degree program is required to receive commencement honors.

For the criteria for Commencement Honors, see page 54 in the Academic Policies and Procedures of this catalog.

## SEMESTER HONORS

Full-time students are awarded on the basis of grade-point average at the end of each semester. For the criteria for Semester Honors, see page 54 in the Academic Policies and Procedures portion of this catalog.

## HONORS CONVOCATION

The University recognizes, encourages, and rewards academic excellence of master's, baccalaureate, and associate degree-seeking students by naming Presidential Scholars at an annual Honors Convocation in the Spring semester. This award is a unique distinction, separate and apart from Commencement Honors.

A baccalaureate degree-seeking student designated as a Presidential Scholar must have a cumulative G.P.A. of 3.25 in a baccalaureate program and have completed 64 credits (if a junior) or 96 credits (if a senior), of which at least 30 must have been taken at this university (calculated beyond an earned associate degree or other first degree, if applicable, and in the present baccalaureate degree program).

An associate degree-seeking student designated as a Presidential Scholar must have a cumulative G.P.A. of 3.25 at California and have completed 45 credits, all of which must have been taken at this University.

Both full-time and part-time students may, if qualified, be named Presidential Scholars.

At the Honors Convocation, presentations are made by honor societies, a Distinguished Graduate Award is presented to a graduate of the University, and distinguished faculty members are formally recognized. The convocation is followed by a reception at which certificates are presented to the Presidential Scholars by the deans of the divisions of the University.

## DISTINGUISHED SERVICE AWARD

The Distinguished Service Award, a Student Government award, is granted to the most outstanding women and men of each graduating class. The awards are made on the basis of participation in activities, character, citizenship, leadership, and personality. The election of persons to receive the awards is made by a committee composed of students and administration.

## COOPERATIVE EDUCATION

Cooperative Education allows students to be employed—whether in business, industry, government, or service organizations—in paid positions directly related to their academic majors or career plans. Cooperative Education positions are pre-professional, monitored by faculty members, and coordinated by the University. Students may be employed part or full-time, and may choose to work during fall, spring and/or summer. Undergraduates as well as graduate students in all academic majors are encouraged to participate provided they meet the eligibility requirements. It is expected that the student's cooperative education experience(s) will span over two semesters or summers while enrolled at California. Cooperative Education positions are advertised through "Co-Opportunities," which is published every two weeks. Students who enroll in Cooperative Education are eligible to apply for advertised positions. Additional information and appointments with members of

the Cooperative Education staff are available in the Placement and Career Services office in the Morgan Learning and Research Center.

## INTERNSHIPS

Internships allow students to earn credit in their major fields of study while gaining practical experience in productive organizations—usually off campus. Such positions may nor may be salaried. Interns are usually in their junior or senior year, and approval must be obtained from the department chairperson or the campus supervisor of the internship program. Inquiries about internships should be made at departmental offices or at the deans' offices.

## THE NATIONAL STUDENT EXCHANGE (NSE) An Opportunity to Widen Your Educational Horizons

Besides the educational opportunities offered on this campus, California University offers you the chance to attend another school in the NSE network at little or no more cost than you pay at California. This is an excellent chance to widen your educational horizons. In consultation with the campus NSE coordinator, academic advisor, family and friends, you select schools that will complement and supplement the course offerings at California University while fulfilling your own personal and academic goals. You can take advantage of the academic strengths of the other universities in the NSE program, for they have become extensions of our campus.

California University's NSE coordinator, located in the Program Office, California Memorial Union, 938-4306, can tell you about the ease with which the process of exchange works and what will be required of you for participation. As you examine your own reasons for going to another school, you will see that they are similar to some of the wide variety of reasons expressed by the over 30,000 students who have been hosted at schools in the network since it began in 1968. Most students exchange for a combination of reasons, selecting schools that provide a particular academic interest or diversification along with the opportunity to live in a different geographical or cultural setting. California students return from exchange with new perspectives on their education and a better appreciation of their home region, family and campus. They frequently become more independent as learners, reflecting the self-reliance and self-confidence gained as a result of having taken a decisive role in planning their education and future and carrying through with those plans. They know more about their limitations and capabilities and develop an increased appreciation for the vast differences in ideas and value systems that exist in different geographic locations with different ethnic and racial groups.

The following institutions are members of the NSE:

<p>Alabama State University University of Alabama University of Alaska, Anchorage University of Alaska, Fairbanks Northern Arizona University</p>	<p>California State Polytechnic University, Pomona California State University, Bakersfield California State University, Dominguez Hills California State University, Fresno California State University, Northridge</p>
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California State University, San Bernardino  
Humboldt State University  
Sonoma State University  
Colorado State University  
Fort Lewis College  
University of Northern Colorado  
University of Southern Colorado  
Western State College of Colorado  
Eastern Connecticut State University  
University of Delaware  
Florida International University  
University of South Florida  
Georgia State University  
University of Georgia  
University of Guam  
University of New Hampshire  
Rutgers College, Rutgers University  
Trenton State College  
William Paterson College of New Jersey  
Eastern New Mexico University  
New Mexico State University  
University of New Mexico  
Hunter College of the City University of New York  
SUNY Center at Stony Brook  
SUNY College at Buffalo  
SUNY College at Potsdam  
East Carolina University  
North Carolina State University  
University of North Carolina at Charlotte  
University of North Carolina at Wilmington  
Bowling Green State University  
Oklahoma State University  
Eastern Oregon State College  
Oregon State University  
Portland State University  
Southern Oregon State College  
University of Oregon  
East Stroudsburg University of Pennsylvania  
Indiana University of Pennsylvania  
University of Hawaii at Hilo  
University of Hawaii at Manoa  
Boise State University  
University of Idaho  
Illinois State University  
Northeastern Illinois University  
Indiana University-Purdue University at Fort Wayne  
University of Northern Iowa

Fort Hays State University  
Pittsburg State University  
Murray State University  
Grambling State University  
Louisiana State University  
University of Maine  
University of Maine at Farmington  
University of Southern Maine  
Towson State University  
University of Maryland at College Park  
University of Massachusetts at Amherst  
University of Massachusetts at Boston  
Oakland University  
Moorhead State University  
University of Minnesota, Twin Cities  
University of Missouri-Columbia  
Montana State University  
Southwest Missouri State University  
University of Montana  
University of Nebraska at Kearney  
University of Nevada, Las Vegas  
University of Nevada, Reno  
West Chester University of Pennsylvania  
University of Puerto Rico, Cayey  
University of Puerto Rico, Humacao  
University of Puerto Rico, Rio Piedras  
Rhode Island College  
University of Rhode Island  
College of Charleston  
South Carolina State College  
University of South Carolina  
Winthrop College  
Northern State University  
South Dakota State University  
University of South Dakota  
Memphis State University  
University of the Virgin Islands  
University of Utah  
Utah State University  
Virginia State University  
Central Washington University  
Western Washington University  
West Virginia University  
University of Wisconsin, Eau Claire  
University of Wisconsin, Green Bay  
University of Wisconsin, River Falls  
University of Wyoming

## VISITING STUDENT PROGRAM IN THE STATE SYSTEM OF HIGHER EDUCATION

In addition to the National Student Exchange Program, students at California University may choose to enroll for a time at any of the other 13 institutions in the Pennsylvania State System of Higher Education; and similarly students from those 13 may enroll at California. These institutions are Bloomsburg, Cheyney, Clarion, East Stroudsburg, Edinboro, Indiana, Kutztown, Lock Haven, Mansfield, Millersville, Shippensburg, Slippery Rock, and West Chester Universities of Pennsylvania.

The purposes of this program are to allow students at one institution to participate, for a limited period of time, in courses, programs or experiences not available at their home institution, without loss of institutional residency, eligibility for honors or athletics, or credits toward graduation; and to expand options available to students in such matters as student teaching, clinical experiences, internships, and international exchange programs.

Fuller information may be obtained from the office of the Vice-President for Academic Affairs. Catalogs of the participating institutions may be consulted in the offices of the college deans, or in Manderino Library.

The procedures and standards for this Visiting Student program are as follows. (They apply equally to students in any of the 14 SSHE institutions.)

1. The student must have satisfactorily completed at least 27 credits at California, and be in good academic standing.
2. The student must obtain *advance approval* from California University to complete specified studies at a sister university under this program. Each university specifies the approval procedure for its own students' participation and for students from SSHE universities.
3. The student must present evidence of approval from California University and evidence of visiting university acceptance at time of registration at the sister university.
4. A student may complete up to 18 credits in a single semester and up to 16 credits of summer work as a visiting student.
5. All credits and grades accrued at the sister university will be accepted in full by California University, and thereafter treated as California University credits and grades.
6. The student registers at, and pays tuition and fees to, the State System university visited. A student wishing to divide a courseload between two institutions during the same term registers and pays appropriate tuition and fees at both universities.

## OUTCOMES ASSESSMENT

California University is in the process of implementing a broad program of outcomes assessment. This program will utilize information about incoming students as baseline data, follow the development of those students throughout their academic career and track them as alumni after graduation—in order to ensure and improve the quality of academic life and

of the graduates of this university. Certain components of this are already in place, including sophomore and senior testing in the Department of Psychology, Admission to Teacher Education, and the use of the NTE for teacher certification.

## PLACEMENT AND CAREER SERVICES

The primary purpose of Placement and Career Services (PCS) is to assist students in developing, evaluating, and effectively implementing appropriate career plans. Undergraduates, seniors, graduate students, and alumni may obtain general advice and information on career and job search strategies.

On-campus interviews and informational sessions are scheduled for students interested in meeting with representatives from business firms, government agencies, industries, and school districts seeking candidates for employment. The "career center" houses career planning and company literature as well as information on current job opportunities.

Students are encouraged to visit the PCS office in the Morgan Learning Research Center to:

- Schedule a session with the computerized guidance system.
- Use the career center, including videos, audiotapes, and computerized software resources.
- See a staff member about any career issues, including questions about graduate and professional school.
- Attend career workshops, job fairs, and special programs.
- Learn about alumni who will discuss their jobs.
- Investigate cooperative education job opportunities.
- Set up a credentials file.
- Make an appointment for a "mock" interview.
- See listings of full-time, part-time, and seasonal jobs.
- Pick up guides to résumé writing and interviewing, and other handouts.
- Get the most up-to-date information on company recruiting visits.
- Sign up for campus interviews and information sessions.
- Learn what other services are available.

## VETERANS AFFAIRS

The Office of Veterans Affairs, located in the Health Center (Ext. 4076/4077), is open from 8:00 a.m. to 4:00 p.m., Monday through Friday. Evening hours may be arranged by appointment. The director is Mr. Arthur Bakewell.

All matters pertaining to veterans and those entitled to veterans' benefits are handled in this office. VA forms and enrollment certifications for all eligible students applying for benefits are processed here.

All Veterans, Reservists, National Guard personnel, and eligible dependents applying for entrance to the University should contact the Veterans Affairs Office at an early date so that



necessary VA paperwork can be processed to assure timely payments of educational benefits. Veterans are also advised to take advantage of the University's program to award college credits for military service schools. See page 80, on Admissions, in this catalog.

The on-campus Veterans Club also has its office in the Health Center. The club sponsors the Colonel Arthur L. Bakewell Veterans Scholarship Fund. Two \$1000 scholarships are currently awarded. See page 92 below for more information.

## INTERCOLLEGIATE ATHLETICS

The University sponsors a comprehensive athletic program for both men and women. The athletic program is regulated by the policies of the Athletic Council and administered by the Director of Athletics, Dr. Tom Pucci. It is governed by the Office of Student Development with the Dean of Students as the senior administrative officer.

Fourteen varsity sports are available to students: for men, baseball (coached by Chuck Gismondi), basketball (Jim Boone), cross-country, football (Jeff Petrucci), soccer (Dennis Laskey), track and field (Jack Henck), and wrestling (Robin Ersland); for women, basketball (Paul Flores), cross-country, softball (Linda Kalafatis), tennis (Richard Saccani), track and field (Jack Henck), volleyball (Jing Pu) and soccer (Dennis Laskey). There are numerous assistant coaches and graduate assistants. The training staff includes the members of the Department of Sports Medicine. Academic progress of varsity athletes is carefully monitored.

Students who desire to participate in intercollegiate athletics must meet the academic standards of California University, PSAC, ECAC, and NCAA. Specific requirements may be obtained from California University's Athletic Director, the Chairperson of the Athletic Council, or the Dean for Enrollment Management and Academic Services.

The University has outstanding facilities for athletics. Adamson Football Stadium, a modern facility located at the George H. Roadman University Park, has spacious locker rooms and a training room. The stadium has a seating capacity of 4,500 and an excellent all-weather track.

Also located at the University Park are seven tennis courts, a baseball diamond, a softball field, soccer fields, cross country course and several practice areas for varsity sports and intramural activities.

Hamer Hall, located on the main campus, has three basketball courts, an Olympic-size swimming pool, a training room, a weight room, and a wrestling workout room. The building has a seating capacity of 3,600 for basketball games, and the natatorium can accommodate more than 250 spectators.

Herron Hall, also located on the main campus, houses a full-service Recreation and Fitness Center including racquet ball courts, several exercise rooms, weight rooms, saunas, steam rooms, a whirlpool, and a swimming pool for students and staff at the University.

The Student Activities fee permits students to make use of all these facilities when their use has not otherwise been scheduled.



## WOMEN'S CENTER

The Women's Center in Clyde Hall is a service provided primarily for the female students of the University. However, the male students as well as community residents are welcome to participate in the activities of the center.

The main goals of the Women's Center are to supplement the academic education of the students and prepare them to deal with barriers in life.

The activities are designed to help students grow and develop an understanding of how women can impact the future. Options are highlighted that are available to women through special programs and individual counseling. Additionally, programs are provided to help students find creative ways to solve problems and manage the ever changing roles of women.

The Center recognizes the needs of women and serves as a conduit to see that the needs are addressed. The services provided are advocacy counseling information, interest assessment, special events, and activities, support groups, workshops, special events and activities.

Opportunities are available for students to serve on the Advisory Board of Directors, serve on special events committees, share ideas for programs and participate in the Mentoring Program.

## CAMPUS MINISTRY

Spiritual development is an integral part of the process of education and of human growth. A Campus Ministry Office, with a staff of professional campus ministers, fosters the development of spiritual and religious student life.

The Campus Ministry of California University of Pennsylvania is at present temporarily housed in the Herron Fitness Center, Room 313. Office hours are from 10:00 A.M. until 4:00 P.M. on weekdays while the University is in session. Campus ministers are on call twenty-four hours a day. Some of the services provided are worship, pastoral counseling, spiritual direction, information about local churches, and literature from participating faiths. The Campus Ministry sponsors or co-sponsors a variety of religious or service programs.

Students and their families, faculty and staff of the university are welcome to come to the Campus Ministry Office at all times. They may also call the Campus Ministry at 938-4573. Campus Ministry cooperates with Student Development and Services and with other university departments for the well-being of the students.

The Catholic chaplains are funded by the Catholic Diocese of Pittsburgh. The Protestant chaplain is funded by the United Campus Ministry Council of California, who also place members of the Coalition for Christian Outreach. Although the chaplains are members of particular denominations, they serve all students, regardless of church affiliation. The chaplains will put students in touch with a priest, minister or rabbi of their chosen denominations.

## OFFICE OF DEVELOPMENT AND EXTERNAL RELATIONS

The Office of Development and External Relations assists with fund-raising, maintains relations with the alumni of the University, informs the public about the activities of the University, and develops programs and activities that promote understanding for and support of the University's goals.

Through this office, the University provides information and services to alumni, governing boards, political groups, parents of students, employees, other colleges and universities, the business community and donors. It informs the public of the activities of students, alumni, professors, administrators, student organizations and athletic teams.

Both staff and volunteers working in this department assist in the three principal fund-raising activities: an annual campaign of fund-raising, deferred or planned giving, and capital campaigning.

## ALUMNI ASSOCIATION

The alumni of California University of Pennsylvania have been organized since 1939. This organization numbers more than 30,000 graduates and former students of the University.

The Association advances the growth and development of the University through individual and group endeavor, fosters beneficial relationships among alumni, students, and the University, and encourages outstanding academic and extracurricular achievement by undergraduate and graduate students.

There are a number of services available to alumni, including a quarterly publication, *The California Review*; use of the library and other University facilities; help from the Placement Office in locating a job; scholarships for students; and many social events, including Homecoming, Alumni Day and the many area chapter meetings of California alumni.

The Office of Alumni Relations, located in Dixon Hall, is the center of alumni activity on campus. The office maintains the alumni records, assists in conducting the affairs of the Association, and serves as the communications center and clearing house for all alumni activities. Alumni are always welcome.

## CONFIDENTIALITY OF RECORDS

The University's policies on the confidentiality and disclosure of student records are based on the Family Education Rights and Privacy Act of 1974 (Public Law 93-380), as amended.

**CANNOT State: Full-time  
OR Part-time<sup>39</sup>  
Status.**  
**JUST SAY ENROLLED!**

### **I. Introduction**

Official student records are established and maintained in a number of administrative offices for a variety of legitimate educational purposes. In assuming responsibility for the reasonable protection of these student records, the University recognizes its obligation to comply with the Family Education Rights and Privacy Act of 1974. Important sections of this federal law are summarized below.

### **II. Ownership of Records**

All records kept concerning students, including those records originating at other colleges or universities and required for admission, as the property of California University of Pennsylvania.

### **III. Definition of a Student**

A student is defined as any person currently or previously matriculated on an official basis in any academic program of the University.

### **IV. Public Information Regarding Students**

1. The following is classified as public and may be released without the prior consent of a student: a student's name, address (both local and permanent), telephone number, place and date of birth, academic curriculum, dates of attendance, date of graduation, degrees and awards received, most recent educational institution attended, participation in student activities (including athletics), and height and weight (for athletic teams).

2. Students may request that any or all of this information not be made public. Such requests must be submitted in writing to the Office of Academic Records or (in the case of graduate students) to the Dean of the School of Graduate Studies before the beginning of any academic term.

### **V. Disclosure of Student Records**

1. Upon proper identification, students may inspect their own official records in the presence of the administrator in charge of records.

2. After a request to inspect a record has been received, the request must be honored within a reasonable period of time: according to federal law, not to exceed 45 days.

#### **3. Limitations on the Right of Access by Students**

The following materials are not subject to inspection by students:

- a) Confidential letters and statements of recommendation which were placed in the educational records before January 1, 1975.
- b) Financial records of the parents of the student, or any information contained therein.
- c) Medical, psychiatric or similar records that are used solely in connection with treatment. Such records can be reviewed by a physician or other appropriate professional of the student's choice.

### **4. Disclosure of Information to Third Parties**

In most circumstances students have the right to withhold their records from external third parties requesting to inspect these records. Exceptions to this general principle are as follows:

- a) Disclosure of student information will be made to a third party if written consent is given by the student in question.
- b) Information concerning a student will be released if properly subpoenaed pursuant to a judicial proceeding.

- c) All necessary academic and/or financial records of students may be disclosed to the appropriate persons or agencies without a student's prior consent in connection with a student's application for, or receipt of, financial aid.
- d) Further limited disclosure of certain kinds of information may be required in special circumstances in compliance with the federal law previously cited.

#### ***VI. Student Challenge to Record Entries***

1. Students have the right to submit written or typed rebuttals to negative information contained in their files. A rebuttal statement shall become part of the file, and in cases where the negative information is reviewed by or transmitted to a third party, it must be accompanied by the student's statement of rebuttal.
2. Students may challenge the accuracy and/or appropriateness of material combined in their files. Once such a challenge has been made in writing, it will be the responsibility of the University official in charge of the file to determine the validity of the challenge, if possible. The University official shall make a written response to the challenge of the student, specifying the action taken. Should a factual error be found in any materials, the University official is authorized to make the appropriate corrections.
3. If options 1 and 2 of this section are unsatisfactory, students may request a formal hearing to challenge inaccurate, misleading, or inappropriate information in their records. The University Record Hearing Committee shall conduct a hearing in accordance with the procedures outlined in Public Law 93-380, as amended.
4. The substantive judgment of a faculty member or administrator about a student's work, as expressed in grades and/or written evaluations, is not within the purview of this policy statement. Such challenges by students may be made through the regular administrative channels already in existence for such purposes.

#### ***VII. Responsibility of University Officials***

1. University officials in charge of student files are responsible for the reasonable care and protection of such files in accordance with University policy. This includes the responsibility for the release of confidential information only to authorized persons.
2. A log sheet, indicating the inspection or release of a student's file, must be kept in the student's file.
3. University officials may classify student materials and records under their supervision as active or inactive as circumstances warrant. At the discretion of the University official in charge, inactive records may remain in the file but need not be circulated. These inactive records may be reviewed by a student upon request.
4. A University official may take the initiative in an attempt to purge unfavorable evaluations, or opinion records of a prejudicial nature, in a student's file. This may be done by returning the material to the person who submitted it or by requesting from the author that the material be destroyed.

#### **VIII. University Officials Responsible for Student Records**

The following University officials are responsible for student records within their respective administrative areas:

1. The Vice-President for Academic Affairs
2. The Vice-President for Student Development and Services
3. The Vice-President for Administration and Finance



These officers are responsible for the proper maintenance of all official student records under their jurisdiction in accordance with the policies of this statement and the relevant state and federal laws.

If further information is required, a student should contact the appropriate University official with respect to the type of student records in question.

## **UNIVERSITY PUBLIC SAFETY/SECURITY SERVICES**

The Department of Public Safety at California University of Pennsylvania is a fully recognized law enforcement agency as authorized by 71 P.S. §646, the Administrative Code of 1929 as amended and Title 18 of the Pennsylvania Consolidated Statutes, (Crime and Offenses) and 24 P.S. § 20-1006-A(14) 20-2010A (5) of the State System of Higher Education Act.

The department consists of professionally trained individuals capable of responding to requests for assistance in routine and emergency situations. The department, a diverse group of police officers, communications, and secretarial staff, provides continuous 24 hour assistance to the University community. The staff includes a director, assistant night operations supervisor, two shift supervisors and ten additional commissioned police officers who have received training at the Pennsylvania State Police Academy. Three public safety communications officers and one departmental secretary contribute to the operation of the department.

Public safety personnel are certified in the use of emergency medical airborne evacuation policy and procedure for transportation of the seriously ill or critically injured. Additional services offered to University students, faculty, and staff consist of parking and traffic management, criminal investigations, health, fire, and safety surveys, special event planning, accident investigation, and crime prevention information and presentations.

Pursuant to the Pennsylvania College and University Security Act, and the Federal Crime Awareness and Campus Security Act of 1990, post-secondary institutions, including colleges and universities, must provide information with respect to campus crime statistics and security policies of the institution and prepare, publish and distribute to all applicants, students and employees, annually, information with respect to these areas.

The information is compiled by California University, and made available through the Office of Admissions, the Office of Student Development, and the Office of Public Safety.



## **ACADEMIC POLICIES AND PROCEDURES**

**—Courses and Grading Procedures**

**—Graduation Requirements**

**—Earning a Second Degree**

**—Transcripts**

**—Academic Requirements**

**—Withdrawals**

**—Readmission**

Students are responsible for securing current information about university policies and for meeting all relevant requirements as listed in this catalog.

*The university reserves the right to change policies, curriculum requirements, and other provisions as needed and at any time.*

Students are required to follow the provisions of the catalog that is in effect at the time of their initial enrollment. Students who have interrupted their education for more than one year are subject to the provisions of the current catalog.

Faculty advisors are available to assist students in planning an academic program, but students have the responsibility for meeting all requirements for their degrees. Students are urged to take advantage of the advisory and consultation services available at the university.

Students should feel free to consult with professors, academic advisors, department chairpersons, the deans, and the vice-president for academic affairs. All of these university representatives maintain regular office hours for student consultations.



## COURSES, ACADEMIC STANDING, GRADING SYSTEM, WITHDRAWALS FROM COURSES, ETC.

### Course Numbering System

Courses numbered 100 to 499 are undergraduate courses. Courses numbered 500 and above are graduate level courses, but in certain circumstances, with the approval of the professor and in the senior year, students may be allowed to take some courses numbered in the 500's, for undergraduate credit.

Courses are numbered in the following way:

100-199	Freshman level
200-299	Sophomore level
300-399	Junior level
400-499	Senior level

Generally, courses whose numbers end in **9** (such as 209 and 459) consist of independent study or individual tutoring. They require the consent of the professor and of the department, the dean, and the academic vice-president. Courses whose numbers have **8** or **9** in the middle (such as 481 and 491) are seminars or workshops. Some courses are sometimes offered as both undergraduate and graduate courses. Such "dual-listed" courses require additional work on the part of the graduate students but may be taken only for undergraduate credit by undergraduate students.

### Credits

Credit for course work is recorded in credit hours. For most courses, one credit hour represents one class period a week for about fifteen weeks. For laboratory classes, the ratio may differ somewhat from one department to another, but usually two or three hours of laboratory work are worth one academic credit.

A full-time student is one who is taking twelve or more credit hours. Therefore, a student taking fewer than twelve credits is considered a part-time student.

In order to progress normally from one class to the next, a student should take an average of 32 semester hours a year, or 16 credits a semester.

### Attendance

Regular class attendance is a prerequisite to successful class performance. University policy permits class absence for cause but places an obligation for successful completion of course work on the student. There is no single, university-wide policy on class attendance or on cuts; but professors may establish their particular policies on absences, assess reasonable penalties if students do not observe these policies, and treat unexplained absences as unexcused absences. **The student must, in all cases, arrange to make up examinations**

or other work missed because of absence, according to terms and a schedule agreeable to the professors.

It is the student's responsibility to inform professors of the cause of any absence — if possible, in advance. Students should notify their college Dean of lengthy absences due to illness or other causes; and appropriate documentation may be required in such cases. The Dean will in turn notify the professors concerned. Requests for absence due to official university activities, such as field trips or athletic contests, must be made by the appropriate university official.

**The Health Center does not issue medical excuses.** Under certain circumstances (see pages 66-67 of this catalog) the Health Center will notify professors about students' absences (or other failure to fulfill academic obligations) due to medical conditions; on the basis of this notification, individual professors in turn will determine whether or not to excuse the absences.

The temporary grade of Incomplete is not automatically awarded even if excused or explained absences have prevented completion of required work by the end of the semester.

## Residence Requirements

Students in all curricula must complete a minimum of thirty credits of the last sixty credits at California University to qualify for a degree. These credits may be taken in regular day or evening classes.

## Overload

Students may register for 18 credits. Students who are doing student teaching in the College of Education and Human Services, however, may take additional courses only with the special approval of the dean of that college. Students wishing to register for 19 credits must obtain written permission from the dean of that College of the university in which they are enrolled. Students wishing to take 20 or more credits must receive written permission also from the Vice-president for Academic Affairs. However, only in exceptional circumstances is permission to register for 20 or more credits granted. A fee is charged for all credits in excess of 18.

In the summer, for more than six credits for either of the five-week sessions or for more than 12 credits throughout the summer term, written permission must be obtained from the Vice-president for Academic Affairs. Because of the brevity of the summer session, registration for overload is discouraged.

## Grade Point Average

To calculate a grade point average (GPA) divide the total number of grade points earned in regular courses at this university by the total number of credit hours attempted. For example, if a student has attempted a total of 60 credits, with 12 credits worth of A (= 48 grade points), 24 of B (= 72), 15 of C (= 30), 6 of D (= 6), and 3 of F (= 0), that student would have a total of 156 grade points, or a GPA of 2.60.

You do not take into account, in computing your GPA, the following: courses transferred from other institutions, advanced placement courses, courses passed by examination, courses in which a P grade was assigned, CLEP credits, or credits granted for military service. If you repeat a course, only the repeat grade is counted. If you fail a

course which is taken under the Pass/Fail option, a failing grade is, however, counted in the GPA; but no record of a failing grade is kept if you challenge a course by examination and fail that examination. Although developmental courses — ENG 100, MAT 098, MAT 099, and EDE 100 — do not count towards graduation, the credits earned in them are used to determine grade point average. (See page 78 of this catalog.)

### Good Academic Standing

In order to remain in good academic standing, you must maintain a certain grade point average, depending on the class that you are in, as follows:

Freshman	1.75
Sophomore	1.85
Junior	1.95
Senior	2.00

Academic standing is based upon credits *earned*, not credits attempted. Although developmental courses — ENG 100, MAT 098, MAT 099, and EDE 100 — do not count towards graduation, the credits earned in them are used to determine good academic standing. (See page 78 of this catalog.)

A student who does not achieve the proper GPA may be subject to either Academic Probation or Academic Dismissal, as presented below.



<b>GRADING SYSTEM</b>		
<b>Grade</b>	<b>Interpretation</b>	<b>Grade Points Per Credit Hour</b>
<b>A</b>	<b>Superior attainment</b>	<b>4</b>
<b>B</b>	<b>Above average</b>	<b>3</b>
<b>C</b>	<b>Average</b>	<b>2</b>
<b>D</b>	<b>Below average; lowest passing grade</b>	<b>1</b>
<b>F</b>	<b>Failure</b>	<b>0</b>
<b><u>AU</u></b>	<b><u>Audit</u></b>	<b>Not calculated</b>
<b>I</b>	<b>Incomplete</b>	<b>Not calculated</b>
<b>IF</b>	<b>An Incomplete for which the work was not completed within a calendar year; computed in the Grade Point Average and not removable from a student's academic record</b>	<b>Not calculated</b>
<b>P</b>	<b>Passed</b>	<b>Not calculated</b>
<b>W</b>	<b>Official withdrawal from the university within the first six weeks of a semester (not counted in the GPA)</b>	<b>Not calculated</b>
<b>WP</b>	<b>Withdrawn passing after the first six weeks (not counted in the GPA)</b>	<b>Not calculated</b>
<b>WF</b>	<b>Withdrawn after six weeks with a grade of D or F (counted in the GPA)</b>	<b>0</b>
<b>WX</b>	<b>Administrative withdrawal from the university (not counted in the GPA)</b>	<b>Not calculated</b>
<b>UW</b>	<b>Unofficial withdrawal from a course which the student never attended or for which there is a verified registration error (not counted in the GPA)</b>	<b>Not calculated</b>

**CLASS STANDING**

The following credit hour ranges apply:

Freshmen	1-31 credits earned
Sophomores	32-63 credits earned
Juniors	64-95 credits earned
Seniors	96 or more credits earned

These class designations are based on credits *passed*, not on credits attempted. Although developmental courses — ENG 100, MAT 098, MAT 099, and EDE 100 — do not count towards graduation, the credits earned in them are used to determine class standing. (See page 78 of this catalog.)

Transfer credits may be counted only after an evaluation of official transcripts has been made by the appropriate dean.

### **Incomplete Grades**

1. The Incomplete is used when a professor is convinced the student can complete work or make up work which has been missed or is incomplete because of reasons acceptable to the professor. However, in all cases, the professor has the option of submitting a final grade based on work completed. The professor may refuse to accept late work. However, when appropriate explanation and documentation of an illness are given, professors will not penalize students if makeups are possible or if grading on work completed is reasonable. (See the sections on Class Attendance, page 45, and on the Health Services, page 67, in this catalog.)
2. An Incomplete (I) should be removed by special arrangement between the student and the professor within one calendar year after the receipt of the incomplete grade. (The student is not required to register for the course again.)
3. After the work has been completed, the professor will submit a Change of Grade form to the Academic Records Office.
4. After a lapse of one calendar year, the incomplete grade is converted to I-F. The I-F grade will be considered in the computation of the student's grade point average as an F grade. This I-F can be removed only when the course is repeated.
5. For a student who withdraws from the university immediately after incurring an I grade, if the Incomplete is not made up before one calendar year has passed, the Incomplete grade automatically becomes an I-F grade. Students who return to the university before a year has elapsed have nevertheless only one full year since the I was received to complete the work of the course.
6. If a student's name appears on a professor's grade roster in a course but that student never attended the class, no grade is assigned by the professor. In such cases, the grade of UW (unauthorized withdrawal) is assigned by the Dean for Enrollment Management and Academic Services.
7. Graduating seniors must resolve their Incomplete grades by the last day of classes of the term in which they intend to graduate. Otherwise, these Incompletes immediately become I-F's, and graduation may be correspondingly affected.

## Pass/Fail

In any course in which the grading is either P or F and the professor records a grade of A, B, or C, the grade is recorded as P. If the grade is recorded as D or F, the grade becomes an F. Grades of P are counted in the cumulative total of credits, but not in the student's grade point average. Grades of F in such courses carry no positive credit and are figured into the grade point average.

## Repeating a Course

You may repeat a course previously taken at this university. If you repeat a course, only the later grade (excluding grades of I) will be counted in your grade point average, although the original grade will remain on your transcript.

## Withdrawal from Courses

If you withdraw from a course before the end of the sixth week of a semester, no academic penalty is assessed.

If you withdraw from a course after the end of the sixth week, however, your professor will report the grade you were earning when you withdrew, and it will become a permanent part of your academic record, as follows. If you were earning a grade of A, B, or C, a grade of WP will be recorded, and it will not affect your grade point average. If you were earning a D or F, a grade of WF will be recorded, and the credits will be used to compute your grade point average. WP and WF grades are also used if you withdraw from the university within a semester.

You must officially withdraw from a course, using forms available at the Office of Academic Records. *Ceasing to attend class does not constitute official withdrawal.*

## Add/Drop

Class schedules may be changed during the add/drop period using the schedule adjustment forms. All schedule changes are governed by the following regulations in the Office of Academic Records.

1. All schedule changes must be approved by the student's advisor and College dean, as necessary.
2. Courses may be added: during the first two days of a semester; during the first day of a summer term; or, for any class (such as an evening class) which has not yet met for the first time, during the first week of classes.
3. Students may drop courses without academic penalty (i.e., no grade assigned): during the first six weeks of a semester; before the end of the second week of a five-week summer term; or before the end of the fourth week of a ten-week summer term.
4. After the deadline for dropping a course without academic penalty, students who drop a course or courses officially will receive WP or WF grades. Each professor will assign the appropriate grade and the College Dean will translate A, B, and C grades to WP, and D and F grades to WF.
5. No student is permitted to drop a course: during the last three weeks of a semester; during the last two weeks of a five-week summer term; or during the last three weeks of a ten-week summer term.



6. Leaving a course without officially dropping it in the Office of Academic Records may result in the assignment of an F grade by the professor. If the professor does not assign a grade, the designation of UW (unauthorized withdrawal) will be assigned by the Dean for Enrollment Management and Academic Services.

## Grade Reports

Within two weeks of the end of each semester or the summer sessions, a full grade report will be mailed to you at what you have recorded with the university as your permanent home address. For this reason, you should be certain the Dean for Enrollment Management and Academic Services has your correct permanent address.

In compliance with the Family Education Rights and Privacy Act of 1974, such grade reports are sent to you and not to your parents or guardian.

A grade report will not be sent if your academic records have been sealed for failure to pay your university fees in full.

## APPEALING A GRADE OR OTHER ACADEMIC DECISION

In appealing a grade, a student should first contact the professor who issued that grade to discuss the reason for the grade. If the student is not satisfied with the professor's explanation, the student should then contact the professor's department chairperson. This latter contact must be in writing and must be filed with the chairperson within thirty university calendar days after the beginning of the subsequent fall or spring semester following the term in which the grade in question was given. If accord is not reached at the chairperson level, the student may then appeal to the College dean. The final source of appeal is the Vice-president for Academic Affairs. This final step should be taken only if there is no possibility for a resolution at an earlier stage, and only if the student is convinced that arbitrary and/or capricious standards were applied.

In the case of other academic decisions, the student should follow the same appeal procedure insofar as possible. In matters relating to student conduct and discipline, the Vice-president for Student Development has authority to review appeals: see the section on University Conduct and Regulations, pages 70-71, in this catalog. In matters relating to financial aid, see the section on Financial Aid; in matters relating to teacher certification, see page 114 of this catalog.

It must be understood that it is not the policy of the administration to change a grade duly assigned by a professor. It is the policy of the administration and the faculty to provide students with an opportunity to voice their concerns on all matters, including grades.

## COLLEGE LEVEL EQUIVALENCY PROGRAM (CLEP)

The university offers the opportunity to earn undergraduate credit through the College Level Equivalency Program (CLEP), which has two testing categories, the General Examination and the Subject Examination.

The General Examination is a series of tests in five separate areas: English Composition, Natural Sciences, Mathematics, Humanities, and Social Sciences/History. A student may earn up to thirty credits by passing the appropriate tests in this area.

The Subject Examination comprehensively tests a single subject, such as General Psychology, Statistics, etc. A student who passes one of these examinations is awarded credit for a comparable course at the university.

The CLEP program is administered by the Office of Career Planning and Placement Services in the Learning Research Center. There is a fee of \$25.00 for evaluation of the CLEP results and recording the results on the student's transcripts.

(The university no longer grants credits for Life Experience.)

### CREDITS BY EXAMINATION

You may earn credit for certain courses by passing examinations in them. In order to do so, you must first obtain permission from the chairperson of the department that offers the course, and the Vice-president for Academic Affairs; you must register for the course and pay a fee separate from other tuition and registration fees. Only the grades of P (Pass) or F (Fail) will be recorded, and they will be further identified by the symbol CE.

### DEGREES: WHEN CONFERRED

Degrees are conferred in May (at the end of the spring semester), in August (at the end of the summer session), and in December (at the end of the fall semester); but Commencement is now held only once a year, in May. Students who graduate in August or December may participate in the Commencement exercises of the following May, but their diplomas and official university transcripts record their date of graduation as of the month and year in which their degree was conferred. Certain programs that require study at participating off-campus institutions may not conclude their academic year until after the May Commencement. Students in these programs graduate in August and therefore do not participate in Commencement until the following May.

A graduate of California University of Pennsylvania is a member of the class of that calendar year in which the degree was conferred. That is, if one graduated in May, August, or December of 1991, one is a member of the class of 1991. It is immaterial what year one may have attended Commencement.

### UNDERGRADUATE CREDIT FOR GRADUATE COURSE

Undergraduate students who have completed their course work in their major and related fields may enroll in graduate courses for undergraduate credit if they meet the necessary requirements for those courses. Individual departments determine the prerequisites for each course. Graduate status may be a prerequisite for admission to some courses.



## GRADUATE CREDIT LOAD FOR SENIORS

Undergraduates who are in their last term on campus and who are completing or have completed all the requirements for their undergraduate degree may enroll in graduate classes for graduate credit. They must fulfill all requirements for entrance into Graduate School (other than the undergraduate degree or teaching certification). Graduate credits that are used to fulfill undergraduate requirements may not also be used to fulfill requirements in a Master's program.

## GRADUATION REQUIREMENTS

Graduation requirements are the prerogative of the deans and their faculty. All requirements are subject to change as necessary and at any time.

Students should become acquainted with the graduation requirements for their programs. Students are responsible for meeting all graduation requirements and for submitting the required forms on time.

Compliance with the following general policies and procedures will help students prepare for graduation:

1. The period during which application for graduation must be made is posted throughout campus and printed in the *Schedule of Classes* and in the *California Times*. Students must apply for graduation in the appropriate dean's office by the deadline. Graduation will be delayed if this requirement is not met.
2. A minimum of 128 semester credits, including the satisfactory completion of all required courses, is necessary for graduation. Developmental courses — ENG 100 (English Language Skills), MAT 098 (Basic Mathematics), MAT 099 — (Introductory Algebra), and EDE 100 (Reading, Studying, and Listening Skills) do not count towards graduation, though the credits earned in them are used to determine class standing, grade point average, and eligibility for cocurricular activities.
3. An overall grade point average of 2.5 is required in the Teacher Education curricula. An overall grade point average of 2.0 is required in most curricula. Certain other curricula may require minimum grades in courses in a student's major.
4. In the College of Education and Human Services, candidates in teacher education programs must complete Student Teaching.
5. All bills must be paid in full before graduation can be approved.
6. Students in all curricula must complete a minimum of thirty credits of the last sixty credits at California University of Pennsylvania.
7. All credentials for graduation, including an application for a teaching certificate where appropriate and transcripts of credits from other institutions, must be submitted on time. Graduation will be delayed if a student's record is incomplete.
8. Attendance at the Commencement exercises is appropriate, unless unusual circumstances warrant graduation *in absentia*. Permission to graduate *in absentia* is granted by the President of the university, or his designee. Candidates for graduation are required to

contact the President's Office, or his designee's office, and request permission to be excused from the Commencement ceremony.

## Honors at Graduation

Commencement Honors are awarded to a limited number of students in the graduating class, according to the schedule below. A minimum of 64 earned credits at California University in a baccalaureate degree program is required to receive commencement honors.

Credits, grades, and quality points earned as part of a previously completed associate or first degree are not calculated for commencement honors designation.

Highest Honors (Summa Cum Laude)	3.75 to 4.0
High Honors (Magna Cum Laude)	3.50 to 3.74
Honors (Cum Laude)	3.25 to 3.49

## Semester Honors (Dean's List)

Full-time students are awarded honors (that is, placed on the Dean's List) on the basis of grade-point average at the end of each semester as follows:

Highest honors	3.75 to 4.0
High honors	3.50 to 3.74
Honors	3.25 to 3.49

These semester honors correspond to the grade-point averages required for graduation with honors.

## REGISTRATION

Specific instructions as to the conduct of each registration are announced to students in the *California Times* and in the separately published Schedules of Courses for the Fall, Spring, and Summer terms.

1. A student must be regularly admitted to the university before permission is granted to register. A written verification of official admission to the university is required for registration.
2. An official registration is contingent upon academic eligibility to register. (See: Probation; Dismissal.) If a registration has been completed in violation of this rule, it will be revoked.
3. Each student is required to register in person according to the registration schedule announced by the university.
4. Each student must comply with all registration procedures and complete the registration within the deadlines set by the university.
5. A registration is not complete until:
  - a. All required registration materials have been properly completed and turned in on time.
  - b. All university fees have been paid in full. Students who have preregistered but have had their schedules canceled for non-payment of fees may have their schedules reinstated before classes begin without payment of any further fee for late registration. Such reinstatement is contingent upon the payment of all fees.

However, if such students do not take advantage of this special period of reinstatement, they must register afresh, without guaranteed placement in the courses they originally chose, and are assessed a fee of \$15.00 for late registration.

6. Failure to register in the official manner may cause the registration to be canceled or the student billed for incorrect class registrations.

## DUAL MAJORS, SECOND MAJORS AND SECOND DEGREES

California University grants the following degrees: B.A.; B.S.; B.S. in Education; B.S.N.; and A.S. (All except the last are four-year, baccalaureate degrees.) These are referred to below as **degree areas**.

A careful distinction must be drawn between the following different objectives and opportunities and between the means to achieve them: (1) a Dual Major; (2) a Second Major; and (3) a Second Degree. These opportunities, as explained below, are the *only* ones offered: the university will, for example, award only one degree from any degree area. None of these opportunities should be confused with any certification programs, such as those in Teacher Education.

### 1. More than one major:

- (a) A *Dual Major* is the pursuit of two separate baccalaureate majors *simultaneously*. These majors may be in a single department or two departments, and each must be recorded in the appropriate dean's office. Courses from one major area may be used to satisfy requirements in the other major. Both majors are recorded on the transcript, but all requirements for each major must be satisfied before the degree is conferred, and only one degree is conferred.
- (b) A *Second Major* may be pursued only (a) after the completion of a baccalaureate degree and (b) in the same degree area as a first major. It does not lead to a second degree. The prospective student must apply through the Office of Admissions, register the intention of pursuing a Second Major, and fulfill any of the requirements of that Second Major that have not yet been satisfied.

2. A *Second Degree* may be pursued by any student (a) who has previously earned an associate or baccalaureate degree from any regionally accredited institution (including California University) or (b) who is currently pursuing a degree at California University. The second degree must be in a different degree area from the degree already earned or being pursued. A student who is not currently in a degree program at California University must apply for the second degree program through the Office of Admissions.

Transfer credits from other institutions and prior credits from California University of Pennsylvania may be used to satisfy requirements for the Second Degree. A

minimum of 30 credits must be taken in the Second Degree program by transfer students. A minimum of 158 credits must be accumulated whether the degrees are earned simultaneously or consecutively. All departmental, college, and university requirements for the Second Degree must be satisfied. The transcript records the Second Degree and the date of its completion. (The University will not award an associate degree to a student who holds a baccalaureate degree in the same area.)

Fee went up to \$2.00 in January 1982  
**TRANSCRIPTS** (1981-still in use)

Transcripts are issued by the Office of Academic Records, Room 103 in the Administration Building. Each transcript costs \$2.00, and payment must be received before the transcript is issued. Checks and money orders should be made payable to California University of Pennsylvania. All transcripts are issued according to the provisions of the Family Education Rights and Privacy Act of 1974 as amended: see also the section on Confidentiality of Records on pages 38-41 of this catalog.

A request for a transcript *must be made in writing*, to ensure that academic information is not improperly disclosed. Telephone requests for transcripts cannot be honored. The request may be made by completing a form in the Office of Academic Records or by writing a letter to that office indicating (a) the number of transcripts required, (b) the type of transcripts required (i.e., undergraduate, graduate, or both), and (c) the name and address of the person or institution that the transcript should be sent to. (Transcripts are issued to a third party on condition that the recipient will not permit any other party to have access to them without the written consent of the student.)

If a transcript is issued to a student, a notation to that effect appears on the transcript. Transcripts marked in this manner are sometimes not considered "official" when presented to a third party by the student.

Transcripts are issued as quickly as possible, but in busy periods of the academic year there is necessarily some delay. Requests should therefore be made well before the transcript is due elsewhere.

No transcript will be issued to a student whose financial obligations to the university have not been met in full.

## TRANSFER CREDITS

If you are a transfer student who has previously attended another college or university and you are now applying for admission to California University of Pennsylvania, you may receive credit for that work as explained in the section of this catalog dealing with Application and Admissions.

If you are already a student here and wish to take a course at some other college or university, you should get approval to do so from your advisor and from the dean of your college at California University before you register for and take that course.

To transfer credits to California University:

1. Take courses that can be used to satisfy university or major requirements.



2. Be sure to compare college catalog descriptions. Transfer credits are usually determined by their equivalency to California University courses.
3. Only courses in which a grade of C or better is earned will transfer.
4. Remember, *credits* transfer, but grades do not. Transfer credits cannot raise a quality point average; therefore, do not take repeat courses at another institution.
5. Courses taken at a community college, the equivalents of which are designated as upper-level courses at California, do not transfer.
6. To be certain of transferability, complete the appropriate transfer form, which may be obtained from the office of your dean.

*During Probation Semester must have*  
**PROBATION 2.00 or higher - they'll**  
*go on to 2nd probation.*

A freshman carrying fewer than twelve credits is subject to scholastic action at the end of the term in which the total number of credits attempted reaches or exceeds twelve.

Probationary action applies to upperclass students (excluding freshmen with fewer than twelve credits) regardless of the number of credits scheduled in the term. This rule also applies to part-time students.

A student who fails to meet the minimum cumulative grade point average for the appropriate class category is placed on academic probation. See page 47 above, Good Academic Standing.

Transfer credits that have been officially accepted are counted in determining the student's proper class category.

At the end of a probationary semester that classification will be removed if the student achieves the required minimum cumulative grade point average for the appropriate class category.

A student may be extended on continued probation beyond a single semester with a cumulative grade point average below the required minimum, provided that the grade point average for the probationary semester is at least 2.00. Before registering for a new term, students on extended probation must have their schedules approved by the dean of the College of the university in which they are enrolled.

### CHEATING AND PLAGIARISM

Truth and honesty are the subjects and the necessary prerequisites for all education. Consequently, students who attempt to improve their grades or class standing by cheating on examinations or plagiarism on papers may be penalized by disciplinary action ranging from a verbal reprimand to a failing grade in the course. If the situation appears to merit a more severe penalty, the professor may refer the matter to the appropriate dean or to the Vice-president for Academic Affairs, with a request for more formal disciplinary action by the university's Discipline Committee, which may result in suspension or expulsion from the university.

### **DISMISSAL FOR ACADEMIC REASONS**

The university reserves the right to refuse the privilege of further attendance to students who have failed to meet the minimum scholarship requirements. See the sections above on Good Academic Standing, page 47, and Probation, page 57, of this catalog.

If a student's cumulative grade point average remains below the required minimum after a probationary term, and the term grade point average is below 2.00, that student will be dismissed for at least one semester.

To apply for readmission after academic dismissal, see Readmission, below, page 60.

### **WITHDRAWAL FROM THE UNIVERSITY**

A student who decides to withdraw from the university during any academic term, regardless of the reason, is required to report to the Office of Academic Records and obtain withdrawal forms. After the completion of a withdrawal interview the student must obtain a clearance form from several offices of the university, including the Business Office. Upon receipt of the clearance form and review of the student's records and status, the Dean for Enrollment Management and Academic Services will certify as to the type of withdrawal.

If a withdrawal cannot be arranged in this way, the student must notify the Office of Academic Records by telephone or by letter immediately. All withdrawals are governed by the following regulations:

1. An honorable dismissal is granted to a student who withdraws from the university in the official manner, has met all financial obligations to the university, and has been properly cleared by the Dean for Enrollment Management and Academic Services.
2. If the student withdraws officially, a W grade is recorded for each course scheduled. A W grade carries no academic penalty and is not counted in the student's grade point average. For an official withdrawal from a five-week session, W grades will be recorded during the first two weeks only.
3. After the sixth week of the semester, a student who makes an official withdrawal receives WP or WF grades in all courses scheduled. Professors assign A, B, C, D, or F grades, and the Dean assigns WP grades to A, B, and C, and WF to D or F grades. For five-week courses the WP-WF grades are assigned after the end of the second week.
4. No student is permitted to withdraw officially from the university during the last three weeks of a semester or summer term.
5. Leaving the university without notifying the Office of Academic Records and making an official withdrawal may result in automatic failure for all courses scheduled. It also makes the student ineligible for any refund of fees, and may affect academic status and/or financial aid. Improper withdrawals of this type will be classified as "unauthorized withdrawal" and the designation "UW" used for all registered courses if another grade has not already been assigned by the professor.

**WITHDRAWALS: ADMINISTRATIVE**

Administrative withdrawals of students are initiated by university officials for compelling reasons given below. All such withdrawals are governed by the following regulations and procedures.

The university administration has the authority to withdraw a student from the university and to revoke that student's registration at any time for the following reasons:

1. Registration in violation of university regulations (e.g., academic ineligibility to register).
2. Failure of the student to comply with academic requirements (e.g., unsatisfactory class attendance).
3. Failure to pay university fees by the deadline.
4. Disciplinary suspension (or dismissal) for the remainder of an academic term or indefinitely.
5. Severe psychological or health problems such that the student cannot be permitted to continue in attendance.
6. Other reasons deemed appropriate by the proper administrative officer.

Except for academic ineligibility, the date of the administrative withdrawal is used to determine the amount of fees to be assessed or canceled. (In most cases, the regular fee assessment and refund policies of the university prevail.)

If a student registers in violation of the academic eligibility rule, the registration is declared invalid and the fees paid by the student are refunded in full. No grades are recorded.

**Policy for recording grades:**

For administrative withdrawals during the first six weeks of a semester (or two weeks in a five-week summer session), the grading symbol WX is recorded for all courses on the student's schedule. No other grades, including Incompletes, will be assigned.

After six weeks (or after two weeks in a summer session), the date of the administrative withdrawal and the reason for the withdrawal are considered in assigning grades.

1. For disciplinary suspension or dismissal, only WP or WF grades are recorded.
2. For psychological or health reasons, WX or I (Incomplete) grades are assigned. (Professors must consent to assigning Incompletes; otherwise, WX grades are recorded.)
3. For failure to pay fees, only WX grades are recorded.
4. The WX grade is not computed in the student's grade point average and therefore carries no academic penalty.
5. The Dean for Enrollment Management and Academic Services has the authority to backdate an administrative withdrawal if circumstances warrant such action.
6. Disciplinary suspensions or dismissal during a term is initiated by an appropriate authority in the Student Development Office and written notification is sent to the Office of Academic Records. The Dean for Enrollment Management and Academic Services then cancels the student's registration, notifies other administrative offices on a "need to know" basis, and informs the faculty members involved of the action taken.

## READMISSION TO THE UNIVERSITY

Students who wish to return to the university after an absence of three consecutive terms must apply for readmission to the office of the dean of the undergraduate college—Education and Human Services, Liberal Arts, or Science and Technology—in which they were last enrolled. Students who wish to change their major to a different curriculum in a different College of the university from that in which they were formerly enrolled must first be readmitted to the College in which they were formerly enrolled.

Students who have been dismissed for unsatisfactory academic performance will be considered for readmission only if they have satisfied the conditions for readmission that were stipulated at the time of their dismissal. Usually, students are not considered for readmission for a minimum of one semester.

In the case of suspensions or dismissals for disciplinary reasons, students must (a) satisfy the conditions for readmission that were stipulated at the time of their dismissal, and (b) receive permission from the Vice-president of Student Development to return to the university.

In all cases, applications for readmission should be submitted at least one month before the registration date for the term in which the student desires to enroll. If a readmission involves a change of curriculum, the student must apply to the Dean of that college of the university responsible for the new major.

No former student can be readmitted to the university until all past indebtedness has been paid.





## **STUDENT DEVELOPMENT AND SERVICES**

- The Student Association, Inc.**
- Student Congress**
- Residence Halls**
- Fraternities and Sororities**
- Intercollegiate Athletics**
- Health and Counseling Services**
- Services for the Disabled**
- Student Conduct**

## STUDENT DEVELOPMENT AND SERVICES

Inherent in the university's mission is a commitment to the total development of all students. The Office of Student Development, under the direction of the Vice-President for Student Development and Services, is administratively responsible for the implementation of this commitment. The central focus of the Student Development program, therefore, is the personalization of the university experience, with concern for not only individual intellectual development but for personal, social, and physical development as well.

Many of the services and opportunities provided by Student Development are described in other places in this catalog, especially in the section on General Information.

For additional information and regulations governing student life and conduct besides what is given below, students should refer to the current edition of the *Student Handbook*.

Student Development provides services to students in the following areas:

Athletics	Minority Affairs
Commuter Center	Recreation
Counseling Center	Residence Hall Programming
Dining Services	Student Association, Inc.
Disabled Services	Student Government
Discipline	Student/Parent Orientation
Drug/Alcohol Program (CHOICES)	Summer Camps
Fitness	Veterans Affairs
Health Center	Wellness/Awareness
Housing	Women's Center
International Students	

The principal administrative personnel responsible for the Student Development Program are:

Vice President for Student Development and Services  
 Dean of Students  
 Dean for Student Services  
 Dean of Student Life/University Judicial Officer  
 Associate Dean for Residence Life  
 Associate Dean for Housing/Conferences  
 Director, University Dining Services  
 Assistant Dean for Student Services  
 Associate Dean for Student Support Services/Social Equity Officer  
 Director, Center for Student Growth and Development  
 Director of Counseling Center  
 Coordinator, International Education  
 Coordinator, Veterans Affairs  
 Director, Drug and Alcohol Program (CHOICES)  
 Director of the Student Association, Inc.  
 Business Manager of the Student Association, Inc.

Director of Health Services  
Director of Athletics

### STUDENT ASSOCIATION, INC.

The Student Association, Inc. (SAI) is a non-profit corporation financed in part by the Student Association fee, which is paid each term by every student. The Executive Director is a university employee, who directs the affairs of SAI, and serves as the liaison between SAI and the university.

Programs provided by the Student Association are determined by the Student Congress and the Student Association Board of Directors. Student Association fees are collected, budgeted, appropriated, disbursed and accounted for by SAI with the concurrence of the president of the university.

SAI coordinates the co-curricular activities provided by the university, including Homecoming, the University Park, concerts, plays, musical production, movies, outdoor recreation, the Herron Recreation and Fitness Center, dances, picnics, TV Channel 29, WVCS Radio, and other special events. Intercollegiate athletics are also funded by SAI. In addition SAI coordinates the activities of student clubs and organizations. The *Student Handbook* provides a complete listing of active student clubs and organizations.

Publications coordinated by SAI include a monthly calendar of events, *The Student Handbook*, an organizational handbook, *The California Times* (the student newspaper), and a number of informative brochures.

SAI is responsible for the development and maintenance of the George H. Roadman University Park, an 87 acre area located one mile from California on Route 88 South. Facilities include tennis courts, practice football, baseball, soccer, rugby, and intramural fields, picnic areas, and Adamson Stadium.

### STUDENT CONGRESS

Student Congress is the official student governing body. It represents and serves the entire student population. It provides for a student forum, establishes channels for the communication of students' concerns to the proper administrative and faculty personnel, implements programs and activities that enrich campus life, and creates opportunities for students to exercise and to develop leadership skills.

### HOUSING

California University of Pennsylvania provides residence hall accommodations for approximately 1500 students in six separate residence facilities. Women's residence halls are Clyde and Stanley Halls, Men's residence halls are Johnson, Longanecker and McCloskey Halls. Men and women are accommodated on separate floors of Binns Hall.

The university does not supervise or maintain any off-campus housing. Lists of off-campus housing are available, through the Commuter Center, but the housing office does not approve or disapprove of such housing. Students are urged to take necessary precaution in seeking off-campus housing.

As a campus or town resident each student is extended courtesies and services extended to all residents of the Borough of California. Students in turn are expected to adhere to all ordinances and regulations enacted by the borough, and violations will be treated accordingly. Questions regarding off-campus housing should be directed to the Assistant Dean for Student Services, Room 134, Memorial Union building, (412) 938-4021.

### Application for Housing

Freshman students are urged to live in the university residence halls provided space is available. Freshmen and transfers who indicate the need for on-campus housing receive the appropriate application forms with their acceptance letter. On-campus housing is at a premium at California University and there are a limited number of spaces available. Students are encouraged to apply no later than May 1.

Upper-class students should contact the Housing Office, California Memorial Union, California University of Pennsylvania, California, PA 15419, if they wish on-campus residence hall accommodations. A limited number of spaces is reserved for returning residents each fall, and specific instructions for securing a space are distributed in the halls each March. If students meet required deadline submission dates, housing will be provided. The university retains the right to assign all students to certain residence halls, floors and roommates in the best interests of the university.

Housing contracts are for one academic year, September through May. This contract commits the student to university housing for both the Fall and Spring semesters. Contracting for a room for an academic year or Spring semester does not guarantee that housing will be provided in subsequent years.

### Room Deposit

An advance room deposit of \$100.00 is required with the contract in order to reserve a room for the following academic year. The deposit is held in the student's account and applied toward the Spring semester. First-year students who wish to reside in a residence hall will receive a housing contract with their Admissions Packet provided space is available. The contract and card must be signed and returned to the Revenue Office, California University of Pennsylvania, with the \$100.00 deposit.

Upper-class students are also required to pay the \$100.00 room deposit. They may obtain specific instructions on obtaining a housing contract from the Director of Housing, Student Development Office, Student Union. Schedules and deadlines for housing contracts are posted for each academic year. Withdrawal from the contract will result in partial or total forfeiture of the deposit. In addition, the student may be held liable for that semester's room and board charges.

## RESIDENCE LIFE

Each university residence hall is supervised by a staff that is headed by a residence hall director. California University employs five full-time residence hall directors who live in the residence halls. These professionals are readily available to students who may request direction or assistance. The residence hall director, with the assistance of graduate assistants and undergraduate resident assistants, has charge of the residence facility including programming activities. A detailed description of the university's Residence Life Program, residence facilities, and residence hall rules and regulations is included in the *Residence Hall Handbook*.

## EVENING TUTORING PROGRAM

In cooperation with the Academic Services department, an evening tutoring program is based in two of the residence halls. This program is available to all students. A detailed schedule of evening tutoring sites and hours is posted throughout the campus each semester. The residence hall directors and their staff provide assistance in selection of and scheduling appropriate tutors.

## DINING SERVICES

California University offers a dining services program which allows students to choose the time, place and service they prefer. All who reside in a university residence hall are required to accept assignment to the board program. The program entitles students to 14 meals per week at the various dining facilities, as well as a \$100 per term Flex Fund Account. Off-campus and commuter students may enroll for the 14-meal board plan or one of the other meal plans available for non-resident students. The assignment is for one full semester and may not be terminated. Flex dollars are included in each plan and are non-refundable other than upon complete withdrawal from the university during the term. Specific questions and a detailed brochure may be obtained from the Director of University Dining Services, Student Union Building, 938-4443.

## INTERCOLLEGIATE ATHLETICS

The university sponsors a comprehensive athletic program for both men and women. The athletic program is regulated by the policies of the Athletic Council and administered by the Director of Athletics, Dr. Tom Pucci. It is governed by the Office of Student Development with the Dean of Students as the senior administrative officer.

Fourteen varsity sports are available to students: for men, baseball (coached by Chuck Gismondi), basketball (Jim Boone), cross-country, football (Jeff Petrucci), soccer (Dennis Laskey), track and field (Jack Henck), and wrestling (Robin Ersland); for women, basketball

(Paul Flores), cross-country, softball (Linda Kalafatis), tennis (Richard Saccani), track and field (Jack Henck), volleyball (Jing Pu) and soccer (Dennis Laskey). There are numerous assistant coaches and graduate assistants. The training staff includes the members of the Department of Sports Medicine. Academic progress of varsity athletes is carefully monitored.

Students who desire to participate in intercollegiate athletics must meet the academic standards of California University, PSAC, ECAC, and NCAA. Specific requirements may be obtained from California University's Athletic Director, the Chairperson of the Athletic Council, or the Dean for Enrollment Management and Academic Services.

### SOCIAL FRATERNITIES AND SORORITIES

Local fraternities and sororities function under the control of their respective councils, the Interfraternity Council and the Panhellenic Council. These organizations are subject to university authority and regulations. The following social fraternities and sororities are represented at California:

#### FRATERNITIES

Alpha Kappa Lambda	AKΓ
Alpha Phi Alpha	ΑΦΑ
Delta Chi	ΔΧ
Delta Sigma Phi	ΔΣΦ
Kappa Alpha Psi	ΚΑΨ
Phi Beta Sigma	ΦΒΣ
Phi Kappa Theta	ΦΚΘ
Phi Mu Delta	ΦΜΔ
Phi Kappa Sigma	ΦΚΣ
Omega Psi Phi	ΩΨΦ
Sigma Tau Gamma	ΣΤΓ
Theta Xi	ΘΧ
Acacia	

#### SORORITIES

Alpha Kappa Alpha	ΑΚΑ
Alpha Sigma Tau	ΑΣΤ
Delta Sigma Theta	ΔΣΘ
Delta Zeta	ΔΖ
Sigma Kappa	ΣΚ
Sigma Sigma Sigma	ΣΣΣ

### HEALTH SERVICES

The mission of the University Health Services is to provide high quality health care for our students; to direct our students to other health care providers when appropriate; to provide emergency care for all members of the university community; to promote the holistic concept of a healthful life for the university community; to address the specific health needs of those members of the student population with special problems; and to conceive, develop and implement relevant health education programs for the university community.

The Downey-Garofalo Health Center is open 24 hours a day, seven days a week while the university is in session. A staff of full-time registered nurses is on duty at all hours.

A qualified physician is on duty for four hours a day, Monday through Friday, during specified hours.

University health services are available to all registered undergraduate and graduate students. Employees, both faculty and staff, conference participants, visiting athletes and other visitors will be given emergency treatment if such an emergency occurs on the university campus. For the most part, the Health Center is an out-patient facility. However, from time to time, emergencies may be accommodated overnight. In some cases, short-time confinement of students coming from homes located a great distance from the university is also approved. The university physician will determine when a student should return home for treatment and recovery. He will also refer students to local hospitals in emergencies and for other treatment beyond the capabilities of the Health Center. In cases of emergency, Mon Valley Hospital will generally be used for primary care. The final decision in hospital selection is the student's.

### MEDICAL ABSENCES

Students unable to attend classes because of illness should contact their professors, explain their absences, and arrange completion of any work that may have been missed. The Health Center does not issue medical excuses, but will send written notification to professors only in the following circumstances, provided that the student must initiate the request:

- (1) If a student consults a health care professional at the Health Center, and the health care professional determines that the student has or had sufficient medical reason not to attend class (or to fulfill other academic obligations), notification will be sent to the student's professors but only if the student makes a request at that time.
- (2) If a student has consulted a private physician, who has determined that the student has or had sufficient medical reason not to attend class (or to fulfill other academic obligations), and the physician notifies the Health Center to that effect in writing, notification to this effect will be sent to the student's professors.
- (3) If a student is confined for longer treatment or care at the infirmary section of the Health Center, verification of the confinement will be sent to the student's professors. If a student is hospitalized elsewhere or requires extended recovery with bed rest, written notification should be sent from the attending physician to the Health Center, which will notify the student's professors.

Upon notification from the Health Center or any other health care professional, the professor may decide whether to consider the notification as a valid excuse from class or other academic obligations.

A professor may call the Nurse Supervisor of the Health Center for verification of a student's visit, but a visit can be verified only if a student was actually seen by a health professional.

The delivery of high quality health care is the heart of the Health Center. Our personal convictions and our legal obligations insure that all areas of the Health Center are under strict rules of confidentiality. Medical information will be released by your written consent,



by a properly executed subpoena, and to appropriate university offices in an emergency if knowledge of the information is necessary to protect the health and safety of the student and other individuals.

## COUNSELING AND PSYCHOLOGICAL SERVICES

The Counseling Center staff provides personal, social, psychological and career choice services to students with problems that interfere with their adjustment and effective educational performance while at the university.

If you are having trouble understanding your feelings, maintaining satisfactory social and interpersonal relationships, or coping with academic demands, it may be beneficial to see a counselor, social worker or psychologist at the Counseling Center.

You can call the Center at 938-4191, or contact the receptionist in the Center's office in the Downey-Garofalo Health Center for an appointment with a licensed psychologist, or counselor. You can make the appointment yourself or be referred by a professor, fellow student, staff person or management personnel.

You can talk to a counselor in private with assurance that the discussion will remain confidential. Most appointments are of an individual nature, but special interest groups can be organized. The special interest groups may meet on a weekly basis dealing with stress, test anxiety, self-disclosure, interpersonal relationships, parents, occupational choice, depression, sex or other topics of interest to all members in the group.

In addition, interest, intelligence, aptitude and personality tests and questionnaires may be used to gather more information about yourself. Through counseling you will learn how to interpret this information and make better choices in university life.

The professional counselors have extended their services by developing a strong referral system locally on campus and off campus. Referrals can be made to any department or office on campus for financial aid, student work-study programs, tutoring, academic advising, and other matters. Further, there is a close liaison with the Student Development Office, residence directors in the residence halls, the Health Center, the Speech and Hearing Clinic, the Rehabilitation Office, the Veterans Affairs Office, the Women's Center, the Campus Ministry, and other divisions of the university.

A formal agreement has been entered into by and between Southwestern Pennsylvania Human Services, INC. (SPHS) and California University of Pennsylvania to provide diversified counseling services.

Under this agreement SPHS and its affiliated corporations provide certain rehabilitative and therapeutic treatment services to students and employees of California University upon referral to the agencies by the university, its agents and associates or the students or employees themselves. These services include drug and alcohol assessment and treatment, mental health services, and primary health care services. Also, other health and social services which are requested by the university and are within the scope of SPHS and its affiliates may be provided. For further information on the drug and alcohol program on campus, see the section on CHOICES on the page following.

Please call 938-4191 or drop in at the Health Center. Office hours: 8:00 a.m. to 4:00 p.m. daily, Monday through Friday. Weekend and evening sessions are by appointment.



## CHOICES

CHOICES is the drug and alcohol education and prevention program on campus. Its office is in the Downey-Garofalo Health Center. It is one approach by California University of Pennsylvania to provide a drug free community. CHOICES provides programs for the University and surrounding communities aimed at increasing awareness of alcohol and drug related issues. These programs include consultation, counseling, education, self-development, substance-free activities, and support groups for co-dependency and Adult Children of Alcoholics.

CHOICES is made up of three primary components: the Consortium, BACCHUS, and the Assessment and Intervention Program. Each of these is an integral member of the program's development and expansion within the campus community.

The Consortium is a combined effort by California and eight neighboring universities to provide a forum for discussion of relevant and current issues in drug and alcohol prevention and education as well as the sharing of developmental programming ideas. The Consortium offers both our campus and other universities access to a resource library consisting of videos, books, pamphlets, and other information related to drug and alcohol use and abuse.

BACCHUS (Boost Alcohol Consciousness Concerning the Health of University Students) is a student organization developed under the guidance of advisors from the office. BACCHUS strives to help individuals explore their attitudes and behavior regarding alcohol and drug use. BACCHUS is an educational component focusing on self-responsibility and conscientious decision making.

The final element in the programming is the Assessment and Intervention component. This program is designed to assist those whose behavior may be harmful to themselves or others because of alcohol or drug abuse. Through this program offers an opportunity for students to learn facts and to dispel myths concerning the use of alcohol and other drugs. Through group interaction activities students gain a sense of self and the impact their actions have on others.

CHOICES knows that decisions about life can be tough at times. Learning about alcohol and other drug related issues may help you make positive and responsible choices.

## SERVICES FOR STUDENTS WITH DISABILITIES

Disabled students are provided an equal opportunity to participate in student services and activities conducted by this university. No qualified disabled student is, on the basis of disability, excluded from participation in, denied the benefits of, and or otherwise subjected to discrimination under any academic, research, occupational training, housing, health, insurance, counseling, financial aid, physical education, athletics, recreation, transportation, other extracurricular, or other post-secondary program or activity offered or sponsored by this university.

University programs and facilities are accessible to the disabled, and special needs of disabled students are recognized. The Disabled Student Service Office in Room 114, Clyde

Hall, provides individualized assistance to those in need. Information on disabled students services may be obtained through the Coordinator, Services for Student with Disabilities.

Students in need of attendant services should contact the coordinator at the earliest practicable date.

### **Learning Disabled Students**

On the special program — CARE — for learning disabled students, see pages 26-28 in this catalog.

### **Parking for Disabled Students**

Numerous parking spaces have been reserved for the exclusive use of disabled persons who have mobility or other physical problems. These spaces are reserved for such use at all times.

Disabled persons who require special parking privileges must apply for a special temporary/permanent parking permit at the Office of Public Safety.

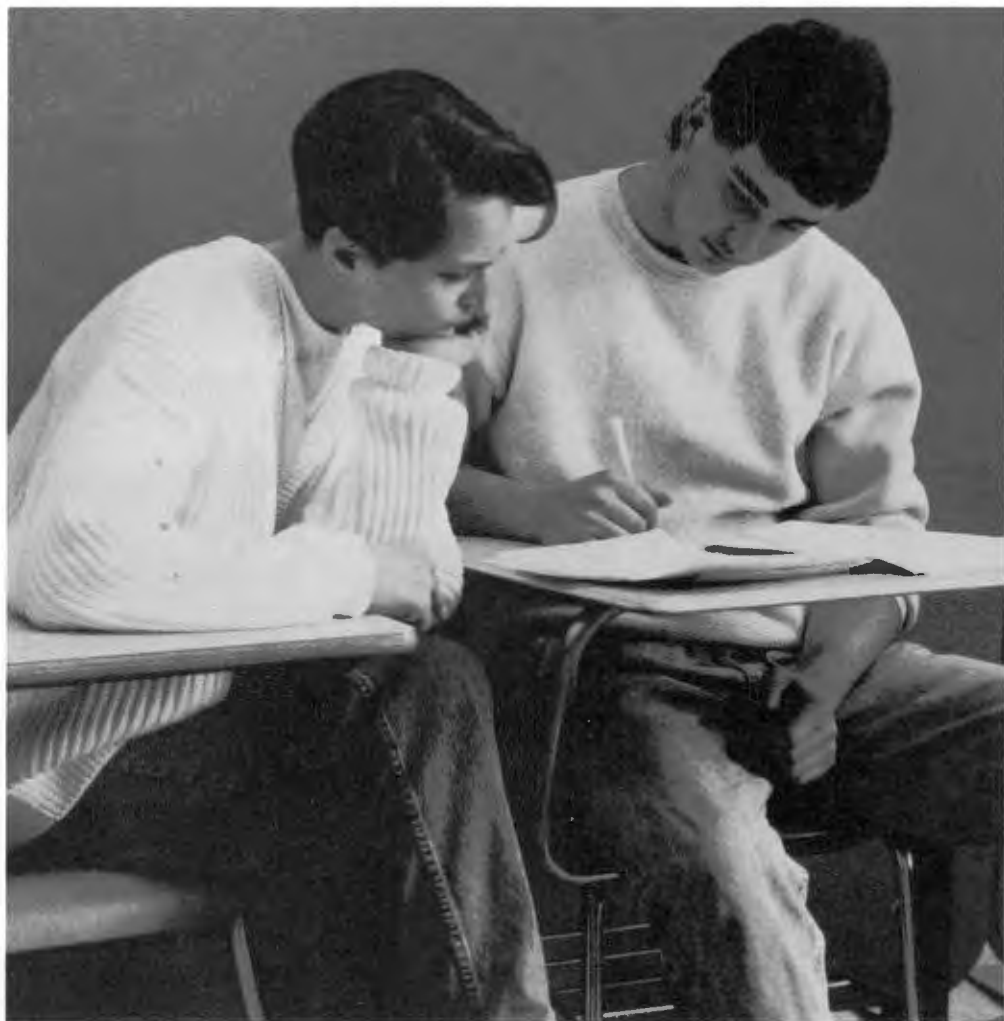
## **STUDENT REGULATIONS**

Students are adults and are expected to take personal responsibility for their own conduct. The university will react appropriately to incidents as they occur off campus.

1. The possession or use of alcoholic beverages or drugs on university property is prohibited. Students are reminded that Pennsylvania law prohibits the use or possession of alcoholic beverages by those under twenty-one years of age. See the section on alcohol and drug use — CHOICES — on page 69 of this catalog.
2. Gambling in any form is prohibited on campus and in university owned and supervised buildings.
3. Matriculation and identification cards are for personal use only. They are valid only for the term in which the student is enrolled. Falsification of these cards or the transfer of one to another person is strictly prohibited. These restrictions also apply to dining hall cards.
4. Students and student organizations are not permitted to make any purchases in the name of the university or the Student Association, Inc., without written authorization of the proper officers. Those who fail to comply with this regulation are personally liable for payment of those items purchased.
5. Men and women students may not visit each other in their residence hall rooms except during hours when visitation is permitted. Visitation hours are posted in each residence hall. Any exception to these hours must be authorized by the residence hall director.
6. The possession or use of firearms, firecrackers, or other explosives on campus or in student living quarters is prohibited.
7. Tampering with fire equipment and setting off a false alarm are prohibited.
8. Unlawful entry to any university building and the theft or destruction of any university property are prohibited.
9. Students who participate in any demonstration which is disorderly, riotous, destructive and disruptive are subject to legal action by the Commonwealth, the local government, and the university. Disciplinary action may also be taken by the university.

10. A notice requesting a student to report to a professor or an administrative official has priority over any other activity and requires compliance on the date, day and time indicated. Should a conflict arise, the student must contact the professor or administrative official before that date, day and time indicated to arrange rescheduling of the conference.
11. Any person on university premises or in buildings supervised by the university is required to produce identification upon the request of a professor, administrative official, or employee of the Campus Safety force.
12. Any student who possesses, sells or uses any drug or medicine including narcotics, the issuance of which is not controlled by prescription, is subject to disciplinary action by the university and legal action by the civil authorities.
13. The university has a strict policy concerning solicitation by groups or individuals on campus. Permission must be obtained from the Vice-President for Student Development for any group or individual to sell items on campus.
14. **THE UNIVERSITY WILL TOLERATE NO VIOLATION OF THE FOLLOWING HAZING REGULATIONS.** The term hazing shall include, but not be limited to, any brutality of a physical nature, such as whipping, beating, branding, forced calisthenics, exposure to the elements, forced consumption of any food, liquor, drug or other substance, or any other forced physical activity which could adversely affect the physical health and safety of the individual, and shall include any activity which would subject the individual to extreme mental contact, forced conduct which could result in extreme embarrassment, or any other forced activity which could adversely affect the mental health or dignity of the individual. Willingness of an individual to participate does not relieve an organization of responsibility for the act. The university has the following options in cases where groups or individuals are found guilty of hazing: fines, withholding of diplomas or transcripts, probation, suspension, or dismissal.





## **APPLICATION AND ADMISSION**

## APPLICATION AND ADMISSION

Requests for applications and all correspondence concerning admissions should be directed to the Dean for Enrollment Management and Academic Services. Applicants are encouraged to write or call for an appointment to visit the University. The address of the Admissions Office is 250 University Avenue, California, PA, 15419-1394; the telephone number is (412) 938-4404. All applications are individually evaluated. As soon as applications are complete, a decision is reached and applicants notified. Every attempt is made to complete this process within two weeks.

## GENERAL ENTRANCE REQUIREMENTS

Admission standards have been established by the University to select those students who will be most likely to succeed in the various programs of the University.

1. **General Scholarship.** An applicant for admission must be a graduate of an approved or accredited secondary school or have an equivalent preparation as determined by any state's Department of Education.
2. **Aptitude and Ability Standards.** An ability to do work in higher education should be evident from an aptitude examination such as the Scholastic Aptitude Test (SAT). In certain instances, other kinds of evidence may be used to determine the ability to do such work.
3. **Character and Personality.** Applicants must be able to demonstrate that they possess the personality traits, interests, attitudes, and personal characteristics necessary for an advanced education.
4. **Admission to Special Curricula.** A student seeking admission to a special curriculum may be required to take an appropriate aptitude test in the special program or have earned specific credentials.

## EVALUATION OF STUDENT APPLICATIONS

Many variables are taken into consideration in reviewing applications for admission. The admissions committee weighs as many of the following as possible: class rank, cumulative grade point average, type of curriculum completed in relationship to the proposed major, guidance counselor or another recommendation, on-campus interview, standardized test scores, activities, and maturity.

<b>SPECIFIC ENTRANCE REQUIREMENTS</b>
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**A. Freshmen**

Students attending a post-secondary institution for the first time are considered new freshmen. All students in this classification must submit a completed application, application fee, high school transcript, and GED certificate (if applicable). Results from the Scholastic Aptitude Test (SAT) or the American College Test (ACT) must be sent, if available. These test results are beneficial to students and advisors as programs are individually tailored.

**B. Transfers**

Students who wish to transfer to this university must submit a formal application, application fee, and official transcripts from all institutions attended after secondary school. Students must be in good academic and social standing at the last institution attended in order to qualify for admission to the university for the following semester. In cases where students have been out of school for at least one semester, special consideration will be given.

If a degree has not been earned beyond high school, applicants must also submit the high school transcript, including the results of all standardized test scores.

See pages 79-80 below in this section of this catalog for information about how transfer credits are evaluated. Transfer credits are not evaluated before application for admission has been made.

**C. Transients**

Students who wish to enroll at California with the expectation of transferring credits to their home institution and do not wish to receive a degree from California University of Pennsylvania are classified as transients.

Students must submit a letter or form from the home institution with appropriate authorization. The document must list those courses which are approved for registration. Transcripts are not required.

A formal application with application fee must be submitted. An appropriate approval letter with courses listed must be submitted for each semester for which transient status is requested. In all cases, admission is granted for the approved semester only.

**D. Early Admission for High-School Students**

High school students may be eligible for admission to California University of Pennsylvania provided the following requirements have been met.

- a. The student must complete the application for admission form and pay the application fee.
- b. The applicant must have completed the sophomore year of high school and be enrolled in a college preparatory curriculum.
- c. An early admission clearance form must be completed with all necessary signatures affixed.



- d. The student's high school transcript must be submitted and reflect a cumulative grade point average of 3.00 for the past two years. (For up-coming juniors, ninth- and tenth-grade averages will be used.)
- e. The student's status will be classified as provisional for each session while still in high school.
- f. The student must submit a completed early admission clearance form and a transcript for each session that enrollment at California University is desired.
- g. At the completion of the student's high school program a second application must be submitted with the final high school transcript. A second application fee is not required. At this time the student will be in a degree program.

#### **E. Graduates of California University**

Post-associate and post-baccalaureate students who have graduated from California University must re-apply (with application fee) to the Admissions Office.

#### **F. Other Post-Baccalaureate Students**

Students who have not graduated from California University of Pennsylvania and want to enroll in undergraduate programs must file an official application, application fee, and the official transcript from the institution granting the baccalaureate degree with the Admissions Office.

#### **G. International Students**

International students are required to submit an application for admission to California University of Pennsylvania. In all cases, a special international student application must be completed. All transcripts, a statement of financial support, and letters of recommendation must be submitted. Assuming that all records indicate that an international student will be successful, final admission is contingent upon acceptable clearance from the education authorities of the home country and from the Department of Justice, Immigration and Naturalization Service, of the United States.

Applicants from foreign countries must have competency in the use of the English language as demonstrated through the Test of English as a Foreign Language (TOEFL) examination.

International students must subscribe to the insurance plan of California University. For identification purposes, international students should obtain a United States Social Security number.

#### **H. Special Students**

Students who have completed all secondary school requirements may take courses at the university without being a candidate for a degree. Special students must submit a completed formal application, application fee, and all appropriate transcripts.

For special students, all regulations and fees are the same as for degree students.

**I. Veterans**

Veterans of the United States armed forces who have not attended an institution of higher education since their honorable discharge are unconditionally admissible to California University.

**STUDENT CREDENTIALS**

All credentials presented in support of an application for admission become the property of the university and cannot be returned to the student. The complete file will be retained according to the provision of University policy and the Family Rights and Privacy Act of 1974, as amended.

All information filed in support of the application must be complete and authentic. Any false information may be used as grounds for denial or dismissal.

**SPECIAL OPPORTUNITIES**

California University has shown that some students can succeed and even excel when given individual attention. Our university provides an environment where students are known as individuals and receive additional help from faculty, administrators, and students. In addition to the standard support services, California University of Pennsylvania offers a Department of Academic Development Services, which provides tutoring and counseling for all age groups. See the section on that department, on page 121 in this catalog.

Academically and financially needy students may be eligible for special state and federal programs as administered through Academic Development Services, which provides tutoring and counseling for all age groups.

**CARE: PROGRAMS FOR THE LEARNING DISABLED**

For information about special programs for the learning disabled — both high-school and undergraduate students — see the section on CARE in the General Information section of this catalog, pages 26-28 above.

**DEVELOPMENTAL COURSES**

All entering students (including transfer students but excluding those in the Nursing curriculum or those who have already earned an associate or higher degree) must, before their first registration at California, take three tests to determine their levels of competency and placement in mathematics, English composition, and reading. Students who do not achieve certain predetermined scores on these tests must enroll in the appropriate

developmental courses<sup>1</sup> and make use of the appropriate Learning Centers in Mathematics, Writing, or Reading. These courses are ENG 100 (English Language Skills), MAT 098 (Basic Mathematics) and MAT 099 (Introductory Algebra), and EDE 100 (Reading, Studying, and Listening Skills), which are all described in the course listings in this catalog. For information on the Learning Centers, see the General Information section of this catalog, pages 25-26 above.

Because these developmental courses are preparatory to a university academic experience, the credits awarded in them *do not count* toward the fulfillment of the number of credits for graduation; nor may they be used in fulfillment of General Education requirements or academic major requirements. However, the *grades* achieved in these courses are used in the establishment of the grade point average, of class standing, of eligibility for financial aid, and of eligibility for participation in co-curricular activities.

This policy on developmental courses does not affect the transfer of all appropriate credits from other institutions.

### READMISSION

For readmission after an absence from the university see page 60 in this catalog.

### SOCIAL SECURITY NUMBERS

Social Security numbers, which serve as the permanent student identification number, must be entered on the application for admission. Students who do not have a social security number should obtain one.

### PENNSYLVANIA RESIDENCY

Residency is determined at the time of admission. Change of residency may only occur by appealing to the Residency Appeals Committee. For further information, contact the office of the Vice-President for Academic Affairs after admission and prior to registration.

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<sup>1</sup>However, transfer students who (a) have not already earned an associate or higher degree and who (b) have completed the equivalent of English 101 or a college-level course in mathematics with grades of C or better at another institution but (c) whose diagnostic test scores indicate that they should take the appropriate developmental courses are not required to repeat those courses or to take the developmental courses at this university. Nevertheless, such students are strongly urged to take the developmental courses and to take the opportunity for additional help provided by the Mathematics, Reading, and Writing Centers.

**ADVANCED PLACEMENT CREDIT**

A student who has taken Advanced Placement examinations under the auspices of the College Board may receive credit for them at California, provided the score is 3.00 or higher.

**TRANSFER CREDIT EVALUATION**

1. Prior to receiving a transcript evaluation, students must first make formal application to the University through the Admissions Office, submitting all transcripts and the required application fee. University officials are not permitted to evaluate transfer credits provisionally.
2. For credit towards the Bachelor's degree, a maximum of 75 credits may be transferred to California from two-year community or junior colleges, 98 credits from four-year colleges or universities, or 98 credits from a combination of two-year and four-year colleges and universities. No more than fifteen credits towards an Associate degree may be transferred to California University.
3. Courses taken at another school under a Pass/Fail option will be transferred under the conditions of California's Pass/Fail policy.
4. Developmental courses are not transferable.
5. Grades of D are not transferable unless they are counted as part of an associate degree granted at a public institution or a community college.
6. Courses are considered for transfer to California in the following order:
  - (a) Courses for which the grade earned was A, B, or C;
  - (b) Courses for which a Pass grade was given;
  - (c) Courses for which the student received a D grade as part of an earned degree.
7. No courses for which a D grade was received will be transferred after a total of 64 credits has been transferred.
8. When credits are transferred, only the *credits* are counted as advanced standing; the grade point average of transfer courses is not calculated with California University earned courses.

Although credits will always transfer according to these provisions, regulations that govern the national professional accreditation of certain programs offered at California University of Pennsylvania may sometimes not permit some courses taken in programs not similarly accredited at other two- and four-year institutions to be transferred as the **equivalents** of courses that may be similarly entitled or described in this catalog.

### **Community College Graduates: Special Provisions**

The University subscribes to the Articulation and Transferability Agreement between the State System of Higher Education and Community Colleges. This agreement applies to transferability of credits from Middle States or other regionally approved two-year and junior colleges. The details of this agreement are:

1. Since completion of an associate degree demonstrates a student's motivation to complete a baccalaureate degree, preference for admission will be given to applicants who have completed the associate degree.
2. A transfer student who has completed a two-year degree program should normally expect to complete a baccalaureate program in two additional years. In certain specialized programs of the receiving institution, however, a longer period may be necessary for majors in these programs.
3. The D grade obtained by two-year college students is treated by the senior institution in the same manner as the senior institution treats the D's of its indigenous students. Placement of the D grade on the program distribution sheet may vary from program to program.
4. Secondary school transcripts as well as test scores are considered as a guidance tool and not a determinant of transfer to the four-year institution. The awarding of the associate degree is considered to have satisfied the high school graduation requirements.

### **VETERANS: COURSE CREDIT FOR MILITARY SERVICE**

Veterans may be awarded credit for their military training and military schools. All veterans, reservists, and National Guard members who have been honorably discharged (or honorably discharged from active duty) may be eligible for credits. Credits are awarded only in the category of Free Electives. Each veteran or reservist seeking such an award must submit a copy of DD 214 to the Director of Veterans Affairs. Army veterans who entered the army after October 1, 1981, should submit an A.A.R.T.S. transcript; Air Force veterans who served after 1974 should submit a C.C.A.F. transcript. Evaluations based on the latest American Council of Education Guides will be forwarded to the appropriate Dean for approval.

### **ATTRITION**

Information relating to the retention/attrition of students at the University can be obtained through the office of the Vice-President for Academic Affairs. Generally, more than one-half of students who matriculate as baccalaureate students will graduate. Information on this subject may be obtained through an individual appointment with the Vice-President for Academic Affairs.

## **FEEES AND EXPENSES**

<b>BASIC FEE (TUITION)*</b>
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The basic fee (tuition) covers the cost of instruction, registration, the keeping of student records and library services.

*Full-time students:* For full-time students (scheduled for 12-18 credits) who are residents of the Commonwealth of Pennsylvania,\*\* the basic fee is \$1,314 a semester. An additional \$110 per credit is charged for credits scheduled in excess of 18.

*Part-time students:* Part-time students (scheduling 11 credits or fewer) who are residents of the Commonwealth are charged \$110 per credit.

*Out-of-State students:* For full-time students (scheduling 12-18 credits) who are not residents of the Commonwealth of Pennsylvania,\*\* the basic fee is \$2,446 a semester. An additional \$204 per credit is charged for credits scheduled in excess of 18.

*Out-of-State, part-time students:* Part-time students who are not residents of the Commonwealth are charged \$204 per credit.

<b>OTHER FEES</b>
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### Student Union Building Fee Schedule

<i>Spring 1992, Summer 1992</i>
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#### Seniors

Full-Time	12 credits or more	\$ 10.00
Part-Time	6 to 11 credits	5.00
Part-Time	1 to 5 credits	2.50

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**\*ALL FEES ARE SUBJECT TO CHANGE.** *The amounts shown for the basic fee (tuition) is in effect for the 1991-1992 academic year. Please contact the Revenue Office for current fee information.*

**\*\*An in-state student is defined as one who is a bona fide resident of and domiciled within the State of Pennsylvania for a reasonable period, not less than one year, immediately preceding the student's registration for a term or semester in any Commonwealth-supported college or university in the Commonwealth of Pennsylvania. Minors are generally presumed to be a resident of the place of their parents' or guardian's domicile.**

*The establishment of domicile is primarily a matter of continued residence and intention. Generally, Pennsylvania domicile is considered to be established upon the completion of at least 12 months of continuous residence within the State at the time of registration for courses.*



**Juniors**

Full-Time	12 credits or more	\$ 40
Part-Time	6 to 11 credits	20
Part-Time	1 to 5 credits	10

**Sophomores and Freshmen**

Full-Time	12 credits or more	\$ 75
Part-Time	6 to 11 credits	38
Part-Time	1 to 5 credits	19

*Fall 1992, Spring 1993, Summer 1993*

**Undergraduates**

Full-Time	12 credits or more	\$ 75
Part-Time	6 to 11 credits	38
Part-Time	1 to 5 credits	19

This fee is not refundable.

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**University Service Fee**

9 or more credits	\$ 75
1-8 credits	40

This fee is not refundable except for academic dismissal or administrative action to revoke a registration.

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**Student Association Fee**

All students are charged an activity fee according to their academic status as follows:

12 or more credits	\$100
6-11 credits	46
1-5 credits	24

This fee is refundable through the Office of Student Association, Inc.

**Room and Board Charges**

The cost for living in a university residence hall is \$800 per semester for a double room. (Most rooms are doubles.) The cost of meals is \$800 per semester for 14 meals a week, or \$580 for 10 meals a week, or \$430 for 7 meals a week.

**Advance Deposit**

All first-year students, including transfers and readmitted students are required to submit a \$75 advance deposit payable to California University of Pennsylvania. This fee may be mailed or hand delivered to the Revenue Office, Administration Building, California University of Pennsylvania. It is to be paid in advance of registration and is credited to the student's account for the first semester.

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**Room Deposit**

An advance room deposit of \$100, held in the student's account and applied toward the spring semester, is required in order to reserve a room for the following academic year. First-year students who wish to reside in a residence hall will receive a housing contract with their Admissions Packet. The contract and card must be signed and returned to the Revenue Office, California University of Pennsylvania, with the \$100 deposit.

Upper-class students are also required to pay the \$100 room deposit. They should obtain their housing contracts from the Director of Housing, Student Development Office, Student Union Building. Schedules and deadlines for housing contracts are posted for each academic year. Withdrawal from the contract will result in partial or total forfeiture of the deposit. In addition, the student may be held liable for room and board charges for that semester.

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**Late payment fee**

A \$15 fee is charged when a student fails to pay fees during the registration period or by the date established in an approved deferment plan.

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**Dishonored check charge**

Students making checks payable to California University of Pennsylvania which are not acceptable to the bank because of insufficient funds are charged \$15 for each such check. The original amount plus the \$15 charge must be paid by money order or certified bank draft. Personal checks will not be accepted. The Student Association, Inc. charges \$12 for dishonored checks.

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**Damage charges**

Students are held responsible for the cost of damage, breakage, or loss and/or the return of University property.

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**Degree fee**

A fee of \$10 must be paid by each candidate for a degree from California University of Pennsylvania. A student is not permitted to complete graduation from the University until this fee has been paid. The fee is payable when the student has been notified of clearance for graduation.

**CLEP Fee**

A one-time fee of \$25 is charged for the administration and recording of CLEP (College Level Equivalency Program) credits regardless of the number of credits awarded.

**Co-operative Education Fee**

A one-time fee of \$25 is charged for the recording of Co-operative Education experiences, at the time when the student wishes to have them recorded on the official transcript.

**PAYMENT OF BILLS**

All fees are assessed at the time of registration. Payment may be made by cash, check, money order, or certified bank draft made payable to California University of Pennsylvania, or by VISA or MasterCard. No personal check will be accepted in payment for past-due accounts or to clear a returned check.

**Delinquent Accounts**

No student may be enrolled, graduate, receive semester grade reports, or receive a transcript until all previous charges are paid.



**Summary of Fees (Per Semester)**

**Full-time Resident Students**

	In-State	Out-of State
Basic Fee	\$ 1,314	\$ 2,446
University Service Fee	75	75
Student Union Building Fee	*	*
Housing Fee	800	800
Meal Fee (14 meals)	800	800
Student Association Fee	100	100

**Full-time Commuting Students**

Basic Fee	\$ 1,314	\$ 2,446
University Service Fee	75	75
Student Union Building Fee	*	*
Student Association Fee	100	100

*\*See schedule on pages 82-83.*

**REFUND POLICY**

A refund or credit will not be allowed unless the withdrawal is properly made in the Office of Academic Records. Except for emergencies, the date of notification is considered the effective date of withdrawal. Financial aid recipients who intend to withdraw from the University must be cleared by the Financial Aid Office as part of the withdrawal procedure.

Refunds are paid only by request, which must be made on the appropriate form, available at the Revenue Office (Room 119, Administration Building).

For both the Basic Fee and for university housing, partial refunds, or credit, are based upon a percentage of the fees charged and paid according to the following schedule:

- 1st and 2nd Week . . . . . 80% refund
- 3rd Week . . . . . 70% refund
- 4th Week . . . . . 60% refund
- 5th Week . . . . . 50% refund
- After the 5th Week . . . . . NO REFUND

Refunds on board (dining) charges will be made according to a pro-rata schedule available in the Revenue Office and in the Office of the Vice-president for Student Development and Services (Room 129, California Memorial Union). It should be noted, however, that there is no refund of flex dollars, used for university dining privileges, except on withdrawal from the university.

**SUMMER SESSIONS**

**Basic Fee (Tuition)**

The enrollment fee for any of the regular summer sessions is \$110 per semester hour for Pennsylvania resident undergraduate student, and \$204 per semester credit hour for non-Pennsylvania resident undergraduate students.

**University Service Fee**

For nine or more credits in the summer, the fee is \$75; for one to eight credits, the fee is \$40. This fee is not refundable.

**Student Union Building Fee**

See the schedule on pages 82-83. This fee is not refundable.

**Student Association Fee**

For 12 or more credits in the summer, the fee is \$100; for 6-11, \$46; for five or fewer, \$24.

**Housing and Dining Hall Fee**

In 1991, summer rates for housing in a university residence hall were: for the ten-week session \$810 for the 19-meal plan, \$710 for the 12-meal plan; for the five-week session, \$405 for the 19-meal plan, \$355 for the 12-meal plan. Summer rates for 1992 will be established early in the spring semester of 1992.

**Summer Refund Policy**

For both the Basic Fee and for university housing, partial refunds, or credit, are based upon a percentage of the fees charged and paid according to the following schedule:

<b>5-Week Session</b>	
1st Week . . . . .	80 % refund
2nd Week . . . . .	60 % refund
After the 2nd Week . . . . .	NO REFUND

<b>10-Week Session</b>	
1st Week . . . . .	80 % refund
2nd Week . . . . .	70 % refund
3rd Week . . . . .	60 % refund
4th Week . . . . .	50 % refund
After the 4th Week . . . . .	NO REFUND

Refunds on board (dining) charges will be made according to a pro-rata schedule available in the Revenue Office and in the Office of the Vice-president for Student Development and Services (Room 129, California Memorial Union). It should be noted, however, that there are no flex dollars for summer.

### **Special Conditions for Summer Sessions**

The first day of classes is used as the starting date in considering the first week for determining a refund or billing adjustment.

If a student registers for two or more sessions and then decides to withdraw from a session before the start of that session, a refund or credit will be pro-rated by using the part-time credit fee. No refund or credit will be pro-rated for the Student Union Building Fee or University Service Fee.

## **ACADEMIC MANAGEMENT SERVICES BUDGET PAYMENT PLAN**

This Plan allows you to pay University fees for Fall and Spring in 10 monthly payments commencing June 1, 1992. The cost of this Plan is \$45, which includes Life Benefit Coverage. There are no other fees or interest charges. Information concerning this Plan will be forwarded to you separately. If you wish, you may call Academic Management Services directly, (800) 556-6684 for information.





**FINANCIAL AID:****GRANTS****SCHOLARSHIPS****EMPLOYMENT****LOANS**

Financial aid is a critical factor in providing students with the opportunity for a college education. All financial aid is intended to supplement the family's financial resources, not as a substitute.

## GLOSSARY OF FINANCIAL AID TERMS

<b>Aid:</b>	Total package of funds awarded to meet university expenses.
<b>CSS:</b>	College Scholarship Service: Organization which analyzes Financial Aid Forms (F.A.F.'s) (not used by California University of Pennsylvania).
<b>CWSP:</b>	College Work Study Program: Work on campus, controlled by the University and funded by the Federal government.
<b>Grant:</b>	Gift aid which is not repaid, based on need.
<b>NEED:</b>	Negro Educational Emergency Drive: Local grant program for African-American students demonstrating need.
<b>Perkins Loan:</b>	Formerly National Direct Student Loan: Federal program allocating need-based loans through the university.
<b>PLUS:</b>	Parent Loans for Undergraduate Students: Federally backed loan available through local lenders.
<b>QPA or GPA:</b>	Quality Point Average: Cumulative grade point average used to determine academic eligibility.
<b>SAR:</b>	Student Aid Report: Result of the Pell Grant analysis, sent to student; student must submit all three parts to the university.
<b>Scholarship:</b>	Gift aid which is not paid back: based on academic or co-curricular excellence.
<b>SEOG:</b>	Supplemental Educational Opportunity Grant: University-based Federal grant awarded to students with highest financial need.
<b>Stafford:</b>	Stafford Loan Program: Federal loan program which subsidizes borrowed funds through hometown banks, etc. Eligibility based on financial need.

## APPLICATION PROCEDURE (ALL NEED-BASED PROGRAMS)

Students wishing to apply for need-based financial aid must file a "Pennsylvania State Grant and Federal Student Aid Application." All California University of Pennsylvania aid applicants (including applicants from states other than Pennsylvania) must file this application to receive full aid consideration. Priority will be given to applications filed by April 1.

Transfer students must also complete a "Financial Aid Transcript" for each college, university, or post-secondary school previously attended. This form is required whether or not aid was received at the previous school. These forms are available in the Financial Aid Office.

**BASIS AND METHOD OF AWARDING FINANCIAL AID**

Student financial aid is provided on the basis of the applicant's documented financial need. Financial need is defined as the difference between the estimated university costs and expected family contribution. Grants and loans are credited directly toward costs incurred at the university; any excess funds are refunded to the student. Earnings from student employment are paid directly to the student on a bi-weekly basis.

Students' financial aid entitlements are based on their enrollment status at the end of the fifth week of each semester. Students who drop below twelve credit hours before the sixth week should expect reductions or cancellations in the amount of aid that will be credited to their account.

Part-time students taking at least six credits are eligible to apply for assistance through the following financial aid programs:

- Pell Grant
- Supplemental Educational Opportunity Grant
- Perkins Loan
- College Work-Study
- Stafford Loan
- PLUS Loan
- SLS Loan
- Alternative Loan

Part-time students may apply for aid in the same manner as full-time students. The aid awarded is dependent upon the student's financial need and availability of funds.

**RIGHTS AND RESPONSIBILITIES OF FINANCIAL AID APPLICANTS**

Every student has the right to apply for financial aid and also to request and receive reconsideration of the financial aid decision. Students also have the right to know how their financial need and family contributions are calculated. Students and parents are expected to provide accurate information on all application materials and may be asked to provide a photocopy of their latest federal income tax return. The Federal Government requires the Financial Aid Office to ensure that financial information from all sources is accurate and truthful. When forms are used to establish eligibility for federal student aid funds, false statements or misrepresentations may subject those providing the information to a fine or imprisonment or both, under provision of the U. S. Criminal Code. Students also have the responsibility to notify the Financial Aid Office of any change occurring in their financial position from that which was reported on the application (e.g., eligibility for Social Security or veterans' benefits, receipt of scholarships, grants or other assistance, change in residency, etc.).

## FINANCIAL PLANNING

Students planning to attend California University of Pennsylvania should be aware that the cash from many of the financial aid programs is not available until approximately nine weeks into the semester for which the funds are intended. Students should plan to come to the University with enough personal money for early-term purchases (books, materials, art supplies, etc.) without depending upon financial aid funds.

## SCHOLARSHIPS

**The AAUW Scholarship:** The California University of Pennsylvania Branch of the American Association of University Women has established a \$400 per year scholarship to a full-time, female upperclass student over 30 who wants to complete her undergraduate degree at the University. The scholarship may be renewed if a 3.0 academic grade point average is maintained. Those interested should contact the Financial Aid Office (412) 938-4415.

**The Alumni Scholarship:** Ten renewable scholarships are given to freshmen entering with an SAT score of at least 1050, a grade point average of 3.25, and a rank in the first or second tenth of their graduating class. No application is necessary for renewal.

**APSCUF Scholarship:** A \$500 scholarship is awarded by the Association of Pennsylvania University Faculty (APSCUF) to an undergraduate man and an undergraduate woman. Freshmen must have an SAT score of 1050 and have been ranked in the upper 20% of their high school graduating class. Upperclassmen must have accrued 32 credits with at least a 3.5 grade point average from the University. A recipient of this scholarship cannot have received any other academic scholarship. Those interested and eligible may obtain application forms from the office manager of the University APSCUF Office in Keystone (412) 938-4293.

**The Colonel Arthur L. Bakewell Veterans' Scholarship Fund:** Two \$1000 scholarships are offered annually by the California University Veterans Club. They are given in the amount of \$500 per semester. Recipients must (1) be honorably discharged veterans; (2) be full-time undergraduate students who have completed 32 credits; (3) have a minimum of a 3.0 grade point average; and (4) have attended California University the previous semester. Eligible veterans should contact the Veterans' Affairs Office (412) 938-4076.

**The Gabriel P. Betz Scholarship:** This scholarship is an annual grant of one \$500 award or two \$250 awards to students who are juniors majoring in geography. A departmental scholarship committee announces the awards during the fall semester. Applicants who are seriously considering graduate work in geography should submit a transcript of their undergraduate grades to the departmental committee. Interested students may contact Professor Harry J. Orsag in the Earth Science Department (412) 938-4255.

**The John Bitonti Memorial Scholarship:** This \$200 scholarship is given in the spring to a Speech Pathology and Audiology major who has completed at least four of this department's courses. The student must be a full-time undergraduate who has completed 33 credits with a 3.0 grade point average and who is involved in departmental activities.

The student is committee-selected. Inquiries can be made by contacting the Speech Pathology and Audiology Department (412) 938-4175.

**The Board of Governors' Minority Scholarship:** This scholarship, which waives tuition every semester for four years, is given each year to 15 entering freshmen with a 2.5 grade point average and SAT score of 725. Interested students should contact the Admissions Office (412) 938-4404.

**The Edward McNall Burns Scholarship:** A \$500 award is apportioned by majority vote of a scholarship committee to a student or students majoring in Social Science, Economics, or History and Urban Studies who have completed between 45 and 60 credits at the University. Applicants must submit a dated and signed letter of intent, a recent transcript showing outstanding academic ability, and proof of financial need as determined by the Financial Aid Office. Those interested should contact the Social Science Department (412) 938-4042.

**The California PTA Scholarship:** The California High School PTA awards a \$500 scholarship to a freshman student who has graduated from California High School. The scholarship is awarded based on academic performance and financial need. Applications are available in the California High School's Guidance Office.

**The California University of Pennsylvania Faculty Scholarships:** The California University of Pennsylvania Faculty awards renewable scholarships of from \$750 to \$1500 per year to a selected number of freshmen. Minimum qualifications are: (1) admission as a full-time student at California University of Pennsylvania, (2) a combined SAT score above 1200, and (3) rank in the upper 10% of the high school graduating class. Inquiries should be directed to Dr. Albert Maruskin, Chairman of the Faculty Scholarship Committee, in Manderino Library (938-4095).

**The J. Robert Craig Scholarship:** Five hundred dollars for the first semester is awarded to an incoming freshman exhibiting excellence in the natural sciences. Proof of this ability must be verified by a letter of recommendation from the applicant's science teacher. Interested freshmen should contact either Dr. George Frangos (412) 938-5748 or Professor Clyde W. Clendaniel (412) 938-4148.

**The Earth Science Faculty Scholarship:** This \$500 scholarship is awarded to a student majoring in Earth Science, Geography, or Geology. Applicants must have a minimum of 3.0 grade point average in their major. The award is made at the end of the junior year. Those interested should contact Dr. William J. Procasky of the Earth Sciences Department (412) 938-4180.

**The Eberly Family Scholarships:** These renewable scholarships are awarded to non-education majors who have demonstrated academic promise. The awards are restricted first to Fayette County residents, second to Southwestern Pennsylvania residents, or third to Pennsylvania residents. The scholarship value is up to full tuition for an academic year. Each recipient must maintain good academic progress to continue receiving the award. No application is necessary.

**The Dr. Calvin Fleming Scholarship:** Awarded to an outstanding student in the Natural or Physical Sciences. For additional information, contact Dr. Albert Maruskin, Chairman of the Faculty Scholarship Committee, in Manderino Library (938-4095). No application is necessary.

**The David W. Hambacher Scholarship:** A \$500 scholarship is awarded in the freshman year to a student whose composite SAT score is 1200 and who was in the upper 10% of the high school graduating class. All eligible entering students are considered. Those interested should contact the Psychology Department (412) 938-4100.

**The Lillian E. Hammitt Scholarship:** This award, for one academic year with the possibility of renewal, is given to a full-time undergraduate enrolled or planning to enroll for credit in the performing ensemble. Applicants must be recommended by their previous instructor and must give a live audition. College of Education students are given preference. The amount of the award varies, depending on financial need. For additional information, contact Mr. Gene G. Suskalo, Chair, Music Department (412) 938-4242.

**The Eleanor C. Hibbs Writing Award:** A \$100 award for a Composition 101 paper and a \$100 award for a Composition 102 paper are granted in the spring. Information may be obtained from Dr. Edward Chute, Director of Freshman English, in Dixon 231 (938-4301).

**The Delila C. Jenkins Scholarships:** These renewable scholarships are awarded to Freshman Education majors demonstrating financial need. The scholarship value is up to full tuition for an academic year. Each recipient must maintain good academic progress to continue receiving the award. Applicants must submit the Pennsylvania State Grant and Federal Aid application to be considered.

**The Minor Major Memorial Award:** This award is given to a scholastically outstanding student in any of the English curricula. There is no application. Inquiries should be directed to Professor Ronald L. Forsythe in the English Department (412) 938-4070.

**The Joseph Lynn Marino Memorial Award:** An Award of \$200 to \$500 is granted each year to full-time undergraduates with at least a 3.5 overall grade point average. The applicant must be enrolled in the College of Liberal Arts and must have completed six credits in Anthropology. No application is necessary. Inquiries may be made by contacting Dr. Albert Maruskin, Chairman of the Faculty Scholarship Committee, in Manderino Library (938-4095).

**The Mon Valley NAACP Scholarship:** A \$600 renewable scholarship is awarded to a Freshman who graduated from one of the following school districts: Charleroi, Belle Vernon, Ringgold, Monessen, Yough, California or Bentworth. Nominations must be made by each school district. Minimum qualifications are: (1) a combined SAT score of 750 or ACT score of 19; (2) rank in the upper 25% of the high school graduating class; (3) a cumulative 2.50 grade point average; (4) demonstrated financial need beyond other financial aid grant programs; (5) an African-American high school senior; and (6) admission as a full-time student at California University. Inquiries can be made by contacting the Admissions Office (412) 938-4404.

**The Doris Nevin Scholarship:** This \$500 scholarship is awarded at the end of the junior year to a student exhibiting qualities of leadership, service, and an interest in physical fitness. Applicants must have a grade point average of at least 2.75 and must have completed at least two Physical Education classes. Those eligible and interested should contact the Women's Health and Physical Education Department (412) 938-4350.

**The Kurt Nordstrom Memorial Scholarship:** This scholarship is awarded each semester to a student majoring in Printing Management. A departmental committee announces its decision each semester. Interested students may contact Professor Richard Grimm of the Industry and Technology Department (412) 938-4085.

**The Mary Noss Freshman Scholarship:** A \$400 award for the freshman year only is given to one student in each of Washington County's fourteen public and two parochial high schools. The recipients, chosen by a committee in each high school, must attend the University full-time. High school counselors will provide information.

**The Non-Traditional Scholarship Award:** This \$200 non-renewable scholarship is awarded to a student who has experienced a break in continuous flow between high school and college. Applicants must have completed one year of full-time enrollment (24 credits) at California University of Pennsylvania. The scholarship will be awarded on the basis of academic performance and unmet financial need. The Pennsylvania State Grant and Federal Student Aid application must be submitted.

**The Elsbeth E. Santee Scholarship:** One to four scholarships, up to \$1,000, are awarded each year to students majoring in one of the University's foreign languages. Applicants must have a grade point average of at least 3.0 in the language studied and attained second semester sophomore, junior, or senior status. Applications for the scholarship must be made by April 1. Additional information may be obtained by contacting Professor Elsbeth Santee, chair of the Foreign Languages Department in South Hall: (412) 938-4247.

**The Sports Medicine Scholarships:** Five scholarships up to \$250 are awarded to outstanding Athletic Training students, excluding incoming freshmen, who have a minimum grade point average of 2.75. All Athletic Training Curriculum students are considered. Questions should be directed to Mr. William B. Biddington in the Sports Medicine Department (412) 938-4562.

**Other Scholarships:** Periodic awards are made by various university departments, organizations, affiliates and alumni. For information concerning these funds, students may contact the Financial Aid Office.

## ROTC SCHOLARSHIPS AND STIPENDS

The University offers participation in the Reserve Officers Training Corps. Students enrolled and contracted into the Advanced Program receive a monthly, non-taxable stipend of \$100 for ten months of the school year during the last two years of the program. Advanced freshmen and sophomores may compete for two-, three-, and four-year merit scholarships. These scholarships pay for tuition, fees, a flat book rate, and a \$1000 yearly stipend for the length of the scholarship. Applications for these scholarships may be secured from the ROTC office. Through the Simultaneous Membership Program a student may be a member of ROTC and an Army Reserve or Army National Guard unit at the same time. The student receives the ROTC stipend and drill pay (approximately \$120 per month) from the reserves. For additional information call or visit the ROTC on campus, at 938-4074.

## GRANTS

**Pell Grant:** This Federal aid program is designed to provide financial assistance to attend post-high school educational institutions. This grant is intended to be the "floor" of the



financial aid package and may be combined with other forms of aid in order to meet the cost of education. The amount of a Pell Grant is determined by the student's and family's financial resources. Pell Grants range from \$200 to \$2,400. The Pell Grant award, unlike a loan, does not have to be repaid. Students are eligible to receive a Pell Grant for 5.5 years if they received a Pell Grant prior to July 1, 1987. Students receiving a Pell Grant for the first time after July 1, 1987 are subject to a five-year limitation of Pell Grant assistance.

**Supplemental Educational Opportunity Grants:** Awards from this program are made to students with exceptional financial need. The minimum a student may receive is \$100 per academic year. Eligibility is limited to undergraduate students who do not have a bachelor's degree.

**Pennsylvania Higher Education Assistance Agency Grants:** The PHEAA State Grant program assists qualified students who need financial assistance to obtain higher education. These grants are based upon admission to California University of Pennsylvania and the need for financial assistance from the Commonwealth of Pennsylvania as determined by the Higher Education Assistance Agency. High school seniors can secure further information and application forms from their high school guidance office. These grants are available only to residents of Pennsylvania who enroll on a full-time basis. Students are eligible to receive a maximum of eight semesters of state grant assistance.

**Other State Grants:** Several states, including Massachusetts, Vermont, Connecticut, West Virginia, Rhode Island, and Ohio, have state grants which can be transferred to schools outside the state. Interested students may obtain information concerning these programs from their high school guidance counselors or from the appropriate State Higher Education Agency.

## LOANS

**Perkins Loan** (formerly named National Direct Student Loan): High school graduates who have been accepted for enrollment at California University of Pennsylvania, or students enrolled at least half-time and who demonstrate financial need, may receive consideration for this student loan.

Continued borrowing under the program from year to year depends on the availability of funds. Repayment of principal and interest begins six months after students end their studies for borrowers who received their first loan prior to July 1, 1987, or nine months after students end their studies for borrowers who received their loan after June 30, 1987. This loan bears an interest rate of five percent a year and repayment of principal may be extended over a ten-year period. The normal minimum monthly repayment is \$30.

Borrowers becoming full-time teachers in public or other non-profit private elementary or secondary schools with a high enrollment of students from low-income families or becoming full-time teachers of handicapped children may be eligible for complete cancellation of the loan.

In addition, a borrower who becomes a full-time staff member in a preschool program of the Economic Opportunity Act (Head Start) in certain states may also be eligible for cancellation of the loan.

**Peace Corps:** Borrowers serving as volunteers in the Peace Corps are eligible for cancellation of 15-20% of the total Perkins Loan obligation, depending on the length of active service in the Peace Corps plus the accrued annual interest. Most government sponsored loans, such as GSLs, defer repayment during the time a person serves in the Peace Corps. Plus, there are academic credit programs for returned Peace Corps volunteers, and over 50 graduate schools offer scholarships to former Volunteers.

Borrowers serving in the Armed Forces of the United States can have a maximum of 50 percent of the loan canceled at the rate of 12 1/2 percent a year, plus interest, for each complete year of service in an area of hostilities.

Interest and principal payments are deferred during any period in which the borrower is carrying at least one-half the normal academic work load at an institution of higher learning, or up to three years if the borrower is on full-time active duty as a member of the Armed Forces of the United States, is a volunteer under the Peace Corps Acts, or is a volunteer under the Economic Opportunity Act (VISTA).

Any loans made prior to June 30, 1972 are subject to previous regulations. California University of Pennsylvania approves and makes the loans and is responsible for collections.

**Stafford Loan (Subsidized):** The education of students from middle-income groups frequently places a financial burden on the families, particularly if there are a number of children who want to attend a university. In many cases, because of limited resources, the student is not awarded sufficient amounts of aid on the form of employment or grants. Even when commercial credit sources are available, repayment generally runs concurrently with the years the student attends the University. To help these young people and their families, a (subsidized) Stafford Program is in operation.

The laws governing the Stafford Loan Program changed in October, 1986 and based eligibility for this program entirely on financial need. Students may borrow up to the amount of unmet need but not over the yearly program limits of \$2,625 per year for first and second levels and \$4,000 for subsequent undergraduate levels.

Repayment of the principal of the loan is not required until six months after the student leaves or graduates from the University. The Federal government will pay the interest during the time the student is enrolled at least half-time in the University. The loan bears an interest rate of eight percent a year through the fourth year of repayment for all first-time borrowers after July 1, 1988. The interest rate increases to ten percent beginning with the fifth year of repayment. Repayment of the principal may be extended over a ten-year period. The minimum monthly repayment is \$50.

The necessary Stafford Loan application may be secured at any bank or financial institution. Stafford Loans are available to students from other states through the Pennsylvania Higher Education Assistance Agency (PHEAA) or agencies similar to PHEAA within their own state.

**Stafford Loan (Non-Subsidized):** This loan program is administered by the Pennsylvania Higher Education Assistance Agency (PHEAA). It provides additional loan resources to students and parents in situations where eligibility for the subsidized Stafford Loan is denied or significantly reduced because of income eligibility restrictions. The identical loan limits,

interest rate and principal repayment conditions apply to the non-subsidized loan as to the subsidized loan previously described. The difference between the two types is that for the non-subsidized loan borrower is responsible for payment of the interest during the in-school period.

Students who have filed a PHEAA Stafford Loan Application through their lending institution will have their maximum eligibility for the subsidized loan determined first. PHEAA will then automatically offer the applicant a non-subsidized loan for the difference between the loan limit and any amount of subsidized loan approved.

Out-of-state students may secure an application from the financial aid office and apply directly to PHEAA.

**PLUS Loans:** This loan program permits parents to borrow for dependent undergraduate students. Applicants' eligibility is partially based on a debt burden analysis of their income. The applicable interest rate on all PLUS loans is variable. The current rate may be obtained from your lender. Unlike the Stafford Loan Program, PLUS loans are not interest-subsidized. Repayment of the principal and interest normally begins sixty days after signing the promissory note.

Applications for PLUS loans are available at most local lending institutions.

**Supplemental Loan for Students (SLS):** This program is currently limited to independent undergraduate students and graduate students. Applicants' eligibility is partially based on a debt burden analysis of income and expenses.

The applicable interest rate on all Supplemental loans is variable. The current rate may be obtained from your lender. The Supplemental Loan program is also unsubsidized. Repayment of principal and interest may be postponed for various reasons as specified by program regulations.

Applications for Supplemental loans are available at local lending institutions.

**Emergency Student Loan Fund:** Emergency short-term loans up to \$200 are available to California University of Pennsylvania undergraduate students. Applications are available at the Financial Aid Office.

## EMPLOYMENT

**College Work-Study Program:** Students who need a job to help pay for university expenses may be eligible for employment by California University of Pennsylvania under the federally supported College Work-Study Program. Students usually work about eight hours a week while attending classes full-time. During the summer or other vacation periods when they do not have classes, students may, with proper authorization, work full time (37.5 hours per week) under this program. In three months of summer employment under the Work-Study Program, an eligible student may earn \$1,000 or more. This amount, supplemented by weekly earning during the second year, may contribute substantially to a student's total educational costs, including necessary clothes, transportation and personal expenses. A student's eligibility depends upon the demonstration of financial need.

**Student Employment (non-CWSP):** Employment under this program is provided as funds permit. Work assignments and work schedules are similar to those for the Federal Work Study Program. Interested students can receive further information and the employment application through the Financial Aid Office.

## SCHOLARSHIPS/LOANS

**Paul Douglas Teacher Scholarship:** The shortage of qualified teachers throughout the United States led to the establishment of this federal program. Students ranking in the top 10 percent of their high school class who are enrolled or planning to enroll in a program of study at California leading to certification to teach in a preschool, elementary or secondary school may apply for this competitive scholarship. Awards range up to \$5,000 per academic year. For each yearly award received, students must agree to teach two years. This obligation is reduced to one year if the scholar teaches on a full-time permanent basis in a school in an area which federal regulations define as having a teacher shortage. The scholarship reverts to a loan if recipients do not fulfill their teaching obligations. Applications are available in high school guidance offices and this university's Financial Aid Office.

**Scholars in Education Award:** The State of Pennsylvania also responded to the critical shortage of qualified secondary mathematics and science teachers in Pennsylvania by establishing this program. Students enrolled or planning to enroll in a program leading to a teaching degree in secondary mathematics or science with an SAT score of at least 1000, a high school rank in the top fifth of their class and a college or high school rank in the top fifth of their class, and a college or high school grade point average of at least 3.0 on a 4.0 scale in their science or mathematics coursework are eligible to apply. Recipients must agree to teach one year in a Pennsylvania secondary school for each yearly scholarship received. The value of the yearly award at California is \$1,500. The scholarship will revert to a loan if recipients do not fulfill their teaching obligations. Applications are available in high school guidance offices or this university's Financial Aid Office.

## SPECIAL BENEFITS

**Veterans' Benefits** are available to many veterans who are discharged from the Armed Forces or active members of the National Guard or Reserves. Additional information may be obtained by phoning the Veterans Affairs Office at (412) 938-4076.

**Vocational Rehabilitation** is a service to conserve the working capacity of persons with an impairment who still have reasonable expectations of becoming employed. Students who might qualify for vocational rehabilitation aid to attend college should contact their county Office of Vocational Rehabilitation.

**OTHER SOURCES OF FINANCIAL AID**

There are also many other avenues from which to obtain aid. These include relatives, local clubs or organizations, businesses, summer earnings, special scholarships, etc. Your guidance counselor, local civic leaders or local librarians are of great help in researching such avenues of financial assistance.

**SATISFACTORY ACADEMIC PROGRESS**

To be considered for all Title IV student financial aid programs (namely, Pell Grants, Supplemental Educational Opportunity Grants, Perkins Loans, Stafford Loans, PLUS Loans, Supplemental Loans, or the College Work Study Program), the University requires students to maintain satisfactory academic progress. The academic progress requirements are composed of two parts:

**PART I**

The minimum requirements to meet the first part of the University's definition of satisfactory academic progress for financial aid are as follows:

1. All first-time students are exempt from aid denial due to lack of academic progress for the first two semesters of attendance at the University. Progress during the first two semesters, however, does determine eligibility for the subsequent years.
2. Full-time students must earn 24 credits during the Fall and Spring semesters combined.
3. Part-time students must have attempted at least 12 credits before being evaluated. The number of credits part-time students must earn will be prorated according to their enrollment status. (For example, a student who schedules 12-16 credits over both semesters of the academic year must complete 12 credits.)

**PART II**

In accordance with the University's published requirements to maintain "good academic standing" (see pages 47 and 57 of this catalog), a student who is placed on academic probation for having failed to maintain a satisfactory Grade Point Average is also placed on financial aid probation for one semester. At the end of that semester one of the following three situations must occur:

**Either**

- (1) The classification of probation is removed when the student achieves the required minimum Grade Point Average for the class category;

or

- (2) The classification of probation is continued if the student achieves a 2.0 Grade Point Average or better during the probationary term but fails to achieve the minimum cumulative Grade Point Average for the student's category. In this case, eligibility for Title IV Federal Aid may be continued;

or

- (3) If the student's cumulative Grade Point Average for that semester is below 2.00, that student is academically dismissed and denied Title IV Federal Aid until the minimum Grade Point Average for that student's class category is achieved. A student who is academically dismissed and therefore denied Title IV Financial Aid may be re-admitted to the University but must attend without the benefit of Title IV Federal Aid until the required minimum Grade-Point Average for his/her class category has been achieved. Academic standing is reviewed following each semester: see page 47 in this catalog. The University does not award assistance from Title IV programs beyond a maximum of 5.5 academic years (11 semesters).

<b>FOR SPECIAL GRADES</b>
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***I (Incomplete):*** Since credits are not awarded for this grade, until an Incomplete grade is resolved, a course in which it is received does not count towards fulfilling requirements for financial aid. If the Incomplete grade is resolved by the beginning of the following semester of attendance and a passing grade is received, the credits will be counted.

***W (Withdrawal):*** All categories of Withdrawal earn no credit towards graduation or towards satisfying the credit requirement listed above.

***P (Pass):*** If this grade is awarded, the credits apply towards graduation and towards satisfying the credit requirements listed above, but the grade-point average is not affected.

***Repeating a Course:*** The last grade earned is always used in calculating the grade-point average. If a student repeats a course, the credits are awarded only for the semester in which it was repeated, not for the first time the course was attempted.

### USE OF SUMMER SCHOOL TO MAKE UP DEFICIENCY

A student deficient in credits and/or grade-point average at the end of an academic year may use the following summer to eliminate the deficiency, but no financial aid is provided to help defray these summer school costs.

Students who are subject to academic dismissal owing to insufficient grade-point averages may seek readmission through the dean of that college of the University in which they are enrolled.

If summer school work is taken in order to improve a grade-point average (and therefore to become eligible again for financial aid), it must be taken at California University of Pennsylvania, since *transfer grades are not computed into a student's grade-point average*.

Summer school work taken for the purpose of achieving minimum credit requirements for eligibility for financial aid need not be completed at California University but must be transferable to California. Before credits earned at another college or university can be transferred to a student's record at this university, the student must seek and obtain permission from the appropriate dean of the college of this university.

### APPEAL PROCEDURE

If a student feels that an academic deficiency that has led to loss of eligibility for financial aid is due to extenuating circumstances (such as illness or injury), a written appeal must be submitted to the Director of Financial Aid which details the situation. The Director may, if the circumstances warrant, grant a maximum of one semester of financial aid to a student who does not meet the requirements for academic progress. If the Director denies the request for special consideration, an appeal may be made to the Vice-President for Administration and Finance.

### REGAINING ELIGIBILITY

A student who has been denied financial assistance for lack of satisfactory academic progress regains eligibility in the semester following the one in which requirements for minimum credits for academic progress and/or grade point average have been fulfilled.



**REFUND POLICY**

Title IV financial aid recipients who withdraw from the University during the refund period outlined in this catalog may not be entitled to receive their full refund. The portion of the refund that must be returned to Title IV programs is the lesser of the amount of assistance received under all Title IV programs other than under the CWS program or the amount determined according to the following formula:

**Title IV Aid**

	x	Total Title IV Aid (exclusive of CWS Program earnings) <u>awarded for the payment period</u>
Institutional Refund		Total Aid (exclusive of all work earnings) awarded for the payment period

For the purpose of this formula, an institutional refund is defined as the amount paid for institutional charges by financial aid and/or cash payments minus the amount retained by the institution for the portion of the semester that the student was enrolled at the institution.

The portion of the refund allocatable to the Title IV Programs will be restored to the programs from which the student received aid in the following order: Perkins Loan Program, GSL Program, PLUS Program, SLS Program, SEOG Program, and Pell Program. Any portion of the refund restored to the GSL, PLUS, or SLS Programs is returned to the student's lending institution.



**THE DIVISIONS OF THE  
UNIVERSITY**

**THE DEPARTMENTS**

**THE CURRICULA**

**THE COURSES**

**PROGRAMS AND DEPARTMENTAL COURSE  
ABBREVIATIONS**

The following departmental and program abbreviations are used to identify courses. If no department appears in the third column, consult the office of the Vice-president for Academic Affairs.

<b>CODE</b>	<b>PROGRAMS BY DISCIPLINE</b>	<b>DEPARTMENT</b>
ACC	Accounting	Business and Economics
ANT	Anthropology	Social Science
ART	Art	Art
ATE	Athletic Training Education	Sports Medicine
BIO	Biology	Biological and Environmental Sciences
BUS	Business	Business and Economics
CAW	Computer Assisted Workshop	Mathematics and Computer Science
CCU	Co-Curricular Activity	
CHE	Chemistry	Physical Science
COM	Communication Studies	Communication Studies
COP	Cooperative Education	
CPE	Coaching Certification Program	Health and Physical Education
CSC	Computer Science	Mathematics and Computer Science
EAS	Earth Science (including Geology)	Earth Sciences
ECE	Early Childhood	Elementary Education
ECO	Economics	Business and Economics
EDE	Elementary Education	Elementary Education
EDF	Educational Foundations	Educational Studies
EDS	Secondary Education	Educational Studies
EDU	College of Education and Human Services	
EET	Electrical Engineering Technology	Industry and Technology
ENG	English	English
ENS	Environmental Studies	Biological and Environmental Sciences
ESP	Special Education	Special Education
FIN	Finance	Business and Economics
FRE	French	Foreign Languages and Cultures
GCT	Graphic Communications Technology	Industry and Technology
GEO	Geography	Earth Sciences
GER	German	Foreign Languages and Cultures
HIN	Harrisburg Internship	
HIS	History	Social Science
HON	Honors Program	

HPE	Health and Physical Education	Health and Physical Education
HSD	Highway Safety and Driver Education	Health and Physical Education
IAR	Industrial Arts	Industry and Technology
IND	Industry	Industry and Technology
ITE	Industrial Technology	Industry and Technology
LIT	Literature	English
MAT	Mathematics	Mathematics and Computer Science
MGT	Management	Business and Economics
MKT	Marketing	Business and Economics
MTE	Manufacturing Technology	Industry and Technology
MUS	Music	Music
NUR	Nursing	Nursing
PHI	Philosophy	Philosophy
PHS	Physical Science	Physical Science
PHY	Physics	Physical Science
POS	Political Science	Social Science
PSN	Public School Nursing	Counselor Education and Services
PSY	Psychology	Psychology
PTE	Petroleum Technology	Earth Sciences
RNA	Registered Nurse Anesthetist	Counselor Education and Services
RUS	Russian	Foreign Languages and Cultures
SOC	Sociology	Social Science
SOS	Social Science	Social Science
SOW	Social Work	Social Work
SPA	Speech Pathology and Audiology	Speech Pathology and Audiology
SPN	Spanish	Foreign Languages and Cultures
TED	Technology Education	Industry and Technology
THE	Theatre	Theatre
XCP	Career Planning	Academic Development Services
XGE	Gerontology	Gerontology
XHS	Arts in Human Service	Art, Theatre
XSS	Soviet Studies	Foreign Languages and Cultures
XUA	Urban Affairs	History and Urban Affairs

## COLLEGE OF EDUCATION AND HUMAN SERVICES

The College of Education and Human Services is composed of the departments of Academic Development Services, Counselor Education, Educational Studies, Elementary Education, Gerontology, Health and Physical Education, Social Work, Special Education, Speech Pathology, and Sports Medicine. The Departments of Counselor Education, Educational Studies, Elementary Education, and Special Education, are concerned with teacher education; the Departments of Academic Development and Services, Gerontology, Health and Physical Education, Social Work, and Sports Medicine form the Human Services component of the College. The department of Speech Pathology and Audiology offers an undergraduate program but it does not lead to teacher certification; certification is offered only at the graduate level in this department.

Information about these departments and their programs will be found in the next portion of this catalog (except for Counselor Education, which offers only a graduate program). The university is accredited by the Commission on Higher Education of the Middle States Association. The program in Social Work is accredited by the Council on Social Work Education. The program in Athletic Training, in the department of Sports Medicine, is accredited by the National Association of Athletic Trainers. The programs in Teacher Education are accredited by the National Council for the Accreditation of Teacher Education (NCATE), and certified by the Pennsylvania Department of Education.

*A grade-point average of 2.50 is required for graduation in all teacher education programs.*

*For teacher certification, a student must pass the NTE (the National Teachers' Examination.)*

## TEACHER EDUCATION PROGRAMS

California University of Pennsylvania has a long and distinguished history of preparing teachers for the schools of the Commonwealth. When you graduate you will join nearly 30,000 teacher education alumni.

The College of Education and Human Services has developed and maintained a reputation of excellence in the preparation of teachers. Because of its accreditation by NCATE, and its requirement of the NTE, California's graduates are able to obtain a teaching certificate in every state in the Union.

If you attend California University as a Teacher Education student you may enroll in any of the following majors: Comprehensive Special Education, Elementary Education (Kindergarten to Grade Six), Early Childhood Education (Nursery School to Grade Three), Technology Education, and Secondary Education. The Secondary Education Curriculum provides an opportunity to major in Science (Biology, Chemistry, Physics, Earth Science, General Science, or Environmental Education), English, Communication (English, Speech,

and Theatre), Mathematics, Modern Foreign Languages (Spanish, French, German), and Comprehensive Social Science. Certification in Art Education is available through a co-operative program with Carlow College and with Washington and Jefferson College. (See the Art Department, page 123, in this catalog.) It is also possible to have a dual major. For example, some students choose a dual major in Elementary/Special Education or Early Childhood/Special Education. The College of Education and Human Services also offers a special program for graduate nurses in the Public School Nursing Program. Dental Hygienists are also eligible for enrollment in a program leading to a Bachelor of Science Degree in Education and certification as a Public School Dental Hygienist. The programs in Gerontology, Athletic Training, Speech Pathology, and Social Work lead to a Bachelor of Science degree, but not to teacher certification, although it is possible to combine a major in Athletic Training with any Teacher Certification program.

Upon completion of a Teaching Certification program in the College of Education and Human Services you will receive a Bachelor of Science Degree and an Instructional I certificate. All candidates for teaching degrees must also take the NTE. The certificate is your license to teach in the Commonwealth of Pennsylvania and is valid for up to six years of teaching in Pennsylvania whenever they might occur. In order to convert the Instructional I certificate into a lifetime valid Instructional II certificate you must have three years of successful teaching experience and a Master's Degree or you must complete six credits every five years. These credits may be undergraduate, graduate, or in-service credits or any combination. The only restriction is that these credits must be taken at a four-year institution.

## GENERAL EDUCATION

Each program offered by the College of Education and Human Services is divided into at least two parts: general education, and area of specialization. In addition, Teacher Education programs have requirements in Professional Studies. The exact requirements for each program will be found in the following portion of the catalog.

The College of Education Council has adopted the following objectives for the general education portion of education programs:

To develop in the prospective teacher:

1. The ability to communicate with adequate skill in the areas of speaking, writing, reading and listening;
2. Knowledge, attitudes, skills, and understanding in the natural sciences, the social sciences, technology, and the humanities;
3. The ability to promote better understanding and relationships among individuals and groups;

and to provide the prospective teacher:

4. opportunities for development of leisure time and healthful living activities.



**General Requirements**

All students must achieve competency in English language skills at the level of Composition I-II. Teacher Education students must take Oral Communication (COM 100) and General Psychology (PSY 100). Developmental courses (ENG 100, MAT 098, MAT 099 and EDE 100) are used to calculate grade point average and class standing but do not count toward graduation (see page 78 of this catalog.)

All students must take courses in the Humanities, the Natural Sciences, and the Social Sciences. Teacher Education students take courses in Health or Physical Activities.

**AREA OF CONCENTRATION**

Each of the areas of concentration has a sequence of courses and experiences which provide the knowledge necessary for professional competence in that particular area, or in the case of teacher education programs, for certification. In addition the methodology necessary to deliver that knowledge to children is provided in a variety of ways dependent upon the specialty area. Each one of the specialty areas in Teacher Education provides students with a variety of clinical experiences culminating in a full semester of student teaching experience. See the curricular requirements for each certification program, under the appropriate department in this catalog.

**PROFESSIONAL STUDIES**

A carefully planned sequence of six courses required of all education majors provides them with depth and breadth in the essentials of professional studies. These courses are Foundations of Education (EDF 100), Educational Psychology (PSY 208), Teaching in a Multicultural Society (EDU 210), Mainstreaming Exceptional Learners (ESP 340), Introduction to Educational Media (EDF 304), and Computers for Teachers (EDF 301). Three additional courses give further knowledge and experience to those in secondary education curricula: Problems of Secondary Education (EDS 300), Introduction to Educational Requirements (EDS 430), and Developmental Reading in the Secondary School (EDS 465). Equivalent requirements are made in the Elementary/Early Childhood, Special Education, and Technology Education curricula. Requirements in oral and written communication and these courses assist in development of critical skills in communication and problem-solving. The models are soundly supported by comprehensive knowledge bases. All of these culminate in the semester-long student teaching experience where the various knowledge of social, historical, technological, legal, educational, and cultural topics is brought together in a manner that is both knowledge-based and experientially grounded, tested, and applied. Students are thus prepared not only for imparting the necessary knowledge but also for dealing with important matters of educational policy, school law, diverse cultural populations, and students with special needs.

**ADMISSION TO TEACHER EDUCATION**

Admission to the university is not a guarantee that a student majoring in education will be permitted to be admitted to Teacher Education, complete the program (which includes student teaching), and receive a teaching certificate. The College of Education and Human Services has established standards that all education majors must meet in order to complete the Teacher Education Program. Some of these standards are embodied in the Admission to Teacher Education Program, which must be initiated by the candidate during the semester following the completion of 64 credits. In order to be admitted, a candidate must meet the following requirements:

1. Pass the General Knowledge and Communication Skills subtests of the NTE. The test must be taken when the student has completed 48 credits.
2. Obtain a minimum grade point average of 2.50 in both the major area/area of specialization as well as in the overall grade point average. Transfer credits should be used in calculating the 2.50 in the major only.
3. Successfully complete pre-student teaching field experiences in:
  - (a) Major area of specialization;
  - (b) Foundations of Education (EDF 100);
  - (c) Educational Psychology (PSY 208).
4. Pass the College of Education and Human Service's speech and hearing test.
5. Obtain approval from the departmental advisor and major department chairperson (or designee). Dual majors and secondary education majors must have completed approval forms from advisors in both departments.
6. Complete at least 64 credits (including transfer credits) with a minimum of 12 credits completed in the major field at California University.
7. Obtain a personal interview and a positive recommendation from a member of the Committee for Admission to Teacher Education.
8. Obtain final approval from the Committee for Admission to Teacher Education.

Admission to Teacher Education is a prerequisite to application for Student Teaching. It should be emphasized that the admission to Teacher Education Program, in total, is also designed for the student's growth in educational, experiential, and self-evaluative ways.

**PROFESSIONAL FIELD EXPERIENCES**

Educators have observed that those who enter the teaching profession with a wide variety of contacts with young children, adolescents, and adults usually become superior teachers. Many of those who fail as teachers or remain mediocre throughout their careers lack such experiences. A program of Professional Field Experiences has been devised by each curriculum department. In some cases, these experiences include not only school activities but also activities in community agencies. Professional Field Experiences include all those contacts with children, youth, and adults (through observation, participation and teaching) that make a direct contribution to the understanding of individuals and their guidance in the teaching-learning process.

California University students are placed in exemplary clinical and field experiences, devised and supervised by faculty in their appropriate curricula, in a diversity of educational sites and experiences. Placement is first effected in the freshman courses Foundations of Education and Educational Psychology. The second tier of clinical experiences is embedded in subject-related courses. These vary depending on the curriculum; for example, in the Elementary curriculum students enroll in Field Experience in Early Childhood, and Observation and Conference, both three-credit courses. In Technology Education students enroll in Technology/Society Education, which contains a field experience. All Secondary Education majors enroll in Problems of Secondary Education, which requires a Thursday-free schedule devoted to field experience. Special Education courses are four-credit courses with a field experience attached to each course. The third tier is student teaching. University students are supervised closely by a professor from California and a cooperating teacher in the schools, all of whose duties are specified and contractually mandated; and the student teacher's work is regularly assessed as to the soundness and topicality of teaching procedures, professional conduct, and subject matter content. Gradually, student teachers are given increased responsibility for professional assignments, so that by the time of successful completion of the experience they are prepared to assume independent classroom authority.

Field-based and clinical experiences are systematically selected to provide opportunities for education students to observe, plan, and practice in a variety of settings appropriate to the professional roles for which they are being prepared. Students participate in field-based and/or clinical experiences with culturally diverse and exceptional populations. These field-based and clinical experiences are sequenced to enable education students to develop the skills that will enable them to assume full responsibility for classroom instruction or other professional roles in schools.

### GRADUATION IN GENERAL STUDIES

Candidates who do not meet the standards for admission to Teacher Education on initial application have two semesters in which to correct deficiencies and obtain admission. If still not approved, they may elect to transfer to another curriculum or, with special permission of the Dean, take 12 credits in lieu of student teaching and graduate without teacher certification.

The latter option (waiver of student teaching and teaching certification) is also available to students who, for exceptional reasons, change their plans about career teaching but wish to complete their baccalaureate programs. The student must initiate, in writing and in person, a reasoned request to do so to the Director of Student Teaching. Such requests must be reviewed and approved by the Director of Student Teaching. If the waiver request and course credits in lieu of student teaching credits are approved, the student may earn a degree without teaching certification. (A notation to this effect is entered on the student's transcript.)

## STUDENT TEACHING

Student teaching, a major professional laboratory experience, is conducted under the supervision of the Director of Student Teaching. California University has four undergraduate teaching programs: Elementary Education, Secondary Education, Technology Education, and Special Education. Students who are candidates for certification are required to earn twelve semester hours of credit in student teaching. However, student teaching is a competency based program and may continue beyond one semester. Candidates are certified to teach only if they demonstrate ability to teach effectively. Teaching competency is determined by the Director of Student Teaching, the university supervisor, and the cooperating teacher or teachers. The student teacher is also required to take a practicum while student teaching. **Student teachers are not generally permitted to enroll in other courses during the student teaching experience.**

Student teaching is normally conducted in selected public schools located in the service area of the university. Alternative programs on an Indian reservation or Latino schools in the American Southwest and overseas experiences are also available. Interested students should discuss this possibility with the Director of Student Teaching in the February preceding student teaching.

The institutional philosophy regarding student teaching is to prepare students adequately to assume their professional responsibilities in the teaching profession in a democratic society and to develop their appreciation of their need for a mastery of the professional knowledge and skill essential to all teaching and special proficiencies in their area of specialization. Student teaching is designed to provide a climate wherein the student may exhibit creativity and the ability to make critical judgments based upon knowledge and reason.

Applications for student teaching may be secured at the Dean's Office and must be submitted in February for the next academic year.

Before students may be assigned to this vital part of the Teacher Education Curriculum, they must:

- a. be admitted to Teacher Education;
- b. obtain departmental approval as having satisfactorily completed the required preparatory work;
- c. maintain a quality point average of 2.50 in the specialization and overall;
- d. be admitted to Student Teaching.

Transfer students are not assigned to student teaching until they have completed at least 24 credits of work in this university. Graduates of other colleges and universities must meet the requirements of admission to Teacher Education before being assigned to student teaching.

## STUDENT TEACHING FOR EXPERIENCED TEACHERS

Teachers who have had one or more years of teaching experience may be permitted to complete the student teaching requirement by special arrangement after consultation with the

Director of Student Teaching. The Director may allow the student to fulfill the student teaching requirement for the Bachelor of Science degree in Education by making a substitute requirement in keeping with the needs of the individual student.

### **APPEAL PROCEDURE FOR CERTIFICATION STUDENTS**

Students appealing decisions regarding teaching certification should contact the Dean of Education and Human Services to discuss their concern. If accord is not reached at this level, the student may appeal to the Vice President for Academic Affairs.

The final source of appeal is with the Certification Appeals Committee, Department of Education, Harrisburg, Pennsylvania. This step should be taken only if there is no possibility for a resolution at an earlier stage, and only if the student is convinced that arbitrary and/or capricious standards are applied.

### **U.S. CITIZENSHIP — A REQUIREMENT FOR TEACHER CERTIFICATION IN PENNSYLVANIA**

No permanent certificate may be granted to any person who is not a citizen of the United States and no provisional certificate may be granted to any person who is not a citizen or who has not declared in writing to the Department of Education the intention of becoming a citizen.

## COLLEGE OF LIBERAL ARTS

What is the College of Liberal Arts? What does Liberal Arts mean? What is a Liberal Arts student? Distinctive to the College and those who participate in it is the educational orientation. Common to definitions of the Liberal Arts are a number of characteristics which do establish a universal understanding: a broad and interdisciplinary course of study, a concern with human values and social issues, the ability to think analytically and to communicate effectively, and a global awareness and appreciation of people, places and their history. The goal of a liberal education, therefore, is to provide the student with opportunities to learn not only information about the world but to acquire basic analytic and communicative skills. Information and skills have no value in themselves; they are valuable insofar as they enrich life, by giving it greater meaning and by making it possible for individuals to adapt to changing employment, personal, and social demands. In essence a liberal arts education stresses the transferability of knowledge and skills from one circumstance or situation to another. The emphasis is not on fitting the individual to a job, but ensuring that the individual can meaningfully adapt to new personal and professional situations. In this statement the College closely aligns itself with the position found in *Priorities for Pennsylvania's State System of Higher Education During the 1990's*.

The College of Liberal Arts incorporates the departments of Art, Communication Studies, Earth Science, English, Foreign Languages and Cultures, History and Urban Studies, Music, Philosophy, Psychology, Social Science, and Theatre. Those departments, and the Department of Business and Economics, collectively offer forty-two programs of study. (See the list on page 10 above). Course distribution sheets are available in the College Office; requirements are listed in the description of each program below for each program. These sheets specify what courses are required and how courses apply toward graduation.

Just as there is no Liberal Arts Department, there is no Liberal Arts major. The Liberal Arts philosophy informs all programs of study within the College. Of these, some are highly structured while others are flexible. Within the General Education course of study, students are encouraged to explore a wide variety of course offerings as one approach in determining an appropriate major. A major, for those who have not done so previously, is to be selected by the end of the third regular semester or upon the completion of 45 credit hours. This does not prohibit students from changing their major, provided they complete the necessary form in the College Office. It does prevent students from taking courses that could result in the failure to graduate within eight regular semesters of study.

Students who do not want a major limited to a single discipline have two degree program options: the Humanities and Fine Arts Major, and the Social Sciences Major. These reflect two thematic area studies. The curriculum in each is flexible and permits interdisciplinary study. The Humanities and Fine Arts majors are advised by faculty members in the Music Department. The Social Science majors are advised by faculty members in the Social Science Department.

In keeping with this educational position, all students participate in the General Education course of study. This program, while permitting students a broad selection of



specific courses, mandates that courses be taken in three categories: Humanities (one of which must be in the Fine or Performing Arts—Art, Music, or Theatre), Natural Sciences (one of which must be a laboratory course), and Social Sciences. A list of courses that will satisfy these requirements can be obtained in the College Office.

The General Education core consists of 60 credits including Composition I (ENG 101) and Composition II (ENG 102). The area of concentration contains 68 credits. In neither section do developmental courses (ENG 100, MAT 098, MAT 099, and EDE 100) count toward graduation (see page 78 of this catalog).

English language competency is essential to the exchange of ideas, the successful completion of course work and entrance into all areas of future employment. To insure that students will develop their language skills and will have the means to meet these expectations, the university requires that all entering students take the university's English placement examination. Initial course placement is based on the results of that examination. Students who do not pass the examination are required to take English Language Skills (ENG 100). Since a great deal of college performance incorporates the ability to express ideas clearly, all students are encouraged to take the two required composition courses during their first semesters at California University. Furthermore, all students majoring in any of the Liberal Arts are required to take three writing component courses. Not all courses designated as writing component courses are English courses. A list of approved courses can be secured from the College Office.

The College supports, implements, and coordinates a number of activities that enhance its curricular program. It supports a Writing Center in Dixon 120. The Center, although committed to assisting students who have English language deficiencies, provides assistance to any faculty and student who wants to write better and more creatively. Working in both close proximity and intention, the Word Processing Laboratory provides assistance to persons wanting to create and edit papers on microcomputers. The Lab in room 110 of Dixon Hall and a computer classroom also are used to advance experimental teaching strategies in English.

The School Psychology Clinic, Room 311 of the Morgan Learning Research Center, also is supported by the College. The Clinic in turn serves the campus community by permitting any student to receive free testing. Information about what tests are offered and when they are given can be obtained at the Psychology Department Office, Room 319, LRC.

The College Office in Noss 103 coordinates activities of common interest across the College. One important concern shared by the College is the need to relate classroom instruction with experiences outside the classroom, experiences which can assist the student in determining career directions, including graduate education. Accordingly, the College supports and implements field experiences in such areas as Archaeology and the Earth Sciences. Equally important are the internship opportunities it works with departments to implement.

What is an internship? For the greatest clarity of understanding, perhaps it would be helpful to ask what an internship is not. It is not cooperative education, individualized instruction, nor a practicum. Cooperative education is paid employment and receives no academic credit. It, however, does give students the opportunity to relate their education to career planning and preparation. Cooperative Education is handled through the Career



Planning and Placement Office on campus. A practicum, a course in which skills are developed by performing prescribed tasks, receives academic credit and is under the direction of a faculty member. No outside agency or supervisor is involved. Finally, individualized instruction designates a special arrangement by a student with a faculty member and the Dean to take a course not offered. For permission to be considered the following conditions must be present: The course is a regular University catalog course and the course is not scheduled to be taught in the semester in which it is desired or needed. Applications are available in the College Office. In contrast to all of these, an internship is a regularly offered course, is usually taken at an off-campus location and is under the dual supervision of an agency as well as a faculty supervisor. Internships are not job training programs, and students are not paid accordingly, although some internships provide compensation for expenses incurred by the student. Guidelines and applications for internships are to be secured from the office of the sponsoring department.

Internships are an integral part of the educational program of the College wherever and whenever possible. Experience of students in settings where their academic knowledge and skills can be integrated is essential if education is to be perceived as relevant to daily living and to promote the idea that education is a continuous process, developed but not limited to the classroom.

The College Office provides a number of student services. Among them are the review of a student's progress toward graduation and graduation clearance; transfer credit evaluation; consideration of requests for required course substitution approval; permission to take courses at other institutions for transfer to California University, including courses at schools outside the United States; the review of applications for readmission, and the processing for changes of academic major requests. Students who have questions with regard to College policies and procedures should contact the College Office, Noss 103.

## COLLEGE OF SCIENCE AND TECHNOLOGY

The College of Science and Technology includes the academic departments of Biological and Environmental Sciences, Business and Economics, Industry and Technology, Mathematics and Computer Science, Military Science, Nursing, and Physical Science. The College offers Associate and Bachelor's degree programs designed to prepare students to meet present and future requirements of specific professions.

The objective of the Baccalaureate Degree programs of the College of Science and Technology is to prepare men and women for responsible positions in business, government, industry, and other complex organizations. As well, several of the college programs prepare students to undertake further study in graduate and professional school. Each curriculum includes both a general education component and a technical education component. The curricula are divided this way so that students will receive a well-rounded education and so that breadth of knowledge will increase their usefulness as professional employees and as citizens in the community.

The General Education program for all four-year curricula of the College of Science and Technology provides the foundation for the students' liberal education. All students, regardless of major, are required to complete this portion of their program. The number of credits in General Education varies from program to program. Depending upon the specific curriculum, a student will be required to pursue one of two General Education course sequences. The first general education course sequence has a required component of 6-18 credits in skill areas, i.e., mathematics, writing, and speaking, and a common core of thirty credits divided in the following manner:

Humanities Electives	6 credits
Social Science Electives	6 credits
Natural Science Electives	6 credits
Free Electives	12 credits

The only restrictions on courses students may select to fulfill these requirements are as follows:

Basic Mathematics (MAT 098), Introduction to Algebra (MAT 099), English Language Skills (ENG 100), and Reading, Studying, and Listening Skills (EDE 100) are developmental courses and are not counted as satisfying any of the General Education requirements or towards graduation, although the grades earned in those courses are computed into the grade point average and the credits are used to determine class standing (see page 78).

Students are not permitted to select courses in the Humanities, Social Sciences, and Natural Science areas from a discipline in which their program requires two or more courses from that discipline. Exceptions to this policy are:

English and Literature:

Only general survey and literature courses are permitted in the Humanities area.

Communication Studies:

Only non-performance based courses are permitted in the Humanities area.

Students must fulfill their requirements in the Humanities, Social Sciences, and Natural Sciences by taking courses in two different disciplines within each area. The only exception to this policy is: A student can take two sequential foreign language classes to satisfy the Humanities electives requirement.

The second General Education course sequence is the same as prescribed by the College of Liberal Arts. It consists of 6 credits of English Composition, 12 credits each in Humanities, Natural Sciences and Social Sciences and 18 credits in free electives. In the areas of Humanities, Natural Sciences and Social Sciences, electives must be selected from at least three different disciplines. One of the electives in Humanities must be in Fine Arts. The required General Education sequence for each curriculum is outlined in the appropriate program section.

In the major area of concentration each Science and Technology curriculum includes the necessary technical, scientific, and support courses to provide the basis for advanced study in a professional area. Classroom theory is frequently supplemented by laboratory and workshop experiences where the interrelationship between general principles and application is emphasized. Advanced study in each discipline is emphasized during the junior and senior years. Additionally, several programs provide students with opportunities to participate in either an internship in business or industry or a clinical year of study in a hospital setting where the students' educational experiences are utilized in the workplace.

## SCHOOL OF GRADUATE STUDIES AND RESEARCH

The School of Graduate Studies and Research at California University of Pennsylvania was initiated in 1961. Presently, there are twenty-eight academic majors within the school leading to either the Master of Education, Master of Arts, or Master of Science degrees. In addition, there are state-accredited supervision certificates offered beyond the master's degree, in such areas as Industrial Arts/Technology Education and Reading. Over the past twenty-five years, students completing master's degrees at this institution have enjoyed success in pursuing doctoral degrees in various professions at reputable graduate schools throughout the United States.

Many academic departments offer courses within their upper-division classes that can be taken by academically qualified undergraduates as well as graduate students.

Courses offerings of the School of Graduate Studies and Research are not listed in this catalog. Information and schedules may be obtained by writing or calling the Graduate School at (412) 938-4187.



**DEPARTMENT OF ACADEMIC DEVELOPMENT SERVICES**

Assistant Professor Geraldine M. Jones, *chair*. Professors Alton N. Powe, Melvin J. Sally; Associate Professors Joanne Raleigh, and Dean L. Wahl; Assistant Professors Carolyn Jones, JoAnn Rodriguez-Naeser.

The Department of Academic Development Services helps students adjust to and cope effectively with academic and related non-academic challenges. Personal assistance is provided to promote success. Academic advisement and instruction, tutoring, and guidance give students opportunities to develop the motivation and skills needed for achievement of their educational goals. Services are provided to the entire student population; however, efforts are primarily intended for students whose educational or economic background makes it difficult for them to complete a college degree program.

Help is provided by both professional staff and student assistants in the following two areas.

*Tutorial and Instructional Services:* Tutors provide assistance with courses in most academic areas. They review lecture notes, check and review textbook and other course materials, and teach course related vocabulary words. A three-credit course entitled Reading, Study and Listening Skills (EDE 100) is offered to incoming freshmen.

*Guidance Services:* Counselors conduct initial interviews with each student; provide an orientation for all new students; help students to schedule and register; monitor each student's academic progress; and provide students with information concerning academic policy, procedures, and practices. Academic advisement and vocational guidance are also provided. Students are encouraged to discuss personal problems with counselors. All discussions are treated confidentially. In many cases, students are referred to one of the several other student services offices for additional assistance.

The Department of Academic Development Services is located in Noss Annex. Office hours are from 8:00 a.m. to 4:00 p.m., Monday through Friday. Anyone desiring services or information is encouraged to stop at the office or call 938-4230.

The Department of Academic Development Services offers one course, Career Planning:

XCP 194: CAREER PLANNING. A course designed to help individuals integrate educational and personal resources needed for employment and career success. Topics include self-evaluation, decision-making, résumé development, interview techniques, and overall career strategies. (1 cr.)

## DEPARTMENT OF ART

Assistant Professor Richard H. Grinstead, *Chair*. Associate Professor Raymond E. Dunlevy; Assistant Professors Leslie A. Parkinson, Richard Miecznikowski, Philip E. Schaltenbrand; Instructor David Olson

### PURPOSE

The study of artistic expression is a study of the development of art forms such as sculpture and painting; the study of technique, that is, the use of color, design, and perspective to achieve the artist's objectives; and a retrospective on what a culture and society has seen, valued, and understood about its place in the world order. Art is a product of human creativity, a manifestation of the human spirit and meaning. The study of art is included in a liberal education because it informs students about the universal search for meaning and meaningful expression, about their past, and about how each person learns to move from a literal and concrete level of understanding to a more symbolic one.

### PROGRAMS

The Art major can take (1) a general Art major or (2) an Art Certification program for teaching in either a primary or a secondary school.

The Art program is very flexible. It directs students into various areas of art, namely art history, introductory art classes, and a series of studio courses in one of the following areas: drawing, painting, sculpture, weaving, ceramics, and printmaking. An art internship can assist students in developing professional relationships and in applying their classroom learning in professional settings. The program of study prepares students to enter graduate school as well as to pursue careers in professions utilizing art.

### Programs with the Art Institute of Pittsburgh

The university also has an agreement with the Art Institute of Pittsburgh which permits a graduate of the Institute's two-year program to receive sixty credit hours toward a Bachelor of Arts degree from California University. A second agreement between the schools permits California University students to take courses during their junior year in visual communication at the Institute and receive up to thirty credits in transfer if they complete one year of full-time course work there.

The junior year program with the Art Institute permits students to take courses not available at California University, specifically in the area of visual communication. This course of study prepares students for positions in commercial art — for example, advertising, publishing and corporate communication. Students acquire knowledge and experience in preparing art and layouts for reproduction.

## Teacher Certification Program

The certification program, which prepares art teachers for both primary and secondary schools, is undertaken in conjunction with area colleges since California University of Pennsylvania does not confer certification in art. Art courses are taken at California University. Art Education and student teaching courses (and, in one case an Art history course) are taken through Carlow College or Washington and Jefferson College; but the student receives the degree of B.A. in Art from California University of Pennsylvania.

At Carlow College the student must complete Secondary Art Methods and Materials (AE 327), Elementary Art Student Teaching (AE 409), Secondary Art Student Teaching (AE 410). AE 327 will be billed at current California University credit cost plus the usual studio fees. The student teaching courses will be billed at current Carlow tuition and fees for full-time Carlow students.

At Washington and Jefferson College the student must complete Art of the Americas (Art 205), Principles of Art Education (Art 400), and Student Teaching (Ed 407). Students will be billed though Washington and Jefferson for these courses at evening/summer school rates.

## CAREERS

Students can become professional artists in their area of specialization, although most will need to undertake graduate education if they are to be successful professionals. Commercial art, in advertising and in broadcast media, continues to be a major employer of Art students. Schools offer teaching positions for art educators who are certified and who have passed the NTE. Graduates with studio art training have opportunities to work in various museum settings, in art galleries and in interior decorating establishments. They also can seek positions in design departments and as art directors in large corporations. Artists can use their talents in conjunction with other areas of specialty, such as Biology, History, and Archaeology. Artists can be illustrators in these areas.

Finally artists work in collaboration with persons in other disciplines or they personally undertake to link their study of art with another discipline. There are many, for example, scientific drawing, medical art being one interdisciplinary field; the utilization of art in therapy, for persons interested in the area of Psychology and Art; and the linkage of art, archaeology, and history, namely in the recording of artifacts and in reconstructive work.

## BACHELOR OF ARTS IN ART

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of electives.

(B) **Area of Concentration:** Art History I (ART 102); Art History II (ART 103); Art History III (ART 104); Drawing I (ART 110); Fiber Arts (ART 112); Ceramics I (ART 113); Painting I (ART 116); Printmaking I (ART 117); Sculpture I (ART 118); Design 2-D (ART 119); Drawing II (ART 210); required 45 credits and



Design 3-D (ART 120); 12 credits in a studio (non-concentration). Studio Concentration:12 credits. Related Courses: 11 credits.

**Options with the Art Institute of Pittsburgh:** (A) As many as 60 credits may be transferred by graduates of the Art Institute to the Bachelor's degree at California. (B) California University junior-year students may take courses at the Art Institute totalling as many as 30 credits.

## BACHELOR OF ARTS WITH TEACHER CERTIFICATION IN ART (K-12)

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences.

(B) **Professional Specialization:** At California: Foundations of Education (EDF 100), Introduction to Educational Media (EDF 304), Educational Testing and Measurement (EDS 430).

At Carlow College: Secondary Art Methods and Materials (AE 327), Elementary Art Student Teaching (AE 409), Secondary Art Student Teaching (AE 410).

At Washington and Jefferson College: Art of the Americas (Art 205), Principles of Art Education (Art 400), and Student Teaching (Ed 407).

(C) **Area of Concentration:** Major courses 27 credits. Design I (ART 105); Art Appreciation (ART 106); Drawing I (ART 110); Design 2-D (ART 119); and Design 3-D (ART 120); 12 credits in a studio concentration, beyond the introductory course and chosen in consultation with a faculty advisor; 12 additional credits in Art: Ceramics I (ART 113); Painting I (ART 116); Sculpture I (ART 118); Printmaking (ART 117); 15 credits of Humanities electives, including Weaving (ART 114) or Jewelry (ART 255) or Stained Glass (ART 115); Art History I (ART 102); Art History II (ART 103); and 14 credits of electives including courses required by college selected for accreditation.

*Pennsylvania Certification requires a satisfactory score on the NTE.*

## ART COURSES

Introductory level courses are indicated by a plus (+)

F and S indicate whether a course is usually offered in the Fall or the Spring.

+ART 102. ART HISTORY I: PREHISTORIC TO GOTHIC. A study of art from prehistoric man to and including the art of the Middle Ages. This course will relate artistic achievements with religious, social, political, and philosophical attitudes of the times. (3 crs.) S

+ART 103. ART HISTORY II: RENAISSANCE TO BAROQUE. A study of Western Art specifically dealing with the Renaissance and the Baroque art of Europe. This course will relate how the social, religious, political, and philosophical attitudes influenced artistic productions. (3 crs.) F

+ART 104. ART HISTORY III: ROMANTICISM, CONTEMPORARY. A study of the art of the modern world beginning with Neoclassicism and Romanticism and continuing through the Twentieth Century. Social forces that affect artistic expression are considered. (3 crs.)F

+ART 105. DESIGN I: An examination of elements and principles used in visual composition. The student uses a variety of media to solve problems in the theory and practice of art fundamentals. (3 crs.)

+ART 106. **ART APPRECIATION.** An introduction to the major movements in art which helped shape western civilization. This course is a survey of historical and contemporary approaches to painting, sculpture and architecture. (3 crs.) F S

+ART 110. **DRAWING I.** A beginning course in the development of drawing skills and techniques stressing line, contour and value studies, and the study of linear and areal perspective. The course stresses rendering techniques and the visual skills necessary for students to draw what they see. F S

ART 112. **FIBER ARTS.** The course is an introduction to the world of fiber art. Emphasis is on exploration of both traditional and contemporary fiber craft, from traditional tapestry and sculptural basketry to functional clothing and whimsical toys. The student will work with basketry, weaving, batiks, stitchery, quilting, and appliqué to create exciting, imaginative art. (3 crs.) F S

+ART 113. **CERAMICS I.** An introductory exploration of clay through hand building techniques and the potter's wheel. Students will examine the various forms and functions of the ceramic vessel. The course will focus on forming processes and the glazing and firing of pieces made in the studio. (3 crs.) F S

+ART 114. **WEAVING.** This is a basic, introductory course in four-harness weaving. The student is instructed in the method of determining warp length and width, the threading of both table and floor looms and various loom-controlled and hand-manipulated weaves. Both traditional and contemporary pieces can be designed and both functional and non-functional work can be executed. (3 crs.) S

+ART 115. **STAINED GLASS I.** An introduction to the very basics of glass cutting, finishing, and soldering techniques. Emphasis is on the copper foil method of Louis Tiffany; however, the student may also choose to work with coming, etching, sand blasting on glass, and beveling in the construction of their projects. (3 crs.) F

+ART 116. **PAINTING I.** An introduction to the fundamentals of painting. Emphasis is placed on fundamental techniques including the study of light and shadow, color intensity control and projection and recession of objects in space. Work and exercises are done primarily in oil paints. Work in watercolor or acrylic may be done with prior approval of the instructor. (3 crs.) F S

+ART 117. **PRINTMAKING I.** The course is designed to develop interest and techniques in the making of woodcuts, lithographs, etchings, engravings, serigraphs, monoprints, and photo print processes. (3 crs.) F S

+ART 118. **SCULPTURE I.** Introduction to the basic language, elements, media, tools, techniques and principles of organization used in sculpture. The basic techniques of manipulation, subtraction, substitution and addition will be covered, involving different media and tools. (3 crs.) F S

+ART 119. **DESIGN 2-D.** An examination of elements and principles used in two-dimensional visual composition. The student uses a variety of media to solve problems in the theory and practice of art fundamentals. (3 crs.) F

+ART 120. **DESIGN 3-D.** An examination of the elements and principles used in three-dimensional visual composition. These include all the elements and principles used in two-dimensional design, as well as the concepts of mass and volume. (3 crs.) S

ART 210. **DRAWING II.** Continued development of drawing skills and techniques stressing line, contour and value studies. The course stresses interpretative drawing in both traditional media and in computer aided drawing and design. (3 crs.) S

+ART 211. **COMMUNICATION DESIGN.** This studio course provides hands-on experience using design tools and techniques to create pictorial symbols which communicate ideas in a universal language. The course also explores the history of pictures and symbols used as language. (3 crs.) F

**ART 216. STAINED GLASS II.** This course provides further historical facts concerning stained glass and the influence of contemporary design and construction on stained glass compositions. The course includes an introduction to kiln firing, sandblasting, acid etching, beveling, and the application of these methods in glass construction. (3 crs.)

**ART 232. MICROCOMPUTER AS A TOOL FOR THE ARTIST.** This course introduces the art major to microcomputers and appropriate hardware/software for art production in various media. It is a studio course in which works of art are developed with the aid of the computer. Art majors must have completed at least two studio requirements prior to taking this course. (3 crs.) S

**ART 234. BASIC PHOTOGRAPHIC METHODS FOR ARTISTS.** A course that teaches basic information and skills necessary to produce graphics presentations on a computer as well as the transfer of those presentations onto video tape, so as to produce video slide shows, video titling, simple character generation and animation. (3 crs.)

+ **ART 245. TAPESTRY WEAVING.** An introduction to both traditional and contemporary tapestry techniques. Emphasis is on imaginative use of traditional techniques with each student expected to design and execute creative, well-crafted woven pieces in a variety of unusual material. (3 crs.)

+ **ART 255. JEWELRY I.** An introduction to basic metal shaping and stone setting, using techniques in cutting, shaping, piercing, fusing, and appliquéing wire and sheet silver, brass and copper into contemporary jewelry forms. (3 crs.) F

+ **ART 260. WATERCOLOR I.** Basic watercolor techniques. Emphasis is placed on both transparent and opaque water colors. (3 crs.) S

+ **ART 275. FABRICS.** An introduction to the various surface treatments of common and unusual materials. Emphasis is on contemporary applications of traditional techniques, such as stitchery, fabric painting, silk screen, stenciling, tie dye and batik, with the student expected to design both imaginative and innovative fabric art forms. (3 crs.) F S

**ART 193, 293, 393, 493. CERAMIC STUDIOS.** Advanced courses in ceramic skills and techniques on the potter's wheel and in-hand forming methods. Considerable emphasis will be placed on glazing and firing. Prerequisite: Ceramics I. (3 crs.) F S

**ART 299, 399, 425, 499. FIBER ARTS STUDIOS.** The fiber studio concentration explores a large spectrum of contemporary textile techniques. Areas for investigation include, for example, surface and textile painting, and the design of stuffed sculpture and fabric toys. Emphasis is, at all times, on innovative design, imagination in the utilization of technique and material, as well as general craftsmanship. (3 crs.) F S

**ART 196, 296, 396, 496. PAINTING STUDIOS.** A series of painting studios develop proficiencies in painting techniques, rendering skills, and the visual analysis of forms. Students explore a variety of painting methods, subjects and themes. The goal is for each student to achieve a unique approach to form and content. (3 crs.) F S

**ART 197, 297, 397, 497. PRINTMAKING STUDIOS.** The studio sequence enables students to pursue printmaking techniques in depth. Students will also be expected to demonstrate critical thinking and analysis of materials and the use of such in the various media. (3 crs.) F S

**ART 198, 298, 398, 498. SCULPTURE STUDIOS.** The studio courses enable students to experiment with many types of materials which can be used as sculpture. They will be expected to impose on themselves problems which demonstrate critical thinking and analysis of materials. Prerequisite: Sculpture I. (3 crs.) F S

**ART 303. SECONDARY ART METHODS.** A study of the development of secondary art students, as well as the study of materials and their utilization in the development of a secondary art program. (3 crs.)

**ART 329. ART INTERNSHIP.** Supervised experience providing the specific technical skills used in the art world outside the classroom and studio — e.g., mounting exhibits, techniques of art restoration, graphic arts production techniques, and promoting arts and cultural events. (VA credit)

**ART 337. FOLK POTTERY OF SOUTHWESTERN PENNSYLVANIA.** An introduction to the history and process of salt glazed stoneware, as it developed and functioned in Southwestern Pennsylvania during the second half of the nineteenth century. (3 crs.)

**ART 355. JEWELRY II.** An advanced course in fabrication with additional work in enameling and casting. Emphasis is on imaginative design, craftsmanship and evident skill in each technique. (3 crs.)

**ART 360. WATERCOLOR II.** A course designed to further the study of transparency and opaque watercolor. Includes techniques in gouache, egg tempera, and fresco painting. (3 crs.)

**ART 361. VIDEO ART/DESIGN.** Provides advanced information and skills necessary to produce graphics presentations on a computer and transfer those presentations onto video tape. Production of such products as video slide shows, video titling, simple character generation and animation of video screens. (3 crs.)

**ART 460. SELECTED TOPICS.** This course provides material not covered in regular art studios or art history classes. It affords faculty and students the opportunity to explore new ideas and techniques on selected topics. (3 crs.)

**EDE 205. ART FOR THE ELEMENTARY GRADES.** A course required for Elementary Education majors. Emphasis is placed on the nature of creativity and its value in the development of the whole child. Creativity is given personal meaning through the exploration of art materials and techniques. The role of the classroom teacher teaching art is established. (3 crs.) F S



**DEPARTMENT OF BIOLOGICAL  
AND ENVIRONMENTAL SCIENCES**

**BIOLOGY (BIO)  
ENVIRONMENTAL SCIENCES (ENS)  
MEDICAL TECHNOLOGY  
MORTUARY SCIENCE  
PREPROFESSIONAL BIOLOGY  
WASHINGTON HOSPITAL SCHOOL OF NURSING**

Professor William G. Kimmel, *chair*; Associate Professor Edwin M. Zuchelkowski, *assistant chair*. Professors Jan W. Balling, Foster E. Billheimer, Thomas P. Buckelew, Raymond A. Catalano, William E. Gabor, Barry B. Hunter, Ewald C. Krueger, C. Allan Miller, Thomas C. Moon, Jeanette Mullins, Marc A. Sylvester; Associate Professor Mitchell M. Bailey; Assistant Professors David F. Boehm, John P. Carroll, Brian K. Paulson.

The Department of Biological and Environmental Sciences is housed in a modern, multi-million dollar four-story building, equipped with the latest in biological and environmental science instruments. Specialized areas include both scanning and transmission electron microscope facilities, an animal room, greenhouse, herbarium, plant growth facilities, radiation laboratory, museum and extensive photographic facilities. Teaching laboratories are equipped for the study of anatomy, botany, cytology, ecology, embryology, entomology, genetics, microbiology, parasitology, physiology, radiation biology, zoology, mammalogy, water pollution biology, ichthyology, animal behavior, biometry, ethology, environmental toxicology, environmental physiology, solid waste management, air quality monitoring, dendrology, ornithology and wildlife biology.

**BACHELOR OF SCIENCE IN BIOLOGY**

This is an intensive scientific curriculum which prepares students for graduate work in the biological sciences and career work in many biologically related areas. The major emphasis of this program is to provide the student with a broad scientific core of courses, including studies in chemistry, physics, mathematics, and biology.

Students have the opportunity to select a wide range of biological elective courses that best fulfill their need for future work or graduate study ranging from the molecular to the population level. Practical laboratory experience emphasizes critical thinking and the use of instrumentation to study living systems.

Career opportunities include preparation for graduate work in biology and related fields, for industrial research, for government research, for careers as a medical illustrator, in public health, and in the many health-related fields.

**Curriculum:**

(A) **General Education:** English Composition I & II (ENG 101 & 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Principles of Biology (BIO 115); General Botany (BIO 125); General Zoology (BIO 120); Genetics (BIO 318); Evolution (BIO 478); 22 credits of elective courses in Biology (chosen to include certain courses in botany, zoology, physiology, cell and molecular and ecology); General Chemistry I & II (CHE 101 & 102); Organic Chemistry I & II (CHE 331 & 332); General Physics I & II (PHY 121 & 122); Calculus I (MAT 281) or Basic Calculus (MAT 273).

<p style="text-align: center;"><b>BACHELOR OF SCIENCE IN EDUCATION: CERTIFICATION IN BIOLOGY FOR SECONDARY SCHOOLS</b></p>
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**Curriculum:**

(A) **General Education:** 15 credits in Humanities, including Composition I (ENG 101) and Composition II (ENG 102); 11 credits in Natural Sciences including Organic Chemistry I (CHE 331), General Physics I (PHY 121), and College Algebra (MAT 181) or Pre-Calculus (MAT 199), or Calculus I (MAT 281); 9 credits in Social Science; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 101); 3 credits of Free Electives.

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology: (PSY 208); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multicultural Society (EDU 210); Mainstreaming Exceptional Learners (EDU 340); Teaching in a Multicultural Society (EDU 210); Teaching of Science in Secondary Schools (EDS 467); Student Teaching and School Law (EDS 461); Mainstreaming the Exceptional Child (EDU 340); Computers for Teachers (EDF 301).

(C) **Professional Specialization: Required:** Principles of Biology (BIO 115); General Botany (BIO 125); General Zoology (BIO 120); Genetics (BIO 318). 16 credits selected from four Biology Core areas.

Pennsylvania Certification requires a satisfactory score on the NTE.

See also the section on General Science Certification, on page 298 in this catalog.

<p style="text-align: center;"><b>BACHELOR OF SCIENCE IN ENVIRONMENTAL STUDIES</b></p>
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The Environmental Studies Program prepares students for career work in environmental science and ecology-related areas and for graduate work. The major emphasis of the program is to provide the student with a broad core of courses in biology, supplemented with courses in chemistry, physics, and mathematics. All students have the opportunity to select from a wide range of science elective courses in order to fulfill their need for future work or graduate school. Almost all courses include a laboratory or field component in which students bring theory, methodology, and instrumentation to bear on specific problems.

A senior independent research problems class (which limits enrollment to fewer than 10 students for more effective learning) gives the student practical experience with all phases of a research problem—literature review, experimental design, data collection, analysis, interpretation and scientific writing. Some of the topics that have been covered include water pollution biology, small mammal population dynamics, plant and animal species

diversity, comparisons between different types of habitats, shorebird food selection, the effects of acid mine drainage on the distribution of streamside terrestrial vegetation, and the effects of strip mining on ecological succession.

A steady demand exists for such environmental scientists as wildlife biologists, fishery biologists, water analysis technicians, air pollution control monitors, environmental health technicians, and interpretative naturalists. Many graduates are employed in these areas by private industry and by state and federal organizations. Some graduates further their education through work leading to the Master of Science or Doctor of Philosophy degrees and teach and do research at a college or university.

**Options:**

- Environmental Conservation
- Environmental Resources
- Environmental Science
- Environmental Pollution Control
- Wildlife Biology

**Curriculum:**

(A) **General Education** (Environmental Conservation and Environmental Resources Tracks): English Composition I & II (ENG 101 & 102); Scientific and Technical Writing (ENG 217); Pre-Calculus (MAT 199); Basic Programming Language (CSC 105); Computer Science I (CSC 121) or Pascal (CSC 128); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **Environmental Conservation Track:** Principles of Biology (BIO 115); General Zoology (BIO 120); General Botany (BIO 125); Introduction to Geology (EAS 150); General Chemistry I & II (CHE 101 & 102); Analytical Chemistry (CHE 261); Field Biology (ENS 205); Conservation of Biological Resources (BIO 206); Game and Habitat Management (ENS 421); Wildlife Techniques (ENS 422); Dendrology (BIO 442); Environmental Research Problems (ENS 459); Biotic Communities (BIO 308); Biometry (BIO 466); Design & Analysis (ENS 495). 21 credits of the following recommended Electives: Ornithology (BIO 337); Entomology (BIO 445); Ichthyology (BIO 435); Water Pollution Biology (BIO 488); Ethology (BIO 441); Mammalogy (BIO 400); Plant Ecology (BIO 314); Plant Taxonomy (BIO 336); Soil Science (BIO 334); Environmental Physiology (BIO 486); Ecosystems Ecology (BIO 316).

(C) **Environmental Resources Track:** Introduction to Geology (EAS 150); Man and His Environment (ENS 100); Environmental Geology (EAS 231); General Chemistry I (CHE 101) and II (CHE 102); Introduction to Oceanography (EAS 163); Contemporary Issues in Biology (BIO 103); Economic Geography (GEO 200); Map and Aerial Photography Interpretation (EAS 272); Soil Science (BIO 334); Earth Resources (EAS 232); Mineralogy (EAS 331); Petrology (EAS 332); Coastal Geomorphology and Marine Resources (EAS 363); Historical Geology (EAS 200); Field course in Geology, Biology, or Hydrology. 22 credits of the following electives (at least one course from each group): GROUP A - Meteorology (EAS 241); Climatology (EAS 242); Hydrology (EAS 202); Air Quality Monitoring (ENS 430). GROUP B - Geomorphology (EAS 343); Sedimentology (EAS 421); Solid Waste Management (ENS 431). GROUP C - Geochemistry (CHE 255); Geophysics (PHY 235); Reservoir Evaluation (PET 455); Micropaleontology (EAS 350). GROUP D - Computer Science II (CSC 222); Environmental Chemistry (PHS 136); Environmental Regulations (ENS 432); Statistical Cartography (EAS 373).

(D) **General Education** (Environmental Science and Environmental Pollution Control Tracks): English Composition I & II (ENG 101 & 102); Formal Logic (PHI 312); Basic Calculus (MAT 237) or Calculus I (MAT 281); Basic Programming Language (CSC 105); Computer Science I (CSC 121) or Pascal (CSC 128). 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits Free Electives.

(E) **Environmental Science Track:** Principles of Biology (BIO 115); General Zoology (BIO 120); General Botany (BIO 125); Ecosystems Ecology (BIO 316); Environmental Physiology (BIO 486); Biometry (BIO 466); Environmental Research Problems (ENS 459); General Chemistry I & II (CHE 101 & 102); General Physics I & II (PHY 121 & 122); Genetics (BIO 318); Evolution (BIO 478); Design and Analysis (ENS 495). 18 credits from the following Animal Ecology and/or Plant Ecology Cores: ANIMAL ECOLOGY CORE: Comparative Vertebrate Anatomy (BIO 305); Ornithology (BIO 337); Entomology (BIO 445); Ichthyology (BIO 435); Water Pollution Biology (BIO 488); Ethology (BIO 441); Mammalogy (BIO 400); Parasitology (BIO 327); Herpetology (BIO 433). PLANT ECOLOGY CORE: Plant Ecology (BIO 314); Plant Taxonomy (BIO 336); Soil Science (BIO 334); Dendrology (BIO 442); Biotic Communities (BIO 308).



**(F) Environmental Pollution Control Track:** Principles of Biology (BIO 115); General Zoology (BIO 120); General Botany (BIO 125); General Chemistry I & II (CHE 101 & 102); Organic Chemistry I & II (CHE 331 & 332); Analytical Chemistry I (CHE 261); Ecosystems Ecology (BIO 316); Water Pollution Biology (BIO 488); Microbiology (BIO 326); Biometry (BIO 466); Environmental Physiology (BIO 486); Laboratory Instrumentation (BIO 430); Techniques in Water and Wastewater Analysis (ENS 341); Air Quality Monitoring (ENS 430); Solid Waste Management (ENS 431); Environmental Regulations (ENS 432); Environmental Research Problems (ENS 459); Design and Analysis (ENS 495). 5 credits of related electives selected with advisor's approval from courses in ornithology, entomology, dendrology, mammalogy, soil science, and plant taxonomy.

**(G) Wildlife Biology Track:** Principles of Biology (BIO 115); General Zoology (BIO 120); General Botany (BIO 125); General Chemistry I & II (CHE 101 & 102); Organic Chemistry I & II (CHE 331 & 332); Genetics (BIO 319); Principles of Wildlife Management (ENS 420); Wildlife Management Techniques (ENS 423); Dendrology (BIO 442) or Plant Taxonomy (BIO 336); Ecosystems Ecology (BIO 316); Ornithology (BIO 337); Mammalogy (BIO 400); Biometry (BIO 466) or Design and Analysis (BIO 495); 6 credits of the following recommended electives: Oral Communication (COM 101); Principles of Management (MGT 201); Land Use Planning (GEO 317); Urban Planning (HIS 234); 12 credits of the following recommended electives: Microbiology (BIO 326); Parasitology (BIO 327); Soil Science (BIO 334); Herpetology (BIO 433); Ichthyology (BIO 435); Ethology (BIO 441); Entomology (BIO 445); Environmental Research Problems (ENS 459); Evolution (BIO 478); Environmental Physiology (BIO 486); Water Pollution Biology (BIO 488).

## ENVIRONMENTAL EDUCATION ENDORSEMENT PROGRAM

Environmental education should be a life-long process. It is a way of looking at life, fostering awareness of other life and of interrelationships, and learning to recognize the effects (both good and bad) man has on his physical and biological surroundings. The need for teachers to direct environmental programs and provide environmental teaching is pressing. The courses listed below are designed to develop an individual's ability to teach and/or direct the development of a school's environmental education program.

### Curriculum:

Man and His Environment (ENS 100). Two of the following: Environmental Chemistry (PHS 136); Environmental Biology (BIO 105); Environmental Geology (EAS 235). At least one in each of the following areas: 1. Laboratory Science: Ecosystems Ecology (BIO 316); Principles of Biology (BIO 115); Physical Geography (EAS 151); Meteorology (EAS 241); Man and His Physical World (PHS 111); 2. Techniques and Procedures: Plant Taxonomy (BIO 336); Planning and Development of Areas and Facilities (XUA 416); Recreation and Park Administration (XUA 400); 3. Outdoor Activities: Conservation and Biological Resources (BIO 206); Game and Habitat Management (ENS 421); Wildlife Techniques (ENS 422); 4. Human Involvement: Continuing Problems in Human Ecology (BIO 106); Human Ecology (GEO 240).

## BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY

Advances in medical science have occurred at an accelerating pace in recent years, and great progress has been made in the diagnosis and treatment of disease. Research findings in biochemistry and advances in instrumentation technology have increased the quality of American health care and have generated a growing demand for people trained in the field of medical technology. The Medical Technology program prepares students to hold key positions in the medical laboratory.

The Medical Technology program of this university is approved by the American Society of Clinical Pathologists, a member of the American Medical Association (AMA). California University of Pennsylvania is formally affiliated with eight hospital schools of medical technology. The program involves a three-year program on campus and one year (12 months) at one of the approved affiliated schools or one acceptable to California University of Pennsylvania. Upon the completion of the clinical or internship year the student is granted a Bachelor of Science degree from California University of Pennsylvania as well as a certificate in medical technology from the hospital school. In addition, graduates take the national test given by the Registry of Medical Technologists of the American Society of Clinical Pathologists. The students who successfully pass this examination become registered medical technologists M.T. (A.S.C.P.)

The University's hospital affiliations include:

Allegheny General Hospital	Pittsburgh, PA
Altoona Hospital	Altoona, PA
Conemaugh Valley Memorial Hospital	Johnstown, PA
Latrobe Area Hospital	Latrobe, PA
St. Vincent Hospital	Erie, PA
Washington Hospital	Washington, PA
West Penn Hospital	Pittsburgh, PA

To enhance the student's opportunity of being accepted by one of the affiliated hospital schools of medical technology for the fourth or clinical year, it is strongly recommended that the student maintain a minimum of a 3.0 quality point average in the natural sciences (Biology, Chemistry, Physics, and Mathematics) and a minimum of a 3.0 overall quality point average.

Qualified men and women are in demand as medical technologists to hold responsible positions in blood banking, microbiology, parasitology, chemistry, serology, hematology, and nuclear medicine, as well as in supervisory positions in laboratories.

#### Curriculum:

(A) **General Education:** English Composition I (ENG 101); Principles of Management (BUS 201); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits in free electives.

(B) **Area of Concentration:** Principles of Biology (BIO 115); General Zoology (BIO 120); Human Anatomy (BIO 306); Microbiology (BIO 326); Human Physiology (BIO 328); Parasitology (BIO 327); Genetics (BIO 318); Clinical Microbiology (BIO 426); Laboratory Instrumentation (BIO 430); General Chemistry I & II (CHE 101 & 102); Analytical Chemistry I (CHE 361); General Physics I & II (PHY 121 & 122); Organic Chemistry I (CHE 331); College Algebra (MAT 181). The following courses are strongly recommended by the Hospital Schools of Medical Technology: English Composition II (ENG 102); Organic Chemistry II (CHE 302); Mycology (BIO 407); Radiation Biology (BIO 408); Biochemistry I (CHE 441); Statistics (MAT 215). Approved Medical Technology (29 credits).

### PREPROFESSIONAL BIOLOGY

Students in the health professions commit themselves to a lifelong process of self-education; therefore, the development of scholarly motivation, independence, and creativity are vital to professional medical competence. Acquiring an understanding of people, their societies, and their history is a valuable asset in the practice of the health professions. Consequently, a liberal education in the humanities and the arts, as well as in the social and

natural sciences, provides the best professional preparation. In addition, the student should demonstrate competence and concentrated study in a curriculum or field of special interest. Although students interested in the health professions do not necessarily major in Biology, they should plan to take a significant number of biology courses.

Varied program offerings make it possible to satisfy requirements for pre-medical, pre-dental, pre-veterinary, pre-podiatry, pre-pharmacy, pre-chiropractic, and other pre-health fields. Those interested should contact the Biology Department to discuss their career plans.

#### **Curriculum:**

(A) **General Education:** English Composition I & II (ENG 101 & 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of Free Electives.

(B) **Area of Concentration:** Principles of Biology (BIO 115); General Zoology (BIO 120); General Botany (BIO 125); General Chemistry I & II (CHE 101 & 102); Organic Chemistry I & II (CHE 331 & 332); General Physics I & II (PHY 121 & 122); Basic Calculus (MAT 273) or Calculus I (MAT 281); Genetics (BIO 318); Human Anatomy (BIO 306) or Comparative Vertebrate Anatomy (BIO 305); Human Physiology (BIO 328); Cell Biology (BIO 480); Microbiology (BIO 326); 9 credits of related electives in Biology (chosen from among courses in parasitology, histology, embryology, clinical microbiology, and biochemistry).

## **BACHELOR OF SCIENCE DEGREE IN MORTUARY SCIENCE**

In today's world the expansion of knowledge occurs at such a rapid rate that the average person cannot keep pace with information that affects his life. In professional careers a broad understanding of the changing world is closely related to success. In the health related professions, we find phenomenal growth in knowledge, technology and improved delivery systems of service to the public. This expansion of preparation for the mortuary sciences is one way that can serve the practitioner to better serve society.

#### **Career Outlook**

Highly qualified individuals can be successful as members of a well-established mortuary firm or in an individualized firm. Careers in teaching and research are also available.

#### **Objectives**

The program objectives are:

- to prepare the student with an academic background that can challenge the changing technology and demands of society;
- to expand the opportunities for entry into a technological world.

#### **Curriculum Offered**

The California University program is accredited through the Middle States Association of College and Secondary Schools. The mortuary science year, through affiliation with the Pittsburgh School of Mortuary Science, is accredited through the American Board of Funeral Service Education, National Association of Colleges of Mortuary Science, National Conference of Funeral Service Examining Boards of the United States, Inc. This program

is designed for three years of approved study on campus and one year of study at the Pittsburgh Institute of Mortuary Science. Upon completion of the program, the student is granted a Bachelor of Science degree from California and a diploma from the Pittsburgh Institute. Upon completion of a one-year resident intern period, the candidate applies for the State Board Examinations and licensure as a funeral director and embalmer.

The curriculum requires 128 credits: 100 credits in required and elective California University courses and 28 credits for the institute year at an approved mortuary science institute.

**Curriculum:**

(A) **General Education:** English Composition I & II (ENG 101 & 102); General Psychology (PSY 100); Elements of Economics (ECO 100); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **Area of Concentration:** Principles of Biology (BIO 115); General Botany (BIO 125); General Zoology (BIO 120); Human Anatomy (BIO 306); Human Physiology (BIO 328); Microbiology (BIO 326); General Chemistry I & II (CHE 101 & 102); Organic Chemistry I & II (CHE 331 & 332); College Algebra (MAT 101); Accounting I (BUS 111); Ethics (PHI 220); Psychology of Adjustment (PSY 315); Social Psychology (PSY 211); Principles of Sociology (SOC 100); Introduction to Political Science (POS 100); Basic Programming Language (CSC 105); Sculpture I (ART 118); Mathematics of Finance (MAT 171); Business Writing I (ENG 211); Principles of Management (BUS 201); The Family (SOC 220); Introduction to Social work (SOW 105); Death and Dying (EDF 318); Oral Communication (COM 101); Animal Histology (BIO 325); Parasitology (BIO 327); 8 credits of advanced Biology courses selected with advisor's approval.

**THE WASHINGTON HOSPITAL SCHOOL OF NURSING  
REGISTERED NURSE PROGRAM**

The Washington Hospital School of Nursing (WHSN) Registered Nurse Program is a cooperative venture between California University and the WHSN. Entrance into the program requires successful performance by the prospective student on the qualifying examination given by the WHSN and subsequent acceptance for admission to both the WHSN and California University of Pennsylvania. The program of study leading to the certificate of completion given by WHSN and licensure as a registered nurse, following successful completion of the prescribed curriculum and examinations as required by law, is 27 months in duration. The cooperative nature of this program is based upon the university providing a minimum of 40 credits in traditional science and general education courses and the WHSN providing the traditional nursing courses and clinical experiences required for certification as a registered nurse. Because of the necessity by WHSN to limit enrollment, the availability of university classes may be limited. This is particularly critical with regard to the science classes, Anatomy and Physiology I and II, Chemistry for the Health Sciences, Basic Microbiology, and Basic Principles of Nutrition where, depending upon circumstances, enrollment may be restricted to students who have been formally accepted into the WHSN Program. Individuals who wish to earn a degree from the university may continue in the Bachelor of Science Nursing Program offered by the university following completion of the WHSN Program. However, other qualifications and/or examinations may be required prior to entry into the university BSN Program. (See the description of the Nursing Program, pages 288-289 in this catalog.)

**BIOLOGICAL SCIENCES COURSES (BIO)**

F and S indicate whether the course is usually offered in the Fall or the Spring.

Introductory level courses are indicated by a plus (+).

+BIO 103. CONTEMPORARY ISSUES IN BIOLOGY. Basic biological principles are applied to the understanding of current social-biological problems and how these relate to an individual's personal life. Topics included are human sexuality, nutrition, health and disease, evolution, behavior, and the diversity of life. For students not majoring in Biology. Three lecture hours weekly. (3 crs.)

+BIO 104. BASIC CARE OF PLANTS. A general introduction to the basic care of plants. Students are introduced to techniques that will make the growing and caring of plants, indoors and out, less complicated and more fun. Three lecture hours weekly. (3 crs.)

BIO 106. CONTEMPORARY PROBLEMS IN HUMAN ECOLOGY. An extensive examination of man's impact on the biosphere, hydrosphere, lithosphere, and atmosphere, with emphasis on: (1) pollution of aquatic and tripospheric systems; (2) other pollutants in human ecosystems; (3) human population dynamics in relation to disease, malnutrition, genetics, and food. Lectures, possibly supplemented with various field trips. Prerequisite: BIO 103. Three lecture hours weekly. (3 crs.)

+BIO 108. BIOLOGICAL CONCEPTS. A one-semester preparation course in biology for students who must take BIO 115 as part of their curriculum and who require additional training in the biological sciences. Topics are selected to deal with the fundamental concepts that are requisite to entrance into BIO 115. Three lecture hours weekly. (3 crs.)

BIO 112. BIOLOGY OF SEXUALLY TRANSMITTED DISEASES. A non-major Biology course pertaining to the causes and consequences of human sexually transmitted diseases. Descriptions of the microorganisms which cause STDs and the factors which are involved in their dissemination will be studied. Special emphasis will be directed towards human behavior patterns and mores which are conducive to contracting these venereal diseases. Viral STDs (Acquired Immune Deficiency Syndrome, Human Papilloma Disease, Herpes Simplex II and Hepatitis B) will be emphasized because they can cause severe diseases or even death in humans; however, the more common venereal diseases (syphilis, gonorrhea, lymphogranuloma, venereum, chancroid and candidiasis) will also be studied. Prerequisite: None. Three lecture hours weekly. (3 crs.)

BIO 115. PRINCIPLES OF BIOLOGY. Structures and functions common to all organisms; cell structure and function, the chemical aspects of biological systems, energy and materials balance in nature, developmental biology, principles of genetics, evolution, and ecology. Prerequisite: Science majors. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 120. GENERAL ZOOLOGY. A comprehensive phylogenetic survey of the animal kingdom, with emphasis on evolutionary changes and the interrelationships of animals with their environment. Laboratory studies of representative members of the major phyla. Prerequisite: BIO 115. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 125. GENERAL BOTANY. A survey of form and function of the major plant groups as well as the bacteria, algae, water molds, slime molds, and fungi within the overall framework of a modern phylogenetic system of classification. Prerequisite: BIO 115. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 206. CONSERVATION OF BIOLOGICAL RESOURCES. A study of biological aspects relating to plants and animals directly associated with water, soil, and environmental changes. Numerous field trips are taken into areas

of Western Pennsylvania to observe land reclamation, conservation practices, and basic problems confronting human populations. Prerequisites: BIO 115 & 125. Three lecture hours and a three-hour field trip. (4 crs.) S

**BIO 305. COMPARATIVE VERTEBRATE ANATOMY.** A comparative study of the vertebrate organs and organ systems, primarily concentrating on comparing the rabbit with man. Other chordates are used as ancillary material. Prerequisites: BIO 115 & 120. Three lecture hours and three laboratory hours weekly. (4 crs.)

**BIO 306. HUMAN ANATOMY.** A basic study of the structure of the human body. Prerequisites: BIO 115 & 120 or permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.) F

**BIO 307. PLANT ANATOMY.** A detailed study of structural differentiations, especially in the higher plants: the structure of meristems and developmental changes in their derivatives. Prerequisites: BIO 115 & 125. Three lecture hours and three laboratory hours weekly. (4 crs.) F

**BIO 308. BIOTIC COMMUNITIES.** The principles of the structure and nature of various biotic communities are considered from the concrete stand to the biome level. Factors which limit, maintain, and modify biotic assemblages are presented qualitatively and quantitatively from the local to the regional portions of the communities. Interrelationships between organisms and environment in reference to the organism's morphological, physiological, and behavioral adaptations. The dynamics of ecological succession are stressed, illustrating the permanence of climax communities over geological time. Ecological techniques and methods to quantify and qualify the community are pursued in the field and laboratory. Extended field trips may be required. Prerequisites: BIO 115, 120, and 125. Three lecture hours and three hours of laboratory/field experience weekly. (4 crs.) S

**BIO 314. PLANT ECOLOGY.** A consideration of the plant communities which are influenced by both biotic and physical factors. The emphasis is on the vegetation of Pennsylvania, especially in the area of the Appalachian Mountains. Laboratory work provides the student with the opportunity to become familiar with modern methods of vegetational analysis and community sampling. Prerequisites: BIO 115 and 125. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 316. ECOSYSTEMS ECOLOGY.** An introductory study of the dynamics of the biological, physical, and mathematical relationships and interrelationships that proceed within various ecosystems on the earth. Emphasis is placed on biogeochemical cycling, energy cycling, population dynamics, productivity, and pertinent problems concerning ecosystem deterioration. Field and laboratory studies concerning various processes operating within an ecosystem. Prerequisites: BIO 115, 120, and 125. General Chemistry I and II and College Algebra recommended. Three lecture hours and three hours of laboratory/field experience weekly. (4 crs.) F

**BIO 317. EMBRYOLOGY.** A study of oogenesis and spermatogenesis and resultant developments following fertilization: factors involved in morphogenetic determination; organology; sequences of changes in development. Special emphasis on the chick and comparative examples of development in other animals. Prerequisites: BIO 115 and 120. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 318. GENETICS.** An introduction to molecular genetics and to the basic principles of inheritance. Gene interactions, multiple-factor inheritance, chromosome mapping, chromosomal and extrachromosomal inheritance. The roles of mutation, selection, migration, and genetic drift are investigated to determine the genetic composition of different populations. Prerequisites: BIO 115, 120, and 125. Three lecture hours and three laboratory hours weekly. (4 crs.) F S

**BIO 325. ANIMAL HISTOLOGY.** The study of cellular differentiations in tissue, tissue identification, and special functions, especially in the mammals. Prerequisites: BIO 115 and 120. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 326. MICROBIOLOGY.** A detailed study of bacteria and viruses, with less emphasis on fungi, algae, and protozoans. Special emphasis on medical aspects of bacteriology, immunology, and virology. The cytology, physiology, microbiology, and culture of microbes are pursued in the laboratory. Prerequisites: BIO 115 and 125,

**CHE 101 and 102**, or permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.)  
F

**BIO 327. PARASITOLOGY.** A study of the etiology, epidemiology, and biology of some common human and animal parasites. Prerequisites: BIO 115 and 120. Three lecture hours and three laboratory hours weekly. (4 crs.)  
F

**BIO 328. HUMAN PHYSIOLOGY.** The functions of the human body. Basic physiological phenomena are studied with considerable emphasis upon clinical and practical application. Prerequisites: BIO 115 and 120 or permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 330. ANATOMY AND PHYSIOLOGY I.** A general survey of the basic anatomical terms of position and direction, the relevant scientific units, the chemical components of living organisms, animal cytology, histology, embryology, the integumentary system, the rudiments of neurology, the skeletal system, and the cardiovascular system. Prerequisites: This course is for students who are enrolled in a nursing program, have completed at least one course in biology, or have obtained permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.) F

**BIO 334. SOIL SCIENCE.** An edaphological approach is taken in the study of the soil, i.e., the soil as a natural habitat for plants. The various properties of the soil are considered as they relate to plant production. Since the clay and humus fractions are of tremendous importance, the course will incorporate a colloidal-biological basis. Prerequisites: CHE 101 and 102. Three lecture hours and three laboratory hours weekly. (4 crs.) (F)

**BIO 335. PLANT PHYSIOLOGY.** The physio-chemical foundations of plant functions are investigated, including such topics as water and salt absorption, photosynthesis, respiration, plant growth substances, photoperiodic responses, mineral metabolism, germination, and the effects of air pollution on plants. Recent advances in the field of plant physiology are included. Prerequisites: BIO 115 and 125, CHE 101 and 102. Three lecture hours and three laboratory hours weekly. (4 crs.) F

**BIO 336. PLANT TAXONOMY.** A study of relationships among the vascular plants, ferns, their classification, and methods of identification. Plant families native to Western Pennsylvania are stressed. Prerequisites: BIO 115 and 125. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 337. ORNITHOLOGY.** The study of bird life. Classification, anatomy, behavior, and recognition of birds, with emphasis on local species and their relationships to people and the ecological balance with other organisms. Prerequisites: BIO 115 and 120. Three lecture hours and three laboratory hours or field activity weekly. (4 crs.)  
S

**BIO 342. SCIENTIFIC PHOTOGRAPHY.** A basic course in the life and environmental sciences which stresses the myriad ways in which photography can be applied to enhance the effectiveness of teaching and research endeavors of biologists and environmentalists. Special attention is given to photomicroscopy, macrophotography, and field photography. Various other illustrative materials are also prepared utilizing selective photographic equipment and/or procedures. Students can take this course twice for a maximum of 4 credits. Prerequisites: Three Biology or Environmental courses with a minimum of one field-oriented course. (2-4 crs.) S

**BIO 360. ANATOMY AND PHYSIOLOGY II.** A general survey of the basic structure of the lymphatic system, immunology, the brain, the spinal cord, the peripheral nervous system, sensory receptors and special sense organs, the endocrine system, the respiratory system, the digestive system, the urinary system, homeostasis, the reproductive system, and human embryonic development. Prerequisites: BIO 330 or permission of instructor. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 370. METABOLISM.** A study of the chemical compounds of biological importance, how these are utilized in human metabolic processes, and the regulatory mechanisms associated with the maintenance of homeostasis. Three lecture hours weekly. (3 crs.)



**BIO 400. MAMMALOLOGY.** A study of the classification, distribution, and natural history of mammals, with emphasis on eastern North American species. Field studies and preparation of study specimens. Prerequisites: BIO 115, 120, 308 or 316 or ENS 300. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 405. HUMAN GENETICS.** Chromosomal abnormalities, Mendel's Laws, and the effect of change of gene action on Mendelian ratios. Other topics: sex-related inheritance, random mating, consanguinity, allelism, mutations, and maintenance of polymorphism. Prerequisites: BIO 115, 120, and 318. Three lecture hours weekly. (3 crs.)

**BIO 407. MYCOLOGY.** An extensive examination of the fungi, with emphasis on the filamentous forms. The cytology, physiology, and morphology of the fungi are studied to determine their role in the scheme of nature. Laboratory techniques in isolating, culturing, enumerating, and identifying fungi. Prerequisites: BIO 115, 125, and 326. Three lecture hours and three laboratory hours weekly. (4 crs.)

**BIO 418. BIOLOGICAL RESEARCH INVESTIGATIONS.** A research study program for advanced undergraduate students who wish to pursue careers in biological or medical areas. Emphasis is placed upon the student learning to use various scientific instruments and biological procedures necessary for research investigations. The student works closely with one or more faculty members on a research project which is departmentally approved. Each research project is unique, and the data should ultimately be published in a prominent biological journal. The student normally participates in one aspect of an ongoing research study and may pursue work for one or more semesters. Students can take a maximum of 12 credits, 6 of which may be counted in the area of concentration. Prerequisites: BIO 115 and 125 (or 120), one Biology elective course, junior or senior standing, and a 3.0 QPA. (1-4 crs.)

**BIO 426. CLINICAL MICROBIOLOGY.** A survey of the indigenous and pathogenic microorganisms of man, general principles deduced from complexities involving biochemistry and physiology, host-parasite relationships, and laboratory procedures. Organisms studied include: bacteria, fungi, viruses, and rickettsia. Prerequisites: BIO 115 and 326, CHE 101 and 102. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 427. CELLULAR PHYSIOLOGY.** The physiology of the cell with emphasis on the relationship of cell structure and function. Includes physical and chemical aspects of cells, the relation of cells to their environment, energy conversions in cells, membrane permeability, photosynthesis, and enzyme action. Prerequisites: BIO 115, 120, and 125; CHE 101 and 102; CHE 331 and 332 recommended. (4 crs.) S

**BIO 430. LABORATORY INSTRUMENTATION FOR BIOLOGY.** The theory of, and practice with, major types of laboratory instrumentation used in modern biological practice. Content is adjusted to methods practiced at this institution and may include any additional procedures of special interest to the class members. Practice in writing laboratory reports and designing experiments. Prerequisites: BIO 115, 120, and 125, PHY 102, CHE 261, or permission of instructor. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 431. TECHNIQUES IN ELECTRON MICROSCOPY.** Detailed training in the operation and care of the electron microscope: techniques of specimen preparation for electron microscope visualization, including fixation, embedding, and ultrathin sectioning; special techniques such as replication and shadow casting. Prerequisite or concurrent courses: BIO 432, CHE 331, 332, or consent of the instructor. (4 crs.)

**BIO 432. CELLULAR ULTRASTRUCTURE.** A study of the generalized cell, the highly specialized cell, and tissues as seen by the electron microscope, with special emphasis on correlation of structure with function. An additional aim is to enhance the student's ability to interpret electron micrographs. Prerequisites: BIO 115, 120 and 125, CHE 331 and 332, a molecular biology course and/or consent of instructor. Three lecture hours weekly. (3 crs.)

**BIO 433. HERPETOLOGY.** A consideration of the Amphibia and Reptilia from taxonomical, morphological, evolutionary, behavioral, and physiological viewpoints, with special emphasis on the Testudinata. Prerequisites: BIO 115 and 120. Three lecture hours and three laboratory hours weekly. (4 crs.)

**BIO 435. ICHTHYOLOGY.** An introduction to the morphology, taxonomy, ecology, and distribution of the major groups of freshwater fishes, with emphasis on the northeastern U.S. fauna. Prerequisites: BIO 115 and 120. Three lecture hours and three laboratory hours weekly. (4 crs.)

**BIO 440. DENDROLOGY.** A study only of the tree species of the Kingdom Metaphyta: the importance of these organisms to other biota, especially man, and their prospects of continued survival in a rapidly changing biosphere. Emphasis on the forest communities and tree species of the mixed mesophytic forest regions of southwestern Pennsylvania. Prerequisites: BIO 115 and 125. Three lecture hours weekly. (3 crs.) F

**BIO 441. ETHOLOGY.** Four principal approaches to ethology—ecology, physiology, genetics, and development are interpreted within the framework of evolutionary biology with emphasis on the patterns of behavioral similarities and differences among different kinds of animals. Prerequisites: BIO 115 and 120; BIO 308 or 316 or ENS 300. Three lecture hours and three laboratory hours weekly. (4 crs.) S

**BIO 445. ENTOMOLOGY.** A specialized study of insects: identification and classification development phases; physiological characteristics, economic importance, disease vectors. Prerequisites: BIO 115 and 120. Three lecture hours and three laboratory hours weekly. (4 crs.) F

**BIO 449. BIOLOGY FOR MEDICAL TECHNOLOGY CLINICAL PRACTICUM I.** Upon acceptance to a hospital school of Medical Technology, the student undertakes the clinical training experience required by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Programs of instruction will vary from one hospital to another but usually include hematology, microbiology, parasitology, immunology, urinalysis, and biochemistry. This course is the first of two required terms. (15 crs.)

**BIO 459. BIOLOGY FOR MEDICAL TECHNOLOGY CLINICAL PRACTICUM II.** A continuation of BIO 449. The second of two terms. (14 crs.)

**BIO 466. BIOMETRY.** The fundamental concepts underlying the application of statistical methods and experimental designs to environmental problems. Practical experience in the development and analysis of laboratory and field projects. Prerequisites: MAT 215, a field biology course, and consent of instructor. Three lecture hours and three laboratory hours weekly. (4 crs.) F

**BIO 478. EVOLUTION.** An advanced course pertaining to the mechanisms that are operative in the process of biological evolution. Life origins and development are investigated, with special emphasis placed upon the importance of genetic and metabolic systems diversity. The recurring and universal themes of mutation and natural selection are thoroughly discussed as the concept of evolution at the population level is developed. A detailed account of human origins and species diversity is also studied. Prerequisites: BIO 318 and CHE 101. Three lecture hours weekly. (3 crs.) F

**BIO 480. CELL BIOLOGY.** The biology of the cell with emphasis on the relationship of structure and function within the cell. It is a study of cell organelles, growth, division, macromolecules, membranes, synthesis, and regulation. Prerequisites: BIO 120, 125 and CHE 331. Three lecture hours and three laboratory hours weekly. (4 crs.)

**BIO 486. ENVIRONMENTAL PHYSIOLOGY.** A comparative approach to the study of physiological systems in animals relative to environmental pressures and phylogenetic standing. Prerequisite: BIO 422. Three lecture hours and three laboratory hours weekly. (4 crs.) F

**BIO 488. WATER POLLUTION BIOLOGY.** A survey of the impacts of various types of environmental pollutants on aquatic biological communities. Community responses are analyzed in a lecture/laboratory format with emphasis on collection in the field. Three lecture hours and three laboratory hours weekly. (4 crs.)

**ENVIRONMENTAL STUDIES COURSES (ENS)**

F and S indicate whether the course is usually offered in the Fall or the Spring.  
Introductory level courses are indicated by a plus (+).

+ENS 100. **MAN AND HIS ENVIRONMENT.** The broad field of environmental management. Man's biological basis, soils, land use, water pollution, air pollution, noise pollution, and agencies and laws associated with the above topics. No one area is covered in depth. Rather, the student is introduced to each problem, its source, current corrective measures, and possible future technology. Three lecture hours weekly. (3 crs.)

ENS 205. **FIELD BIOLOGY.** An introductory course dealing with the conservation of renewable resources, with emphasis on soils, forests, and wildlife. Basic ecological principles are demonstrated as they apply to native flora and fauna of southwestern Pennsylvania. Extensive field experiences. Three lecture hours weekly. (3 crs.)

ENS 341. **TECHNIQUES IN WATER AND WASTEWATER ANALYSIS.** A thorough study of the chemical testing of water in wastewater plants, streams, and drinking water sources. Emphasis is placed on learning acceptable levels of chemicals in the different types of water. Samples of water from sources of concern are analyzed in the laboratory portion of the course. Three lecture hours and three laboratory hours weekly. (4 crs.)

ENS 351. **WATER TREATMENT FACILITIES.** An examination of the operation of modern water works and waste water treatment systems utilizing an integrated lecture-laboratory approach. Emphasis is on a practical understanding of concepts related to water processing and familiarity with the various techniques currently employed. Lecture material is correlated with the inspection tours of local water and wastewater treatment facilities and laboratory demonstrations of processes and associated analyses of water quality. Three lecture hours weekly. (3 crs.)

ENS 420. **PRINCIPLES OF WILDLIFE MANAGEMENT.** This course is designed to provide students with an understanding of the philosophies and concepts of scientific wildlife management. Major emphasis will be placed on wildlife management in North America, but differing perspectives from other regions of the world will be incorporated into the course. Topics to be covered will include monitoring habitats and habitat management, population exploitation, and administration, economics, and socio-political topics as they relate to wildlife management. Prerequisites: BIO 111 and 121. Three lecture hours and three laboratory hours weekly. (4 crs.)

ENS 423. **WILDLIFE MANAGEMENT TECHNIQUES.** This course will cover techniques commonly used by wildlife biologists with emphasis on those applicable to birds and mammals. Important techniques covered in the course include ageing and sexing of important game species, habitat measurement and evaluation, population analysis, and analysis of food habits. The lecture portion of the course provides an introduction to common techniques and the lab emphasized practical use and application of those techniques. Prerequisites: BIO 120 and 125. Three lecture hours and three laboratory hours weekly. (4 crs.)

ENS 430. **AIR QUALITY MONITORING.** The technologies involved in the abatement of emissions from mobile and stationary sources, monitoring techniques, and air quality standards. Prerequisites: CHE 331, CHE 361, PHY 121 and 122, MAT 215. Three lecture hours weekly. (3 crs.)

ENS 431. **SOLID WASTE MANAGEMENT.** The fundamental techniques involved in the collection, processing, and disposal of urban, industrial, and agricultural wastes. Prerequisites: CHE 331. Three lecture hours weekly. (3 crs.)

ENS 459. **ENVIRONMENTAL RESEARCH PROBLEMS.** An independent study with a cooperating faculty member. Emphasis on scientific research on contemporary environmental problems. These independent studies are as field-oriented as possible, with a final research paper written in proper scientific notation. (This course is 3 credits and is not repeatable.)

**ENS 494. SEMINAR—NATURE CONSERVATION.** Lectures, individual reports, panel discussions, and individual project assignments concerning the environment and man's future roles in improving the quality of life. (3 crs.)

**ENS 495. DESIGN AND ANALYSIS.** The purpose is to provide environmental scientists with the theoretical and applied basis of experimental design, sampling theory and sampling designs, data input and output, statistical analysis and interpretation for studies involving ecological research, environmental pollution monitoring, and environmental impact assessment. The emphasis will be on experimental design, sampling procedures, and the application of computer methods for data base, spreadsheet, word processing, and statistical packages. Three lecture hours weekly. (3 crs.) S

**ENS 497. ENVIRONMENTAL EDUCATION WORKSHOP.** An interdisciplinary summer program designed to prepare the public school teacher for teaching environmental education. This workshop considers all aspects of the relationship of human beings and their institutions to the environment. It also has a large how-to-do component. (This course carries a maximum of 2 credits and is not repeatable.)





<b>DEPARTMENT OF BUSINESS AND ECONOMICS</b>
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**ACCOUNTING (ACC)**  
**ECONOMICS (ECO)**  
**FINANCE (FIN)**  
**MANAGEMENT (MGT)**  
**MARKETING (MKT)**

Professor M. Arshad Chawdhry, *Chair*; Assistant Professor David T. Jones, *Assistant Chair*. Professors Ali A. Hashemi, Karen L. LeMasters, Mahmood A. K. Omarzai, Young J. Park, P. Ronald Tarullo; Associate Professors William F. Bosel, Ismail Cole, Robert J. Kopko, Louise E. Serafin; Assistant Professors Burrell A. Brown, Debra M. Clingerman, Edward Mendola, Susan J. Mongell, Michael K. Rich, Fred Rossell, Jr.

The Business and Economics Department offers a number of degree programs that are unique in the curricula offered at the university. Great emphasis is given to the development of fundamental skills that will be beneficial to graduates in both their professional and private lives. The department recognizes that the keys for the student's future success are flexibility and adaptability. These degree programs are fully supported with state-of-the-art computer facilities including current software utilized in the business community. After careful analysis of the current demands in the labor marketplace, the department has designed four distinct degree approaches, each serving a specific student interest area and potential employment segment. The four degree approaches are:

1. Bachelor of Arts in Economics
2. Bachelor of Arts in Administration and Management
3. Bachelor of Science in Business Administration (with various specialized options)
4. Two-year Associate Degree programs (in the fields of Accounting, Administration/Management, Banking, and Computer Based Management.)

Additionally, courses offered within the department will prove to be of value to students enrolled in other fields of study at the university. The practical nature of course material offered by the department will assist all students desiring to gain knowledge of meaningful business principles regardless of their primary specialization. The faculty and office staff within the department will gladly assist students in reviewing available courses to determine those that would have meaningful application to their chosen field of study.

Achievement is recognized in students as they progress through their studies in several ways. Membership is open to qualified successful students in Omicron Delta Epsilon (OΔE), an honorary Economics Fraternity, Delta Sigma Pi (ΔΣΠ), the Business Professional Fraternity, the Accounting Club, the Economics Club, the Marketing Club, and the Society for the Advancement of Management. These organizations are involved in a variety of social and scholastic activities. In addition, the achievements of outstanding graduating seniors are recognized with the following awards:

- *Wall Street Journal Award* for outstanding achievement in the study of Business or Economics.
- *H. & R. Block Award* for excellence in the study of Management
- *Alfred Zeffiro Award* for excellence in the study of Business Management

- *Pennsylvania Institute of Certified Public Accounts Award* for high scholastic achievement in the study of Accounting.

## BACHELOR OF ARTS DEGREE IN ECONOMICS

The Bachelor of Arts in Economics is a multipurpose program, with the objective of providing students with a liberal arts background while taking them through a detailed examination of the behavior of people as both producers and consumers. The program develops an understanding of the economic problems facing us today at all levels of government and business. This approach has been found to be attractive to many employers in industry, government, and business. This program is an excellent preparation for graduate study in economics, business administration, hospital administration, law, public administration and urban planning. Regardless, many students successfully enter the labor market immediately following graduation, bypassing graduate studies.

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Economics Core: Introduction to Microeconomics (ECO 201); Introduction to Macroeconomics (ECO 202); Money and Banking (ECO 304); Intermediate Microeconomics (ECO 301); Intermediate Macroeconomics (ECO 302); 14 additional credits of Economics electives (at 200 level or above). Communication Skills: Business Writing I (ENG 211) or Advanced Writing (ENG 375); Quantitative Skills: Technical Math I (MAT 182) or College Algebra (MAT 181), Mathematics of Finance (MAT 171) Micros and Application Software (CSC 101); Business Statistics (MAT 225); Mathematical Economics (ECO 320). Related Courses: Accounting I (ACC 201) and Accounting II (ACC 202); five related courses approved by one's advisor.

## BACHELOR OF ARTS DEGREE IN ADMINISTRATION AND MANAGEMENT

The Bachelor of Arts in Administration and Management provides for a broad-based curriculum that is flexible to meet the educational needs of a business student with liberal arts interests. The graduation requirements for this degree make it ideal for the transfer student entering the university for the last two years of study. This degree will permit maximum utilization of previously completed course work. The student will be prepared for a variety of management positions in business, industry and government.

### Curriculum

(A) **General Education:** Composition I (ENG 101) & II (ENG 102); 12 credits in Humanities; 12 credits in Natural Sciences; 12 credits in Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Money and Banking (ECO 304); Labor Economics (ECO 311); 6 additional credits of upper level Economics courses; Accounting I (ACC 201) & II (ACC 202); Managerial Accounting (ACC 321); Principles of Management (MGT 201); Principles of Marketing (MKT 301); Financial Management (FIN 301); Labor Relations (MGT 362); 6 additional credits of upper-level courses in Accounting, Business, Finance, Management or Marketing; Technical Mathematics (MAT 182) or College Algebra (MAT 181); Business Statistics (MAT 225); Micros & Applications Software (CSC 101); Oral Communication: Management (COM 250); Business Writing I (ENG 211); Industrial Psychology (PSY 209); and 5 credits of related electives approved by one's advisor.

**BACHELOR OF SCIENCE DEGREE IN BUSINESS ADMINISTRATION**

The Bachelor of Science in Business Administration offers a multitude of degree programs that can be tailored to the exact characteristics and needs of each student. Often, when students begin their college studies, they have not fully determined the career direction desired. The course content of the various specialized options of this degree permits modification of emphasis as the student's interests become defined without loss of credits earned toward graduation. The faculty offers a rich and diverse background of practical business experience and scholarly achievement to equip the graduating student with the skills and tools necessary for success in today's competitive job market. Students may focus on one of the following specialized options: Accounting, Computer Based Management, Marketing, Finance, Human Resource Management, Management, Business Economics, and General.

The business world has grown increasingly complex in recent years. Computer applications are being increasingly incorporated in today's business programs. California University's Bachelor of Science in Business Administration curriculum is designed to insure that students acquire sufficient background in all of the required skill areas to undertake a broad range of careers in business, industry and government. Labor Relations, Marketing, Accounting, Production, Management, Finance and Communications are emphasized.

Career opportunities available to the graduate of this program are in such positions as those of Accountant, Banker, City Manager, General Manager, Government Agency Administrator, Hospital Administrator, Industrial Relations Manager, Insurance Agent, Office Manager, Personnel Manager, Production Manager, Purchasing Agent, Retail Manager, Sales Manager, Sales Representative, Securities Analyst, and Stock Broker.

**Curriculum**

**(A) General Education:** Composition I (ENG 101); Business Writing I (ENG 211); Group Discussion Management (COM 102); College Algebra (MAT 181) or Technical Math I (MAT 182); Mathematics of Finance I (MAT 171) or Basic Calculus (MAT 273); Business Statistics (MAT 225); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

**(B) Area of Concentration:** Business Writing II (ENG 212) or Advanced Writing (ENG 375); Oral Communication: Management (COM 250); Micros & Application Software (CSC 101); Industrial Psychology (PSY 209); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Money and Banking (ECO 304) or Intermediate Macroeconomics (ECO 302); Labor Economics (ECO 311) or Intermediate Microeconomics (ECO 301) or Managerial Economics (ECO 322); Introduction to Business (BUS 100) or Business Elective; Accounting I (ACC 201) and II (ACC 202); Cost Accounting I (ACC 331) or Managerial Accounting (ACC 321); Principles of Management (MGT 201); Principles of Marketing (MKT 301); Financial Management (FIN 301); Labor Relations (MGT 362); Strategic Management (MGT 402); Analytical Methods (BUS 271).

**(1) For option in Accounting:** Intermediate Accounting I (ACC 301); Intermediate Accounting II (ACC 302); 9 credits of additional upper-level Accounting (ACC) courses (no internship credits); 11 credits in Accounting, Business, Economics, Finance, Management or Marketing courses 200 level or above (Recommended: Business Law I [BUS 242] and Computer Applications in Business [MGT 271]).

**(2) For option in Business Economics:** Intermediate Microeconomics (ECO 301); Intermediate Macroeconomics (ECO 302); Mathematical Economics (ECO 320); 11 credits of Economics Electives 200 level or above; 5 credits from Accounting, Business, Finance, Management, Marketing electives.

**(3) For option in Computer Based Systems Management:** 15 credits of selected computer science courses; Management Information Systems (MGT 371); Computer Based Management Systems (MGT 373); Applied



Econometrics (ECO 421); Upper level Accounting, Business, Economics, Finance, Management or Marketing Elective.

(4) For option in *Finance*: Personal Money Management (FIN 211); Advanced Financial Management (FIN 302); Investments (FIN 305); Insurance and Risk Management (FIN 341); Financial Markets and Institutions (FIN 411); Applied Econometrics (ECO 421); Computer Applications in Business I (MGT 271) or Lotus 1-2-3 Workshop (CAW 102), and 7 credits from the following (3 to 6 of which may be 200 level or above): Accounting, Business, Economics, Finance, Management or Marketing Electives); Bank Management (FIN 531); Upper Level Finance Elective; International Business Management (MGT 431); Industrial Organization (ECO 401); Public Finance (ECO 405); International Economics (ECO 431); Real Estate Fundamentals (FIN 351); Real Estate Practice (FIN 352), Business Law I (BUS 242).

(5) *General*: 26 credits of Accounting, Business, Economics, Finance, Management, Marketing electives (200 level or above). Lotus 1-2-3 (CAW 102) and Computer Applications in Business I (MGT 271) are recommended electives.

(6) For option in *Human Resource Management*: Business Law I (Bus 242), Human Resource Management (MGT 352); Organizational Behavior (MGT 301); Compensation Management (MGT 353); Development of Interviewing Skills (PSY 370); 11 credits from the following (may include up to three credits of Management Electives): Demographic Analysis (GEO 217), Human Ecology (GEO 240), Social Psychology (PSY 211), Psychology of Gender Roles (PSY 311), Psychology of Stress Management (PSY 222), Psychology of Personality (PSY 405), Psychology Testing (PSY 340), Advanced Industrial Psychology (PSY 428), Men, Women, and Work (SOC 125), Sociology of Workplace (SOC 215); Business, Society and Government (BUS 342).

(7) For option in *Management*: Organizational Behavior (MGT 301); Human resource Management (MGT 352); Business Law I (BUS 242); 9 credits of Upper level Management (MGT) courses (no internship credits) and 8 credits of Management related courses to be selected with the approval of one's advisor.

(8) For option in *Marketing*: Principles of Selling (MKT 222); Sales Management (MKT 321); Marketing Management (MKT 401) Advertising Management (MKT 351), Consumer Behavior (MKT 431), Marketing Research (MKT 431), Business Marketing (MKT 452); 5 credits of the following (which may be 200 level or above of Accounting, Business, Economics, Finance, Management or Marketing (MKT) electives): Applied Econometrics (ECO 421) International Business Management (MGT 431); Real Estate Fundamentals (FIN 351); Real Estate Practice (FIN 352), Insurance and Risk Management (FIN 341), Retailing (MKT 331), Marketing for Non-profit organizations (MKT 341), Business Law I (BUS 242).

The alternative for students not wishing to make an immediate four-year commitment to education is the two-year Associate Degree program in several disciplines. The accounting student may wish to pursue a two-year course of study in Accounting preparatory to entering a junior-level accounting position. Those interested in a two-year program in Administration/Management or Computer Based Management can also pursue an Associate Degree program. These curricula provide sufficient background in basic management skills to qualify graduates for many entry-level supervisory positions in business and industry. For students desiring a career in the financial service industry or for the employees of financial institutions, an option in Banking is available in the Administration and Management Associate Degree curriculum. Of course, a student can transfer all of the course work completed toward the Associate Degree at any time to the appropriate four-year program leading to a Bachelor's Degree. No more than fifteen credits can be transferred from another institution to fulfill the requirements for the Associate Degree programs.

## ASSOCIATE OF SCIENCE DEGREE IN ACCOUNTING

The Department of Business and Economics offers this two-year associate degree to provide students with high quality training in accounting. In the career ladder concept, the university has designed the program so that students may transfer into the many four-year business programs.

Careers are available in a number of fields in business and government, including purchasing, sales, bookkeeping, and accounting itself.

### Curriculum

**(A) General Education:** English Composition I (ENG 101); Business Writing I (ENG 211); College Algebra (MAT 181) or Technical Mathematics I (MAT 182); Micros & Applications Software (CSC 101); Science, Technology and Society (PHI 246); 3 credits in Humanities; 3 credits in Social Sciences; 3 credits in Natural Sciences; 3 credits of free electives.

**(B) Area of Concentration:** Intro to Business (BUS 100); Accounting I (ACC 201) and II (ACC 202); Cost Accounting (ACC 331); Principles of Management (MGT 201); Computer Applications in Business I (MGT 272); 6 credits from Elements of Economics (ECO 100), Current Economic Issues (ECO 200), Intro Micro (ECO 201), and Intro Macro (ECO 202); 6 credits of Accounting Electives to be selected with the approval of advisor; 6-11 credits of Accounting, Business, Economics, Finance, Management and Marketing electives (with the approval of advisor some of these electives may be selected from Industrial Psychology (PSY 209), Mathematics of Finance I (MAT 171), Business Statistics (MAT 225); Oral Communications Management (COM 250).

## ASSOCIATE OF SCIENCE DEGREE IN ADMINISTRATION AND MANAGEMENT

This two-year associate degree provides students with the basic instruction for an entry level management position with business or industry. In addition, all of the credits earned in this program are transferable towards the four-year degree.

Careers available to the graduate of this program include a large number of junior management positions in business and government, including sales, purchasing, employee relations, and general management.

### Curriculum

**(A) General Education:** English Composition I (ENG 101); Business Writing I (ENG 211); College Algebra (MAT 181) or Technical Mathematics (MAT 182); Micros & Application Software (CSC 101); Science, Technology and Society (PHI 246); 3 credits in Social Sciences; 3 credits in Natural Sciences; 3 credits of free electives.

**(B) Area of Concentration:** Introduction to Business (BUS 100); Accounting I & II (ACC 201 & 202); Principles of Management (MGT 201); Computer Applications in Business (MGT 271); 6 credits from Elements of Economics (ECO 100), Current Economic Issues (ECO 200), Introductory Microeconomics (ECO 201), Introductory Macroeconomics (ECO 202); 20 credits of Restricted Electives to include 12-18 credits of Accounting, Business, Economics, Finance, Management, and Marketing courses; and 3-9 credits from Computer course, Industrial Psychology (PSY 209); Mathematics of Finance I (MAT 171); Business Statistics (MAT 225); Sociology, or Social Science, Psychology Elective; Oral Communication Management (COM 250).

**ASSOCIATE OF SCIENCE IN ADMINISTRATION AND MANAGEMENT  
OPTION: Banking**

The Department of Business and Economics offers the two-year associate degree in Banking as an option under the Administration and Management program. This curriculum is designed to meet the needs for junior level management positions in the financial services industry.

**Curriculum**

(A) **General Education:** English Composition I (ENG 101); Business Writing I (ENG 211), College Algebra (MAT 181) or Technical Mathematics I (MAT 182); Micros & Application Software (CSC 101); Science, Technology and Society (PHI 246); 3 credits in Humanities; 3 credits in Social Sciences; 3 credits in Natural Sciences; 3 credits of free electives.

(B) **Area of Concentration:** Accounting I (ACC 201) and II (ACC 202); Managerial Accounting (ACC 321); Elements of Economics (ECO 100); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Computer Applications in Business (MGT 271); Principles of Management (MGT 201), Financial Management (FIN 301); Money and Banking (ECO 304); 2 credits of Finance elective; 9 credits from A.I.B. courses or from a list of selected courses in Business, Mathematics, and Finance.

**ASSOCIATE OF SCIENCE DEGREE  
IN COMPUTER BASED MANAGEMENT SYSTEMS**

The Business and Economics Department offers this two-year associate degree to provide students with general management and computer skills.

**Curriculum**

(A) **General Education:** English Composition I (ENG 101); Business Writing I (ENG 211), College Algebra (MAT 181) or Technical Mathematics I (MAT 182); Micros & Applications Software (CSC 101); Science, Technology and Society (PHI 246); 3 credits in Humanities; 3 credits in Social Sciences; 3 credits in Natural Sciences; 3 credits of free electives.

(B) **Area of Concentration:** Introduction to Business (BUS 100); Accounting I (ACC 201) and II (ACC 202); Principles of Management (MGT 201); Computer Applications in Business (MGT 271); Management Information Systems (MGT 371) or Computer Based Management Systems (MGT 373); 6 credits from Elements of Economics (ECO 100), Current Economic Issues (ECO 200); Introductory Microeconomics (ECO 201), and Introductory Macroeconomics (ECO 202); 9 credits of selected computer courses; Managerial Accounting (ACC 321) or Cost Accounting (ACC 331); 3 credits of Economics elective; 2 credits of Accounting, Business, Economics, Finance, Management or Marketing elective.

**ACCOUNTING COURSES (ACC)**

F and S indicate whether the course is usually offered in the Fall or the Spring.

**ACC 201. ACCOUNTING I.** The fundamentals of debit and credit; the use of journals and ledgers; basic accounting procedures; adjusting and closing entries; completion of accounting cycle; preparation of pertinent financial statements. (3 crs.) (F,S)

**ACC 202. ACCOUNTING II.** A continuation of basic accounting principles with an emphasis on partnership and corporate accounting. Prerequisite: ACC 201. (3 crs.) (F,S)

**ACC 218. FEDERAL INCOME TAX I.** An introduction to individual federal income tax accounting. (3 crs.) (F)

**ACC 301. INTERMEDIATE ACCOUNTING I.** In-depth treatment of basic accounting principles and concepts. A preparation for advanced courses in accounting and for the theory and practice sections of the Uniform CPA Examination. Prerequisite: ACC 202. (3 crs.) (F,S)

**ACC 302. INTERMEDIATE ACCOUNTING II.** A continuation of the in-depth treatment of basic accounting principles and concepts with the emphasis on corporations. A preparation for advanced courses in accounting and for the theory and practice sections of the Uniform CPA Examination. Prerequisite: ACC 301. (3 crs.) (F,S)

**ACC 318. FEDERAL INCOME TAX II.** Advanced topics in federal taxation. Partnerships, decedents, estates, trusts, corporations, pension and profit sharing plans, foreign income, securities transactions, etc. Prerequisite: ACC 218. (3 crs.) (S)

**ACC 321. MANAGERIAL ACCOUNTING.** For non-accounting majors; emphasizes the use of accounting data in the decision-making process of a business enterprise. Topics covered are cost-volume relationships; manufacturing costs and analysis; relevant cost analysis; budgeting and variance analysis; responsibility accounting and cost allocation; job and process product costing. Prerequisite: ACC 202. (3 crs.) (F,S)

**ACC 331. COST ACCOUNTING I.** An introduction to basic cost-accounting principles, cost-volume, profit analysis, standard costing, process and job order costing and departmental budgeting. Prerequisite: ACC 202. (3 crs.) (F, Summer)

**ACC 332. COST ACCOUNTING II.** A survey of special topics in the field of manufacturing accounting. Prerequisites: ACC 331. (3 crs.) (S)

**ACC 341. NONPROFIT ACCOUNTING.** An introduction to accounting for governmental and not-for-profit organizations, including analysis of current, plant, and other general and special funds. Emphasis will be given to planning, programming, and budgeting to achieve institutional objectives. Cost benefit analysis will also be developed within the framework of funds allocation to specific programs. Prerequisite: ACC 202. (3 crs.) (S)

**ACC 401. ADVANCED FINANCIAL ACCOUNTING I.** Special topics in accounting. Mergers and acquisitions, consolidated financial reports, accounting for international operations, etc. Prerequisite: ACC 302. (3 crs.) (F)

**ACC 402. ADVANCED FINANCIAL ACCOUNTING II.** Study of the Financial Accounting concepts relative to nonprofit organizations, fiduciaries, and other special topics in financial accounting. Prerequisite: ACC 302. (3 crs.) (S)

**ACC 418. TAX PLANNING AND CONCEPTS.** This course deals with the broad recognition of the tax effect on business decisions, and a practical approach to tax planning for both the corporate and individual taxpayer. Prerequisite: ACC 218. (3 crs.) (S)

**ACC 441. AUDITING.** Internal control evaluation and financial compliance, professional ethics, auditing standards and procedures, statistical sampling and EDP auditing. Prerequisite: ACC 301 (3 crs.) (F)

**ACC 491. ACCOUNTING INTERNSHIP.** Practicum with Public Accounting firms, government, or industry. Prerequisites: 18 credits in Accounting and consent of instructor. (Repeatable; Variable credit; a maximum of 12 credits may be used towards a baccalaureate degree.) (F,S)

**BUSINESS COURSES (BUS)**

F and S indicate whether the course is usually offered in the Fall or the Spring.

**BUS 100. INTRODUCTION TO BUSINESS.** The internal and functional setting of business enterprise, its organization and control (3 crs.) (F,S)

**BUS 242. BUSINESS LAW I.** A study of commercial law as it relates to contracts, agency and criminal and constitutional law pertaining to business. Prerequisites: BUS 100 and at least sophomore standing (3 crs.) (F,S)

**BUS 243. BUSINESS LAW II.** A continuation of Business Law I. Basic legal concepts of sales, commercial paper, secured transactions and related topics. Prerequisite: BUS 242. (3 crs.) (F,S)

**BUS 271. ANALYTICAL METHODS.** The course presents mathematical tools which are applied to business decision making. Prerequisite: ECO 100 or ECO 201 and MAT 181 or MAT 182. (3 crs.)

**BUS 342. BUSINESS, SOCIETY AND GOVERNMENT.** A survey of the historical and contemporary relationship between government and business in the United States. Special emphasis is given to the developments of the past two decades. Prerequisite: At least Junior standing and ECO 100 or equivalent. (3 crs.) (F,S)

**BUS 343. CORPORATE SOCIAL RESPONSIBILITY.** Incorporating the concept of social responsibility or corporate social responsiveness in the corporate business strategy; how to assess organizational performance on social issues and design information systems to monitor policies in a large complex organization; the identification of the stages that this process goes through and the characteristic problems and tasks associated with each stage; the evolution and/or design of structures and procedures for making the handling of social issues consistent with business strategies. Prerequisite: Junior standing. (3 crs.) (S)

**BUS 379. SPECIAL PROBLEMS IN BUSINESS.** (3 crs.)

**BUS 492. BUSINESS INTERNSHIP.** The student is placed with a business firm, a bank, a government agency, or a non-profit organization for on-the-job and/or counselling experience. It offers a practical training ground for students, which supplements academic training by permitting them to address actual problems in a real business environment. Prerequisite: Senior standing or permission of instructor. (Repeatable; Variable credit; a maximum of 12 credits may be used to a baccalaureate degree.) (F,S)

**BUS 495. SEMINAR IN BUSINESS.** An intensive examination of selected subjects from the general field of business. Prerequisite: Consent of instructor. This course is repeatable one time if the subject matter is different (3 crs.)

**ECONOMICS COURSES (ECO)**

F and S indicate whether the course is usually offered in the Fall or the Spring.

**ECO 100. ELEMENTS OF ECONOMICS.** An introduction to the elements of economic analysis, structured particularly for the non-major; the student is exposed to the mechanics of the market system and a survey of modern macroeconomic theory and policy. Prerequisite: None. (3 crs.) (F,S)

**ECO 200. CURRENT ECONOMIC ISSUES.** An application to contemporary economic principles. Current readings in economics are examined. Prerequisite: ECO 100 or ECO 201. (3 crs.) (Summer)

**ECO 201. INTRODUCTORY MICROECONOMICS.** An introduction to the market mechanism in a modern mixed economy; supply and demand analysis is applied to consumer markets as well as resource markets. (3 crs.) (F,S)

**ECO 202. INTRODUCTORY MACROECONOMICS.** An introduction to the determination of national income; problems of inflation and unemployment; international trade and economic growth. Emphasis is placed on the roles of monetary and fiscal policy in the conduct of macroeconomic policy. Prerequisite: ECO 100 or ECO 201 is recommended. (3 crs.) (F,S)

**ECO 242. GOVERNMENT AND BUSINESS.** A study of the legal framework within which business operates, including the Sherman Anti-Trust Act, Clayton Act, Robinson-Patmon Act, Federal Trade Act, and other newer forms of social control regulation. The course explores the relationships between government and business: government as regulator, subsidizer, partner, and competition. Prerequisite: ECO 201. (3 crs.)

**ECO 251. DEVELOPMENT OF THE AMERICAN ECONOMY.** A survey of the beginning, development, and growth of the American economy with emphasis on the business sector. Prerequisite: ECO 100 or ECO 201 or ECO 202. (3 crs.)

**ECO 301. INTERMEDIATE MICROECONOMICS.** An analysis of the theories of consumer behavior and of firms in the allocation of resources, and of general price and distribution theory, with application to current economic issues. Prerequisites: ECO 201, ECO 202 or permission of instructor. (3 crs.) (F)

**ECO 302. INTERMEDIATE MACROECONOMICS.** Analysis of the determination of national income, employment and price levels. Discussion of consumption, investment, inflation, and government fiscal and monetary policy. Prerequisite: ECO 201, ECO 202. (3 crs.) (S)

**ECO 304. MONEY AND BANKING.** Relation of money and credit to economic activity and prices; impact of public policy in financial markets and for goods and services; policies, structure and the functions of the Federal Reserve System; organization, operations, and functions of the commercial banking system, as related to questions of economic stability and public policy. Prerequisites: ECO 201, ECO 202. (3 crs.) (F,S)

**ECO 307. STATE AND LOCAL FINANCE.** Principles and problems of financing state and local governments. Topics include taxation, expenditures, intergovernmental grants, and governmental fiscal relations. Prerequisite: ECO 100 or equivalent. (3 crs.)

**ECO 311. LABOR ECONOMICS.** An introduction to labor economics, theories of the labor movement, the American labor movement, wage and employment theory, comparative labor movements and trade union impact on wages, prices, and national income. Prerequisites: ECO 201, ECO 202. (3 crs.) (F,S)

**ECO 320. MATHEMATICAL ECONOMICS.** A course designed to enable Economics and Business majors to understand the simpler aspects of mathematical economics. Relationships of functions and graphs, simultaneous equations, maximization techniques, and those parts of algebra and calculus required for economic analysis are presented. Prerequisites: ECO 201, ECO 202 and MAT 181 or MAT 182. (3 crs.) (F)

**ECO 322. MANAGERIAL ECONOMICS.** A survey of analytical techniques available to the modern business manager. Topics include economics for managers; business forecasting; cost and production functions; industrial pricing; profit planning; business decision making. Prerequisites: BUS 271 or ECO 320, or a course in calculus. (3 crs.) (S)

**ECO 331. REGIONAL ECONOMICS.** An introduction to regional analysis: theories of city locations and hierarchies, industrial location patterns, land-use patterns, the short-run impact of industrial change upon employment in one community and on long-run differentials of per capita income between regions. Prerequisites: ECO 201 and ECO 202. (3 crs.)



- ECO 342. ENVIRONMENTAL ECONOMICS.** Environmental pollution, failure of the market system, and optimum resource allocation; levels of pollution abatement and public policy; energy and public policy. Prerequisites: ECO 201, ECO 202. (3 crs.)
- ECO 351. COMPARATIVE ECONOMIC SYSTEMS.** An analysis of the institutional structure of each type of economy and understanding of the reasons for the similarities and differences of institutional structures by comparing capitalist, socialist, and communist economic systems. Prerequisites: ECO 100, or ECO 201, or ECO 202. (3 crs.)
- ECO 379. SPECIAL PROBLEMS IN ECONOMICS.** This course is designed to meet the changing interests of students and faculty. Topics vary in response to those interests. Prerequisites: ECO 201, ECO 202 or permission of instructor. (Variable credit.)
- ECO 401. INDUSTRIAL ORGANIZATION.** Analysis of market structure and its relation to market performance, changing structure of U.S. industry, and pricing policies in different industrial classifications of monopoly and competition in relation to the problems of public policy. Prerequisite: ECO 201. (3 crs.)
- ECO 405. PUBLIC FINANCE.** A study of the role of federal, state, and local governments in meeting public wants. Topics include analysis of tax theory and policy, government expenditures, public debt management, government budgeting, benefit cost analysis and income redistribution. Prerequisites: ECO 201, ECO 202. (3 crs.)
- ECO 421. APPLIED ECONOMETRICS.** The formulation, estimation and testing of economic models. Topics include single variable and multiple variable regression techniques, estimation of lagged relationships, use of dummy variables, problems of multicollinearity and autocorrelation and system of equations. Prerequisites: MAT 225, ECO 201 and ECO 202. (3 crs.)
- ECO 431. INTERNATIONAL ECONOMICS.** A descriptive and theoretical analysis of international trade, balance of payment accounts, comparative costs, mechanisms of international financial relations. Prerequisites: ECO 201, ECO 202. (3 crs.)
- ECO 433. ECONOMICS OF GROWTH AND DEVELOPMENT.** Understanding of the obstacles to economic growth, requirements for growth, and other topics related to economic growth in underdeveloped countries. Prerequisites: ECO 201, ECO 202. (3 crs.)
- ECO 451. HISTORY OF ECONOMIC THOUGHT.** An extensive survey of the development of economic thought from ancient times to the present stressing the contributions of Smith, Ricardo, Marx, Marshall and Keynes. This course should be taken quite late in the undergraduate career. Prerequisites: ECO 201, ECO 202. (3 crs.)
- ECO 479. HONORS COURSE IN ECONOMICS.** Integrated reading under staff direction. Selected topics are investigated and written reports are submitted. Prerequisites: ECO 201, ECO 202 or permission of instructor. The course is repeatable for one time if course contents are different. (3 crs.)
- ECO 490. COMMUNITY RESOURCES WORKSHOP.** A workshop that exposes teachers to various community resources and encourages their implementation into educational programs. Emphasis is placed on the economic aspects of community life with approximately twenty-five hours of classroom economics supplementing numerous field trips and lectures. This is not a repeatable course. Prerequisites: Senior standing or college degree. (6 crs.)
- ECO 492. ECONOMICS INTERNSHIP.** The student is placed with a business firm, a bank, and industrial firm, a government office, a health care facility or a similar institution for on-the-job experiences related to classroom course work. This course should be taken quite late in the undergraduate career. Credit hours will range from 1 to 12 depending upon the nature of the particular assignment. Prerequisite: Senior standing or permission of instructor. A maximum of 12 credits can be used toward the completion of degree. (Variable credit.) (F,S)



**ECO 495. SEMINAR IN ECONOMICS.** An intensive examination of selected subjects from the fields of Economics, Management, Business and Labor Relations. It is a repeatable course if course contents are different. Prerequisite: Permission of instructor. (3 crs.)

### FINANCE COURSES (FIN)

F and S indicate whether the course is usually offered in the Fall or the Spring.

**FIN 201. INTRODUCTION TO FINANCE.** A survey course which covers an introduction to financial markets and institutions responsible for the flow of funds in the economy. The basic principles and concepts which assist the market participants in making sound financial decisions are discussed. Prerequisite: BUS 100 and ECO 100 recommended. (3 crs.) (S)

**FIN 211. PERSONAL MONEY MANAGEMENT.** A guide to personal finance to best meet one's objectives and make financial decisions easier. Topics include budgets, major purchases, use of credit and bank loans, insurance, real estate and investment in securities, taxes and estate planning. Prerequisite: ECO 100 or permission of instructor. (3 crs.) (F,S)

**FIN 301. FINANCIAL MANAGEMENT.** The study of financial analysis, planning and control, including working capital management, capital budgeting, cost of capital, and other selected subjects. Advanced techniques of financial analysis are employed. Prerequisites: ECO 201 and MAT 171. MAT 225 is recommended. (3 crs.) (F,S)

**FIN 302. ADVANCED FINANCIAL MANAGEMENT.** A continuation of FIN 301. An intensive study of cost of capital, long-term financing and analysis of cases relating to financial decisions of firms. Prerequisite: FIN 301. (3 crs.) (S)

**FIN 305. INVESTMENTS.** An introduction to financial investments. Topics include securities and securities markets, investment risks, returns and constraints, portfolio policies, and institutional investment policies. Prerequisite: MAT 171 and MAT 225 or permission of instructor. (3 crs.) (F,S)

**FIN 341. INSURANCE AND RISK MANAGEMENT.** A survey of the nature and significance of risk and the basic ideas, problems, and principles found in modern insurance and other methods of handling risk. Prerequisite: BUS 100 (3 crs.) (Summer)

**FIN 351. REAL ESTATE FUNDAMENTALS.** A basic cognitive course covering physical, legal and economic aspects of real estate. Topics include valuation, agreements of sale, title, leasing, settlements and landlord-tenant relations. (2 crs.) (F)

**FIN 352. REAL ESTATE PRACTICE.** Role of the real estate agent in listing, sales contract, financing, and completion of RESPA approved settlement sheet. The course examines the legal and ethical aspects of brokerage. (2 crs.) (S)

**FIN 405. ADVANCED INVESTMENT ANALYSIS.** Systematic approach to security analysis and valuation; portfolio construction and management. Prerequisite: FIN 305 or permission of instructor. (3 crs.)

**FIN 411. FINANCIAL MARKETS AND INSTITUTIONS.** Description and analysis of major financial institutions, money and capital markets. Current topics in financial market and institutions. (3 crs.) (S)

**FIN 531. BANK MANAGEMENT.** Detailed analysis of operational decisions faced by bank managers in the areas of loans, investments, sources of funds, and liability management. (3 crs.) (S)

**MANAGEMENT COURSES (MGT)**

F and S indicate whether the course is usually offered in the Fall or the Spring.

**MGT 201. PRINCIPLES OF MANAGEMENT.** A survey of the theories in the field of management, covering concepts developed by the classical school, the behavioral school, and the management science school. Emphasis is on human factors, but the influences of economics and technological factors are also considered. Prerequisite: PSY 100 or consent of instructor. (3 crs.) (F,S)

**MGT 205. ENTREPRENEURSHIP I: SMALL BUSINESS FUNDAMENTALS.** Entrepreneurship and new venture initiation. A study of the development of a business appropriate to the objectives and resources of the individual entrepreneur. This course deals with the initiation of a new business venture rather than the management of ongoing enterprises, and treats new venture formation primarily from the standpoint of the individual entrepreneur rather than that of an established enterprise expanding into a new area. Prerequisite: MGT 201. (3 crs.)

**MGT 271. COMPUTER APPLICATIONS IN BUSINESS I.** An introduction to the basic tools and techniques of software used to solve business problems. This course is taught on a lecture-laboratory basis in which the computer is utilized to present applications of the spreadsheet in business situations. (1 cr.) (F,S)

**MGT 273. COMPUTER APPLICATIONS IN BUSINESS II.** A continuation of Computer Applications in Business I with an emphasis on more advanced topics and problem-solving. This course is taught on a lecture-laboratory basis in which the computer is utilized to present applications of the spreadsheet in business situations. (1 cr.) (F)

**MGT 301. ORGANIZATIONAL BEHAVIOR.** An examination of theories and concepts relating the individual to the organization. The course analyzes the forces which influence behavior within an organization. Prerequisite: MGT 201 or consent of instructor. (3 crs.) (F,S)

**MGT 305. ENTREPRENEURSHIP II: SMALL BUSINESS MANAGEMENT.** A management course designed to integrate all business functions at a small business level. Study of the development and management of a business plan appropriate to the objectives and resources of the individual entrepreneur. This course deals with the management of ongoing enterprises. A computer software package is utilized to develop various cases and problems found in the text. Each student develops a business plan in either Retailing Operations, Service Business, or Manufacturing Operations. Prerequisite: MGT 205. (3 crs.)

**MGT 311. ORGANIZATION THEORY AND DESIGN.** Organizations are essential to the way our society operates and permeate and shape our lives. In addition to being the means for providing goods and services, organizations create the settings in which most people will spend a good part of their lives working either as subordinates or managers or both. This course offers students an understanding of the components that make up an organization, its complexity, its structure and design and the interrelationships that exist among all of its components. Prerequisite: MGT 201. (3 crs.)

**MGT 315. ORGANIZATION DEVELOPMENT AND CHANGE.** Change pervades modern society. All organizations exist within a changing environment. To survive and develop, organizations must be able to adapt to these changes and respond to opportunities for growth. Change is also an inherent aspect of management. Managers must understand and manage change if the organization is to thrive and grow. This course is about planned organization change and is designed to introduce the student to the field of organization development, its definition, goals, precedents, emergence, approaches, and current status. Prerequisite: MGT 201. (3 crs.)

**MGT 352. HUMAN RESOURCE MANAGEMENT.** Decision-making and analyses of major management problems that arise in manpower planning, recruitment, selection, development, compensation, and appraisal of employees in various organizations. Prerequisite: MGT 201. (3 crs.) (S)

**MGT 353. COMPENSATION MANAGEMENT.** The design, implementation and evaluation of wage and salary package in both private and public sectors. Prerequisite: MGT 352 or consent of instructor. (F)

**MGT 362. LABOR RELATIONS.** A survey of the many facets of employee-management relations. The course examines the historical, statutory and social bases for modern workplace relationships with emphasis given to the role of organized labor. Prerequisite: Junior level standing or consent of instructor. (3 crs.) (F,S)

**MGT 371. MANAGEMENT INFORMATION SYSTEMS.** An introduction to management control systems, which include control of production costs, standard costs, flexible budgets, managed costs, profit centers and capital acquisitions. Prerequisite: MGT 201, CSC 101, or MGT 271. (3 crs.) (F,S)

**MGT 373. COMPUTER BASED MANAGEMENT INFORMATION SYSTEMS.** An introduction to the technology, application, and management of computer-based information systems. Topics covered include business computer systems, computer hardware, computer software, data-based management systems, general accounting application, materials control application, management information processing, systems planning, and operations management. The course uses LOTUS 1-2-3. Prerequisites: CSC 101, MGT 371. (3 crs.)

**MGT 402. STRATEGIC MANAGEMENT.** The integrated decision making of general management. Topics include corporate strategy and implementing corporate strategy. Prerequisites: MGT 201, MKT 301, FIN 301, ACC 202. or consent of instructor. (3 crs.) (F,S)

**MGT 431. INTERNATIONAL BUSINESS MANAGEMENT.** The concepts, problems and policies of international business enterprises for managers. Prerequisite: Junior level standing. (3 crs.) (F)

**MGT 452. HUMAN RESOURCE STRATEGY AND PLANNING.** The human resource is emerging as a significant contingency in the formulation and implementation of organizational strategic plans. Personnel policies and programs as well as the available skills, knowledge, and attitudes can provide particular opportunities or limitations to management as an organizations's strategic goals and plans are defined. This course is designed to examine organizational human resources management from a strategic perspective. The key focus is on exploring HR planning and strategy concepts, developing an understanding of the related analytical tools, and determining how these concepts and tools can be used to enhance an organization's competitive position. Prerequisite: MGT 352. (3 crs.)

**MGT 492. SMALL BUSINESS INTERNSHIP.** A program in which business majors intern with a local firm for a semester. Students draw upon their academic knowledge to aid the local enterprise in its over-all operation. The type and scope of the problems vary with each individual situation. The course is open to students with junior or senior standing who have submitted a formal application, have the recommendation of a faculty member, and have a satisfactory Q.P.A. (Repeatable; Variable credit; a maximum of 12 credits can be used toward the completion of a baccalaureate degree.)

<b>MARKETING COURSES (MKT)</b>
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F and S indicate whether the course is usually offered in the Fall or the Spring.

**MKT 222. PRINCIPLES OF SELLING.** A study of basic principles of persuasive communications with emphasis on proven, practical selling techniques. Activities include interactive class discussions and video role-playing. (3 crs.) (F,S)

**MKT 301. PRINCIPLES OF MARKETING.** An introduction to basic principles of marketing management. Other topics covered are selecting target markets, developing marketing mixes, functions of marketing management. Prerequisite: ECO 100 or ECO 201 and MGT 201. (3 crs.) (F,S)

**MKT 321. SALES MANAGEMENT.** Proven management techniques for remotely located field sales force member, are fully explored. Motivation, evaluation, and control of sales force activities are developed through case presentations and class discussions. Prerequisites: MKT 222. (3 crs.) (F,S)

**MKT 331. RETAILING.** A management and marketing analysis of department, discount, specialty and chain stores with special emphasis on location, human resources, merchandising and effective pricing. Prerequisite: BUS 100 recommended. (3 crs.)

**MKT 341. MARKETING FOR NON-PROFIT ORGANIZATIONS.** A marketing course designed for both business and nonbusiness majors that differentiates between for-profit and not-for-profit organizations, investigates the competitive environment facing nonprofits (e.g., hospitals, churches, charities, colleges, and universities performing arts groups), and applies research techniques and marketing management tools (product policy, distribution and delivery systems, monetary pricing, and communication strategies) to the nonbusiness entity. (3 crs.) (S)

**MKT 351. ADVERTISING MANAGEMENT.** A study of the basic components of the advertising mix, establishing media selection techniques, and determining the best vehicles for specific selling and promotional efforts commonly confronting marketing managers today. Prerequisite: MKT 301. (F)

**MKT 402. MARKETING MANAGEMENT.** Description and analysis of the nature, strategies and techniques of marketing management. Prerequisite: Principles of Marketing (MKT 301). (3 crs.) (F)

**MKT 421. CONSUMER BEHAVIOR.** This course is designed to integrate the disciplines of psychology, anthropology, economics and sociology with marketing to explain, understand, and predict consumer decisions. This is achieved by exploring both the theoretical and practical implications of (1) individual behavior variables such as motivation, learning, perception, personality, and attitudes; (2) group influences such as family, culture, social class and reference group behavior; and (3) consumer decision processes such as cognitive dissonance, brand loyalty, new product adoption and risk reduction. Prerequisite: MKT 301. (3 crs.) (S)

**MKT. 431. MARKETING RESEARCH.** Description of behavioral and statistical tools for designing and implementing research projects. Prerequisites: Principles of Marketing (MKT 301) and Business Statistics (MAT 225). (3 crs.) (S)

**MKT 451. BUSINESS MARKETING.** The characteristics of business-to-business marketing are explored and developed focusing on environment, pricing, planning, distribution, evaluation and strategy development for marketing business and industrial products to the professional user or buyer. Prerequisite: MKT 301. (3 crs.) (S)

**CO-CURRICULAR ACTIVITIES (CCU)**

One credit may be scheduled each semester in any one of the following. An activity may be repeated in a following semester, but a total of no more than four credits towards graduation may be earned in this way. These activities always count as "free electives" and never towards fulfilling the requirements in any area of specialization.

**CCU 103. CO-EDUCATIONAL WEIGHT LIFTING AND CONDITIONING (1 cr.)**

**CCU 151. SHOTOKAN KARATE.** Shotokan Karate is divided into three categories: Kihon (basic blocks, punches, kicks and stances); Kata (pre-arranged forms simulating combat situations); Kumate (sparring). In each category the beginner is given instruction at the most basic level until the techniques become spontaneous. (1 cr.)

**CCU 187. PEP BAND.** The Pep Band is composed of brass, woodwind and percussionists from the University Band. This ensemble performs at selected basketball games. (1 cr., spring semester)

**CCU 188. WOODWIND ENSEMBLE.** The Woodwind Ensemble is composed of woodwind players from the University Band. It explores all phases of literature composed for this type of ensemble. The group rehearses one hour a week and performs both on and off campus. (1 cr.)

**CCU 189. BRASS ENSEMBLE.** The Brass Ensemble is composed of brass players from the University Band. It explores all phases of literature composed for this type of ensemble. The group rehearses one hour a week and performs both on and off campus. (1 cr.)

**CCU 197. UNIVERSITY BAND.** The University Band follows two curricula determined by the semester. During the fall semester, the University Band performs at football games and parades and is the featured exhibition band at numerous marching band festivals. Membership in this ensemble is open to any interested instrumentalist. Membership is also open to those wishing to audition for feature twirler or for a position on the Silk Squad, Dance Line or Rifle Line. During the spring semester, the University Band performs literature which encompasses all facets of the idiom. This ensemble performs at convocations and concerts, both on and off campus. (1 cr.)

**CCU 198. CALIFORNIA UNIVERSITY CHOIR.** The California University Choir provides an opportunity for students to sing a wide variety of music from the contemporary as well as the traditional repertoire. They perform frequently on campus and throughout the area. Membership in the Choir is elective; auditions are not required. (1 cr.)

**CCU 199. CALIFORNIA SINGERS.** The California Singers is a small performing ensemble. Membership in the group is determined by audition. There are an equal number of men and women. The basic performance style is that of a jazz/show choir, although other styles of music are performed when appropriate for the season or the audience. Smaller groups, such as a women's trio or a men's barbershop quartet, are formed within this group. Choreography is a regular part of the performances presented by this group. (1 cr.)

**CCU 292. STUDENT GOVERNMENT.** Student Congress is the official student governing body. This course provides non-elected and elected students the opportunity to earn co-curricular credit while participating in Student Congress. Students learn and practice leadership and administrative skills, implement programs that enrich campus life and communicate student concerns to administrative and faculty personnel. (1 cr.)

**CCU 293. PUBLICATIONS: NEWSPAPER (1 cr.)**

**CCU 295. PUBLICATIONS: "PEGASUS" (1 cr.)**

**CCU 333. RADIO STATION (WVCS).** A student enrolled in this co-curricular course is introduced to broadcast radio. The student becomes involved with on-air requirements as well as basic news and production techniques. All work takes place at WVCS, the University's 3300-watt FM Station, which is owned and operated by the Student Association, Inc. (1 cr.)

**CCU 379. INTER-RESIDENCE HALL COUNCIL.** The council is a representative group of students elected from the six residence halls. Students taking this course assist in the governance of this organization and participate in a number of the organization's service projects. (1 cr.)



<p style="text-align: center;"><b>DEPARTMENT OF COMMUNICATION STUDIES</b> <b>(Formerly Speech Communication)</b></p>
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**COMMUNICATION STUDIES**

- GENERAL
- RADIO AND TELEVISION
- PUBLIC RELATIONS

*See also* Secondary Communication Certification, pages 164-165, in this catalog.

Assistant Professor Dencil K. Backus, *chair*; Assistant Professor Patrick L. Miller, *assistant chair*. Professor Marcella A. Rye Blout; Associate Professors Robert C. Cowles, Halbert H. Holloway, J. Drew McGukin; Assistant Professors Sylvia L. Foil, MacDonald N. Kalé, Patricia Milford, George Yochum; Instructor James O. Carter.

**PURPOSE**

Communication Studies is the discipline which focuses on human communicative behavior and its influence on our personal, professional, social and cultural lives. The curriculum provides the student with an opportunity (a) to understand more fully the human communication process and how it affects the ways people interact with one another, and (b) to develop communication skills which enhance the individual person's capacity to function as a citizen in the world community.

**PROGRAM**

Students majoring in Communication Studies have four academic program options. (1) The General Option provides the major with a core of general courses as well as a number of restricted and open electives. This option is appropriate for those who wish to further their educational careers in such areas as socio-political influence, rhetoric, or organizational communication. (2) The Radio/Television Option emphasizes the application of information and theories learned in the classroom to the practice of production and critical decision-making. This option is appropriate for persons pursuing a career in telecommunications and broadcast journalism. (3) The Public Relations Option is interdisciplinary in nature, since courses are taken in disciplines such as English, Business and Psychology. (4) The fourth option is for persons who want to teach in the area of Communication. The Communication Studies Department in cooperation with the College of Education and Human Services provides course work necessary for secondary school certification in Communication with a speech concentration.

The academic program is enhanced by an internship program with radio and television broadcast facilities. The TV studio supports campus efforts in video production. Students have an opportunity to receive "hands-on" experience in conceiving, producing and editing programs.



Radio station WVCS is owned and operated by California University's Student Association, Incorporated. A faculty member from the Department of Communication Studies serves as the educational advisor to the station. Students can become involved in all aspects of radio programming and management.

Internships are available to students in their junior or senior year if they have maintained a 3.0 grade point average or higher in their area of concentration.

### HONOR SOCIETY

*Pi Kappa Delta* (ΠΚΔ) is the honor society for intercollegiate debaters, individual events competitors, and teachers of communication. The Penn Zeta Chapter was organized in 1963. Undergraduate students can achieve membership in this society if they meet the minimum standards of forensic participation and are extended an invitation to join. Further information can be obtained at the departmental office.

### AWARDS

Each year the faculty in Communication Studies selects one of the graduating seniors as an Outstanding Graduate. The honoree receives a plaque, a one-year membership in the Speech Communication Association, the national organization for communication professionals, and a one-year subscription to one of its five professional journals.

### CAREERS

Aside from careers in broadcast journalism or public relations, graduates can obtain positions with management training programs, as speech writers and as salespeople. An undergraduate major in Communication Studies is an asset for careers in law, religion, education, labor relations, politics, marketing and resource development.

<b>BACHELOR OF ARTS IN COMMUNICATION STUDIES: GENERAL OPTION</b>
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#### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** MAJOR COURSES: Perspectives on Communication (COM 100), Oral Communication (COM 101); Fundamentals of Group Discussion (COM 107); Interpersonal Communication (COM 165); Forensic Workshop I (COM 192) and II (COM 292) AND III (COM 392); Introduction To Oral Interpretation (COM 224); Argumentation and Debate (COM 230); Language and Behavior (COM 315); Persuasion (COM 350); Speech Criticism (COM 460); Communication Research Techniques (COM 481); Communication Theory (COM 490); RESTRICTED ELECTIVES: 9 additional credits in Communication Studies courses: Voice and Articulation (COM 210) or Advanced Oral Interpretation (COM 324); Survey of R/TV/Film (COM 105) or TV Production (COM 240) or Radio Production (COM 245); Presidential Rhetoric (COM 235) or Freedom of Speech (COM 260). COGNATE COURSES: 23 credits from other disciplines pertinent to the student's academic or professional objective.

**BACHELOR OF ARTS IN COMMUNICATION STUDIES:  
RADIO AND TELEVISION OPTION**

**Curriculum:**

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** MAJOR COURSES: Oral Communication (COM 101); Survey of Radio, Television, and Film (COM 105); Fundamentals of Discussion (COM 107); Introduction to Oral Interpretation (COM 224); Radio Workshop (COM 196,296 or 396); Television Workshop (COM 195,295 or 395); Forensic Workshop I (COM 192); Introduction to Television Production (COM 240); Introduction to Radio Production (COM 245); Radio and Television Announcing (COM 246); Radio and Television Writing of News (COM 332) or Drama (COM 335) or Commercials (COM 331); Broadcast Management (COM 355); Appreciation of Film (COM 360); Communication Theory (COM 490). RESTRICTED ELECTIVES: 9 additional credits of Communication Studies courses. RELATED COURSES: 23 credits from other disciplines relevant to a student's academic or professional interest.

**BACHELOR OF ARTS IN COMMUNICATION STUDIES:  
PUBLIC RELATIONS OPTION**

**Curriculum:**

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** MAJOR COURSES (42 crs.): Perspectives on Communication (COM 100), Oral Communication (COM 101), Fundamentals of Discussion (COM 107), Interpersonal Communication (COM 165), Introduction to Public Relations (COM 203), Public Relations Applications (COM 303), Language and Behavior (COM 315), R/TV Writing: Commercials (COM 331) or R/TV Writing: News (COM 332), Persuasion (COM 350), Communication Research Techniques (COM 481), Public Relations Cases, Problems, and Campaigns (COM 483), Communication Theory (COM 490), Newswriting (ENG 307) or Feature Writing (ENG 311), and Advertising (ENG 437). RESTRICTED and RELATED ELECTIVES (26 cr. hrs.) to be chosen from the following lists: Three to six credit hours from the following group: R/TV Commercials (COM 331), R/TV Writing: News (COM 332), Business Writing I (ENG 211), Feature Writing (ENG 311), Advanced Writing (ENG 375), or Copywriting (ENG 401). Six to nine credits from the following group: Elements of Economics (ECO 100), Principles of Management (MGT 201), Introduction to Public Administration (POS 220), Principles of Marketing (MKT 301), Business, Society and Government (BUS 342). Three to six credits from the following group: Social Psychology (PSY 211), Industrial Psychology (PSY 209), Interviewing Skills (PSY 370), Psychology of Social Control (PSY 455). Three to six credit hours from the following group: Graphic Communications I (IND 140), Photography (IND 145), Principles of Layout and Design (GCT 225). Up to eight credits for Practicum in Communication Studies (COM 491).

**COMMUNICATION STUDIES COURSES (COM)**

**Introductory courses are indicated by a plus sign (+).**

F and S indicate whether the course is usually offered in the Fall or the Spring.

+COM 100. PERSPECTIVES ON COMMUNICATION. An introductory course intended primarily for majors in Communication Studies. The course explains the many perspectives from which communication may be studied and serves as an introduction to the discipline. (3 crs.) F

+COM 101. ORAL COMMUNICATION. Designing, rehearsing, and delivering extemporaneous speeches to facilitate solving group and public problems; reporting and evaluating other speakers' intent, content, format, and delivery. (3 crs.) F, S

+COM 102. GROUP DISCUSSION: MANAGEMENT. Participation in, and analysis of, group decision-making processes to develop communication and listening skills in group situations, to develop an understanding of the role of small group communication in business and to identify and develop styles and functions of group leadership. (3 crs.) F, S (Normally for non-Communication majors)

+COM 105. SURVEY OF RADIO, TELEVISION, AND FILM. Introduction to communication in radio, television, and film; effects of mass media on the audience and the individual; role of mass media in news, documentaries, commercials, and entertainment broadcasting. (3 crs.) F

+COM 107. FUNDAMENTALS OF DISCUSSION. Introduction to group forms, techniques, participation, and chairmanship in informal and formal discussions of contemporary issues. (3 crs.) F, S

+COM 165. INTERPERSONAL COMMUNICATION. This course seeks to help the student develop an awareness of the nature and complexity of interpersonal communication, recognize how perception of the self affects the ability to relate to others, and gain an understanding of those elements that shape the interpersonal communication process. (3 crs.) F, S

COM 192,292,392. FORENSIC WORKSHOP. Practical experience in debate, individual speaking, and parliamentary procedure. (1 cr.) F, S

COM 195,295,395. TELEVISION WORKSHOP. Opportunities for "hands-on" television production experience with both TV studio and portable equipment. (1 cr.) F, S

COM 196,296,396. RADIO WORKSHOP. Practice in using equipment; projects in radio. (1 cr.) F, S

COM 203. INTRODUCTION TO PUBLIC RELATIONS. Examines PR as the communication function that allows organizations to interface with their environments and publics. It describes the public relations process as well as its history, the guiding principles and concepts of organizational advocacy, and explores the various career opportunities in the field. (3 crs.) F

COM 210. VOICE AND ARTICULATION. Introduction to phonetics and to voice production and control, with exercises to develop adequate quality, loudness, pitch, rate, and articulation. (3 crs.) F

+COM 224. INTRODUCTION TO ORAL INTERPRETATION. Techniques of discovering denotative and connotative meanings in literature for presentation to listeners; solo presentations of different literary forms. (3 crs.) F, S

COM 230. ARGUMENTATION AND DEBATE. Logical advocacy: briefing and supporting logically adequate cases advocating propositions of policy; negative positions; exposing fallacious evidence and reasoning; refutation and rebuttal. Applications to intercollegiate and mass media topics. Prerequisites: COM 101 or 250 or consent of instructor. (3 crs.) F

COM 235. PRESIDENTIAL RHETORIC, 1960 TO THE PRESENT. A study of the written texts, audio tapes, and video tapes of selected speeches by American presidents. The course explores the use of rhetoric in campaigns, in governance and in crises by the presidents in order to illustrate contemporary political speaking and is an examination of how to understand and evaluate presidential speaking. (3 crs.) S

COM 240. INTRODUCTION TO TELEVISION PRODUCTION. Fundamentals of television production, including the use of equipment. Producing, directing, and evaluating programs. (3 crs.) F, S

**COM 245. INTRO TO RADIO PRODUCTION.** A study of FCC rules and regulations as they apply to the radio broadcaster; study of and practice on broadcast equipment; radio programming and production of several types of programs. (3 crs.) F, S

**COM 246. RADIO AND TELEVISION ANNOUNCING.** Theories and practice of gathering, evaluating, writing, and delivering newscasts, sports, commercials, interviews, for radio and television audiences. Prerequisites: COM 240 or 245 or consent of the instructor. (3 crs.) S

**+COM 250. ORAL COMMUNICATION: MANAGEMENT.** Develops an awareness of and an appreciation for communication in the business world; preparing and presenting oral reports and speeches designed especially for persons who function in organizations, businesses, or industries. (3 crs.) F, S (Normally for non-Communication majors)

**COM 260. FREEDOM OF SPEECH.** History of free speech in the world, with special attention to its development in the United States; legal decisions in contemporary attacks upon and attempts to expand the principle of freedom of speech. (3 crs.) S

**COM 270. APPRECIATION OF TELEVISION.** Development of critical skill in evaluating various kinds of programming from commercial and public television sources; of awareness of individual viewers responsibility toward influencing the nature and quality of programming; of ability to utilize TV as a source of information, opinion, and entertainment. (3 crs.) S

**COM 303. PUBLIC RELATIONS APPLICATIONS.** This course seeks to develop the production skills necessary to function in an entry-level public relations position. Many assignments will help students develop: (1) proficiency using the host of vehicles PR practitioners use, and (2) a portfolio. Effort will be made to create an atmosphere similar to the first job in PR. The instructor will be the first PR supervisor—the boss—editing the work, criticizing style, asking for research; forcing the student to plan, analyze, write, rewrite, prepare, repair, organize, and reorganize. Prerequisite: COM 203. (3 crs.) F, S

**COM 315. LANGUAGE AND BEHAVIOR.** Developing language habits that improve sensory and symbolic perception, inference-making, evaluation, and conflict management/resolution. Prerequisite: COM 165 or consent of instructor. (3 crs.) S

**COM 324. ADVANCED ORAL INTERPRETATION.** Detailed analysis and evaluation of literary forms. Creative experimentation in adapting performing literature for solo and group presentations. Prerequisite: COM 224. (3 crs.) S

**COM 331. RADIO AND TELEVISION COMMERCIALS.** The writing of commercial messages in varying lengths for both radio and television, including preparation of storyboards. Prerequisites: COM 240 or 245 or consent of the instructor. (3 crs.) S

**COM 332. RADIO AND TELEVISION WRITING: NEWS.** The writing of news, commentary and documentary, scripts for radio and television; includes the press conference. Prerequisites: COM 240 or 245 or consent of the instructor. (3 crs.) F

**COM 335. RADIO AND TELEVISION WRITING: DRAMA.** Writing and analyzing teleplays, film and/or radio plays for understanding of dramatic composition and unique needs of specific writing genres and audiences. (3 crs.) S

**COM 340. ADVANCED TV PRODUCTION.** Further application of techniques and skills learned in COM 240 with additional practical experience in TV program production and editing. Prerequisite: COM 240. (3 crs.) S

**COM 345. ADVANCED RADIO PRODUCTION.** Primarily for majors in Communication Studies with an emphasis on Media. Its purpose is to offer a "hands on" course rather than a technical theory treatise. Students will develop and implement projects. Prerequisite: COM 245. (3 crs.) F

**COM 350. PERSUASION.** Methods of changing attitudes and behaviors through communication; analysis of individuals, audiences, occasions, and subjects for persuasive appeals. Study of logical and psychological arrangements and the ethics of persuading and being persuaded. Preparation of persuasive speeches. Prerequisites: COM 101 or 250 or consent of instructor. (3 crs.) S

**COM 355. BROADCAST MANAGEMENT.** Development of a working knowledge of the managerial structures of broadcast organization. Prerequisite: COM 240. (3 crs.) S

**COM 360. APPRECIATION OF FILM.** Preparation for intelligent response to cinema. Discussion of the screen play, director, and actor. Critical evaluation of outstanding films of the past and present. (3 crs.) S

**COM 401. INTERNATIONAL BROADCAST SYSTEMS.** An overview of world broadcasting systems. Prepares the student to function as a person with a world view of the field of electronic mass communication. Prerequisites: COM 355 and COM 105. (3 crs.)

**COM 410. PROFESSIONAL VIDEO COMMUNICATIONS.** The field of business and institutional video. The course prepares the student to function as a corporate writer, producer, director, and editor of desktop videos, video press releases, videoconferences, training tapes, and other business and institutional videos. Prerequisites: COM 100, COM 105 and COM 355. (3 crs.) S

**COM 419. COMMUNICATION STUDIES PRACTICUM.** Opportunities for practical radio, television, public relations, etc. work in area businesses. (Variable) F, S

**COM 429. SPECIAL PROBLEMS IN COMMUNICATION.** Independent study and reporting of topics of interest to the student not available in scheduled courses. (Variable)

**COM 445. RADIO AND TELEVISION IN A FREE SOCIETY.** A study of the rights and obligations of the mass media producer, purveyor, and audience. Prerequisite: COM 240 or consent of instructor. (3 crs.) S

**COM 460. SPEECH CRITICISM.** A study of historical, experimental, and other methodologies in speech criticism. Analysis of significant speeches and speakers. Prerequisite: Major. (3 crs.) F

**COM 481. COMMUNICATION RESEARCH TECHNIQUES.** This course is intended to provide an introduction to and practice in the construction of research that is appropriate to the student's area of interest in Communication Studies. It seeks to provide basic research skills to those anticipating graduate studies and to those anticipating employment in areas of Communication Studies. Prerequisites: Major, junior standing or consent of instructor. (3 crs.) F

**COM 483. PUBLIC RELATIONS CASES, PROBLEMS, AND CAMPAIGNS.** This course seeks to integrate all the skills required of the professional in designing and executing a complete public relations campaign. It should be taken during the student's last semester on campus (but before an internship). This is a seminar in which team and group efforts, rather than individual productivity, are emphasized. Prerequisite: COM 383 or consent of instructor. (3 crs.) F

**COM 490. COMMUNICATION THEORY.** A seminar in which the theories of human communication are analyzed, debated and evaluated. (3 crs.) S

**CERTIFICATION IN COMMUNICATION  
(ENGLISH, SPEECH, AND THEATRE)  
FOR THE SECONDARY SCHOOLS**

The faculty and courses for this program may be found in the listings for the Departments of English, Communication Studies, and Theatre in this catalog.

The Secondary Education Communication program is designed to enable the teacher candidate to develop personal communication skills and performance competencies and attitudes, in order to become a conduit of learning, a model of communication competence, including the empathic domain, and a resource person for facilitating communication in educational and community settings.

The Communication teacher not only helps young people to experience all the methods of human expression, both verbal and non-verbal, by which we communicate our thoughts and feelings but also encourages students to be sensitive to creative expression. Furthermore, the Communication teacher assists students to speak and listen effectively, to read and write clearly, and to enhance their communication skills with varieties of aesthetic experiences such as film, theatre, and television.

A Communication teacher is certified for grades seven through twelve and is qualified to teach the traditional English areas, such as literature, writing and linguistics, as well as speech and theatre. Moreover, at California University this multi-disciplinary, comprehensive program has been broadened to include teaching competencies in media such as radio, television, film, and photography. Students majoring in Communication therefore take a Common Core of courses, which includes a number of English, Speech, and Theatre courses, and in addition choose a concentration in either Speech or Theatre.

Pennsylvania Certification requires a satisfactory score on the National Teachers Examination.

Communication students receive valuable pre-professional experiences through campus contacts as forensic judges and coaches for secondary school teams, assisting and advising schools concerning play productions, and hosting area elementary and secondary schools at University play productions.

**BACHELOR OF SCIENCE IN EDUCATION:  
CERTIFICATION IN COMMUNICATION FOR SECONDARY SCHOOLS**

**Curriculum:**

(A) **General Education:** 15 credits in Humanities, including Composition I-II (ENG 101-102) and Communication Theory (COM 490); 9 credits in Natural Sciences; 9 credits in Social Science; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Educational Media (EDF 304); Problems of Secondary Education (EDS 300); Educational Tests and Measurements

(EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multicultural Society (EDU 100); Mainstreaming Exceptional Learners (EDU 340); Computers for Teachers (EDF 301).

**(C) Specialization:**

**1. Core Requirements:** Communication: English Grammar and Usage (ENG 345); Theatre (6 credits): Stagecraft I (THE 151) or Fundamentals of Acting (THE 130) or Fundamentals of Directing (THE 200) or Workshops. Writing: Advanced Writing (ENG 375). Literature: 15 credits: English Literature I (ENG 301) or English Literature II (ENG 302); Shakespeare (ENG 425); Nineteenth-Century American Literature (ENG 303); Twentieth-Century American Literature (ENG 304).

The student chooses one of the two following areas of concentration:

**2 (a). For Concentration in Speech (21 credits):** Workshop: 3 credits: Debate (COM 192); Individual Events (COM 292); Parliamentary Procedure (COM 392). Basic Courses: 9 credits: Argumentation & Debate (COM 230); Fundamentals of Discussion or Persuasion (COM 107); Introduction to Oral Interpretation (COM 111) or Voice and Articulation (COM 121). Enrichment: 3 credits: (Select One) Radio & T.V. in Free Society (COM 107); Advanced Oral Interpretation (COM 212); or approved elective. Production: 3 credits: Introduction to Radio Production or Introduction to TV Production or other approved elective; Analysis: 3 credits: (Select one) Language & Behavior (COM 315); Speech Criticism (COM 460); Freedom of Speech (COM 260); Presidential Rhetoric (COM 235); or other approved elective.

**2 (b). For Concentration in Theatre (21 credits):** Production, Rehearsal, and Performance (THE 392); 6 credits in Theatre History or Theatre Literature, which may include Stagecraft I (THE 151), Fundamentals of Acting (THE 130), and Fundamentals of Directing (THE 200); 3 credits of approved electives.





**DENTAL HYGIENE PROGRAM****BACHELOR OF SCIENCE IN EDUCATION:  
CERTIFICATION IN DENTAL HYGIENE**

This program is designed for persons who have completed an approved program and have a valid license to practice Dental Hygiene. Students who have completed a two-year program of full-time work take an additional two years at California University of Pennsylvania. Those students with three years of full-time course work complete an additional year of work at California. Each student is required to earn a minimum of thirty credits at California University of Pennsylvania. The student earns a Bachelor of Science degree in Education with certification as a dental hygienist.

**Curriculum:**

**I. Dental Hygiene license**, earned at an approved institution of higher education.

**II. Professional Education (18-21): Required:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Mainstreaming Exceptional Child Learners (EDU 340); Teaching in a Multicultural Society (EDU 210). **Elective:** EDE 301 (Computers for Teachers).

**III. General Education (minimum of 27 credits):** 9 credits in Humanities; 9 credits of Social Sciences; 9 credits of Natural Science, including MAT 215 (Statistics). 8-11 credits of free electives.



<b>DEPARTMENT OF EARTH SCIENCES</b>
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**EARTH SCIENCES (EAS)  
GEOGRAPHY (GEO)  
GEOLOGY (EAS)  
INTERNATIONAL STUDIES: GEOGRAPHY  
PARKS AND RECREATION MANAGEMENT**

Professor Lawrence L. Moses, *chair*, Professors William J. Procasky, Donald J. Thompson, Robert A. Vargo; Associate Professors Donald J. Conte, Harry J. Orsag; Instructors, William A. Gustin, Betty I. Joynt

### **PURPOSE**

Understanding our habitat is essential for survival. Still, understanding is more than pragmatic. It satisfies a native curiosity about the world around each person.

The Department of Earth Sciences is composed of two distinct but integral components. The first is the traditional earth sciences, namely, geology, oceanography, meteorology, and hydrology, all of which are physical sciences. These disciplines describe and analyze various techniques and knowledge associated with mathematics, chemistry and physics. The objective of these activities is to apply research findings to the solution of environmental and commercial needs.

A second component of the earth science curriculum is geography. This social science studies the interrelationship between people and their natural environment. It is characterized by three subfields: human, physical or environmental, and technical geography, including such topics as cartography and remote sensing. Allied to geography are two other areas of study: travel and tourism and parks and recreation management. Finally, students in the department have the opportunity of integrating the study of geography with the humanities. Within the International Studies major is a Geography option. Believing that future social and business arenas will be international, this major stresses the importance of both learning about people and their environments as well as learning another language. How people see and understand their environments is affected greatly by language. Not only must Americans break their ethnocentric conception of life, they must understand how people in general conceptualize the world in which they live.

### **PROGRAMS**

The department has five programs and, within those programs, nine study options. The Earth Sciences major has three study options: General, Meteorology, and Oceanography. There is a Geography major with three options: General, Applied, and Travel and Tourism. The Earth Science and Geography majors and options each have a common core of required

courses. Finally, there are three single option majors: Geology, International Studies: Geography, and Parks and Recreation Management. The department, in conjunction with the College of Education and Human Services, provides a teacher certification program for those interested in teaching Earth Science in secondary schools. In order to be certified to teach in Pennsylvania, students must pass the NTE. Students interested in the latter should secure further information through the College of Education and Human Services. See also the section on General Science Certification, page 298 in this catalog.

All majors stress the equal importance of general education and professional development. Field experiences and internships help the student to integrate classroom activities with "real world" experiences. This planned and progressive problem-solving approach is central to the educational program.

### Honor Societies

The national Earth Sciences honor society, Sigma Gamma Epsilon ( $\Sigma\Gamma\epsilon$ ), has a chapter (AZ) on campus. Students recognized for their academic and professional achievements are elected to it.

Honor students in Geography are eligible for induction into Gamma Theta Upsilon ( $\Gamma\Theta\Upsilon$ ).

Membership is also available to students of high scholastic attainment in the California University Chapter of Rho Phi Lambda ( $\rho\Phi\Lambda$ ) Fraternity. Rho Phi Lambda is the professional honor society for parks and recreation majors.

### Careers

A student who desires a professional career in the earth sciences or in geography in most instances will need to have an advanced degree. This is the case for such professions as geologist, hydrologist, climatologist, oceanographic technician, stratigrapher, regional planner, and cartographer. Undergraduates seeking employment, however, will find opportunities in businesses undertaking environmental impact studies. Students with undergraduate majors in Parks and Recreation Management or Travel and Tourism can enter directly the job market, namely in such positions as directors or staff persons in schools, governmental agencies (municipal and military, for example), industries or resorts with recreational programs or as travel agents. More information on specific employment opportunities is available in the Career Planning and Placement Office and from faculty members responsible for specific majors.

## BACHELOR OF SCIENCE IN EARTH SCIENCES

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101-102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

**(B) Area of Concentration:** Common Core courses include Astronomy (PHS 145); Introduction to Geology (EAS 150); Introduction to Oceanography (EAS 163); Historical Geology (EAS 200); Meteorology (EAS 241); General Chemistry I (CHE 101); General Physics I (PHY 121); Hydrology (EAS 202); Map Principles (GEO 110); College Algebra (MAT 181); or Technical Math I (MAT 182); and a Field Experience course (EAS). In addition to the core courses each track has special requirements.

**General Earth Science:** 37 credits of required courses; 31 credits of required electives from four group of earth science courses, 15 credits of which must be at the 300 level or above.

**Oceanography:** 37 credits of required courses; 12 credits of required oceanographic courses: Micropaleontology (EAS 350); Sedimentology (EAS 421); Seminar in Oceanography (EAS 463); and Coastal Geomorphology (EAS 563); and 19 credits of related electives.

**Meteorology:** 37 credits of required courses; 25 credits of required meteorological courses: Climatology (EAS 242); Synoptic Meteorology (EAS 250); Field Work in Hydrology (EAS 302); Field Work in Meteorology (EAS 341); Dynamic Meteorology (EAS 342); Regional Climatology (EAS 550); Seminar in Meteorology (EAS 464); General Physics II (PHY 122); plus an additional six credits of mathematics.

**BACHELOR OF SCIENCE IN EDUCATION:  
CERTIFICATION IN EARTH SCIENCE FOR SECONDARY SCHOOLS**

**Curriculum:**

**(A) General Education:** 15 credits in Humanities, including Composition I-II (ENG 101-102); 9 credits in Natural Sciences, including a Biology, a Mathematics, and a Physical Science elective; 9 credits in Social Science; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100); 9 credits of free electives.

**(B) Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Computers for Teachers (EDF 301); Teaching in a Multicultural Society (EDU 210); Mainstreaming Exceptional Learners (EDU 340); Teaching of Science in Secondary Schools (EDS 467) or Modern Methods (EDS 455); Student Teaching and School Law (EDS 461).

**(C) Professional Specialization:** Required: Introduction to Geology (EAS 150); Meteorology (EAS 241); Introduction to Oceanography (EAS 163); Astronomy (PHS 145); General Chemistry I (CHE 101); Pre-Calculus (MAT 199); General Physics I (PHY 121).

**Restricted Electives** (12 credits of the following): Physical Geography (EAS 160); Historical Geology (EAS 200); Hydrology (EAS 202); Climatology (EAS 242); Cartography (EAS 271); Map and Air Photo Interpretation (EAS 375); Field Methods (EAS 320); Field Work in Hydrology (EAS 302); Mineralogy (EAS 331); Field Work in Meteorology (EAS 341); Geomorphology (EAS 343); Invertebrate Paleontology (EAS 551); Human Ecology (GEO 240); Observational Astronomy (PHS 125); Seminar in Earth Science (EAS 495); Seminar in Astronomy (EAS 790).

Pennsylvania certification requires a passing grade on the NTE.

## BACHELOR OF ARTS IN GEOGRAPHY

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Courses common to all tracks:  
Human Geography (GEO 105); Map Principles (GEO 110); Physical Geography (EAS 160); Economic Geography (GEO 200); Urban Geography (GEO 210).

(C) **Travel and Tourism Option Specialized Courses:** Survey of Travel and Tourism (GEO 150); World Cities/Geography of Tourism (GEO 205); Comprehensive Travel Planning (GEO 358); Seminar in Geography (GEO 493); Climatology (EAS 242); Scenic Areas of the U.S. (EAS 264); Introduction to Business (BUS 100); Business Writing I (ENG 211); Oral Communication: Management (COM 205). Nine credits of restricted electives; 17 credits of related electives which could include an internship.

(D) **Applied Option Specialized Courses:** (GEO 210); Remote Sensing (GEO 255); Cartography (EAS 271); Computer Cartography (EAS 273); Geography Information Systems (GEO 311); Statistical Cartography (EAS 373); Map and Aerial Photography Interpretation (EAS 375). Eighteen credits in restricted electives including Introduction to Microcomputer and Application Software (CSC 101); Statistica (MAT 215) and Scientific and Technical Writing (ENG 217). Seventeen credits (200 and above) in related courses.

(E) **General Option Specialized Courses:** Cartography (EAS 271) or Map and Aerial Photography Interpretation (EAS 375); Seminar in Geography (GEO 493). Twenty-four credits in restricted electives and 23 in related electives, five of which can be an internship.

## BACHELOR OF SCIENCE IN GEOLOGY

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities, 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Required Courses are: Introduction to Geology (EAS 150); Historical Geology (EAS 200); Mineralogy (EAS 331); Petrology (EAS 332); Structural Geology (EAS 425); Hydrology (EAS 202); Geomorphology (EAS 343); Sedimentology (EAS 421); Stratigraphy (EAS 422); Tectonics (EAS 527); any earth science field experience; General Chemistry I-II (CHE 101, 102); General Physics I-II (PHY 121, 122); 9 credits of Math/Computer Science; and, 8 credits of related electives.

## BACHELOR OF ARTS IN INTERNATIONAL STUDIES: GEOGRAPHY

The International Studies Program is administered by the Department of Foreign Languages and Cultures. The Department of Earth Sciences supervises students who pursue the geography option in that major.

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Studies; 18 credits of free electives.

(B) **Areas of Concentration:** (1) **Area of Concentration: International Studies: Geography.** Geography 21 credit hours: Economic Geography (GEO 200); Urban Geography (GEO 210); Demographic Analysis (GEO 217); Political Geography (GEO 345); Geography of Europe (GEO 325); Geography of Latin America (GEO 328). Languages; 21 credit hours: Intermediate I-II (203, 204); Conversation, Composition and Phonetics I-II (311, 312); Culture courses (9 crs.)

**Related Electives:** a minimum of three credits in each of Economics/Management, History, English, Political Science, Mathematics, Psychology and Philosophy. Five additional credits of related electives (can include an internship).

## BACHELOR OF ARTS IN PARKS AND RECREATION MANAGEMENT

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Human Geography (GEO 105); Map Principles (GEO 110); Physical Geography (EAS 160); Economic Geography (GEO 200); Municipal Government (POS 205); Urban Geography (GEO 210); Site Planning and Design (GEO 362); Recreation Industry Management (GEO 378); Program Planning and Administration (GEO 412); Developing the Master Plan (GEO 474); Introduction to Business (BUS 100) or Principles of Management (MGT 210). Restricted electives: 12 credits. Related electives: 11 to 17 credits. Internship: 6 to 12 credits.

## EARTH SCIENCE COURSES (EAS)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

**EAS 100. INTRODUCTION TO EARTH SCIENCE.** This introductory course is designed to acquaint the student with the four general areas of earth science: astronomy, geology, meteorology, and oceanography. The course consists of two hours of lecture and one hour of lab work. (3 crs.) F S

**EAS 131. INTRODUCTION TO ENVIRONMENTAL GEOLOGY.** This course deals with the interaction between man and his geologic environment. Emphasis is placed on the understanding of basic geologic principles and case studies of some of the classic examples of environmental problems. Laboratory exercises and problems are an integral part of the course. This is intended as a survey course and a student needs only a limited background in geology. (3 crs.) F

**EAS 150. INTRODUCTION TO GEOLOGY.** A survey course intended primarily for the non-science major. Topics considered include the make-up of the earth, internal and external processes that occur within or on the earth, rocks and minerals, fossils, the earth's origin and evaluation, and the origin and evolution of life on this planet. Laboratory work is an integral part of the course. (4 crs.) F S

**EAS 160. PHYSICAL GEOGRAPHY.** The study of the physical aspects of human environment including climate, soils, water, vegetation, and topography. Map and map-making also are treated. (3 crs.)

**EAS 163. INTRODUCTION TO OCEANOGRAPHY.** An introductory course in the study of the four main branches of oceanography: (1) Geology of the oceanic basins (origins of the oceans, structure and geomorphology of the ocean's floor, methods of investigation); (2) Chemistry of the ocean waters; (3) Physics of the oceans (currents, waves, tides, etc.); (4) Biology of the oceans (marine plants and animals). No preliminary studies required but previous course work in Physical Geology or Introduction to Geology recommended. (3 crs.) S

**EAS 166. GEOLOGY OF PENNSYLVANIA.** A survey of the Commonwealth's geologic setting, geologic history, and mineral resources. There are no prerequisites. Students will be introduced to the necessary geologic

concepts and terminology. Students are expected to participate in at least three of the four planned field trips. (3 crs.)

**EAS 170. AREAL GEOLOGY.** This course involves travel to selected points of geologic interest in the Rocky Mountains and Great Plains of the western part of the United States. Most activities will be in field situations. Activities will focus on rock, mineral, and fossil identification, topographic map interpretation, and the role of geologic processes in landform development. (3 crs.)

**EAS 200. HISTORICAL GEOLOGY.** A study of the geologic history of the earth and the succession of the major group of plants and animals as based on the geologic interpretation of rock formations and fossils. Field trips are an integral part of the course. (4 crs.) S

**EAS 202. HYDROLOGY.** A survey course about the existence of water on Earth. Topics include the occurrence and movement of water, physical and chemical characteristics of water, and climatologic and geologic consideration of surface and sub-surface water. (3 crs.) F

**EAS 232. EARTH RESOURCES.** An introductory course in metallic and non-metallic resources with emphasis on the nature of minerals, the lithosphere, and economic uses of earth resources. (3 crs.) F

**EAS 241. METEOROLOGY.** The physics of the atmosphere as influenced by the earth-atmosphere interaction. The effects of the physical controls as they alter the elements are emphasized. The construction and analysis of weather maps is an integral part of the course. (3 crs.) F S

**EAS 242. CLIMATOLOGY.** In this course the elements and controls of climate are analyzed in a systematic fashion. Various methods and techniques of classifying climates are presented. The climate of each continent is regionalized and the factors which produce the climatic patterns are investigated. (3 crs.) F S

**EAS 250. SYNOPTIC METEOROLOGY.** An examination of the development and structure of large-scale weather systems and fronts. Emphasis on the technique of analyzing and forecasting synoptic scale weather situations. (3 crs.) F

**EAS 255. REMOTE SENSING.** This course emphasizes the characteristics and scientific role of aerial photo, radar, and satellite image interpretation, as well as computer assisted processing of spectral data acquired from aircraft and satellites, as they relate to earth and atmospheric resource analysis. (3 crs.) S

**EAS 264. SCENIC AREAS OF THE UNITED STATES.** This course provides an analysis of the physical setting of some scenic areas in the United States. The focus is on differences in soils, vegetation, climates and landforms in scenic areas with special emphasis given to natural history. (3 crs.) F S

**EAS 270. SCENIC AREAS OF THE WORLD.** This course provides an analysis of the physical setting of scenic areas of the world. The focus is on differences in soils, vegetation, climates, and landforms with special emphasis given to natural history. (3 crs.)

**EAS 271. CARTOGRAPHY.** A laboratory course designed to acquaint the student with the nature and function of maps, including concepts of scales and cartographic symbols, graphic layout and design, and the use of cartographic tools and equipment in map construction. (3 crs.) F

**EAS 273. COMPUTER CARTOGRAPHY.** This course provides an analysis of different methods and techniques of representing spatial data through the use of various computer-based technologies. The focus is centered upon the cartographic representation of surface data through the use of a personal-computer based program. (3 crs.) S

**EAS 302. FIELD WORK IN HYDROLOGY.** This course is designed as a follow-up course to hydrology. It gives students the opportunity to apply hydrologic principles and techniques in field settings. Topics are selected in consultation with the instructor. (3 crs.) S



**EAS 304. CARBONATE GEOLOGY.** A study of carbonate deposition, lithification, and diagenesis. Includes chemical sedimentology, textural classification, cyclicity of shelf strata, facies interpretation for oil exploration, and correlation. Lab component. Prerequisites: Historical Geology and Sedimentology. (3 crs.)

**EAS 331. MINERALOGY.** An introduction to the morphology and internal structure of crystals and the chemical and physical characteristics of minerals. Laboratory time is devoted to the study of crystal models and the identification of selected mineral specimens. (3 crs.) F

**EAS 332. PETROLOGY.** A complete survey of the major rock types (igneous, sedimentary, and metamorphic) forms the basis of this course. Consideration is given to their origin, description, and classification. Of particular importance is the relationship of the various rock types to the composition and historical development of the solid earth. Laboratory component emphasizes hand specimen identification, but some microscopic thin section work is also done. (3 crs.) S

**EAS 341. FIELD WORK IN METEOROLOGY.** A field oriented course designed as a follow-up to basic meteorology. The course is concerned with the use of meteorological instruments to measure local weather conditions, plotting and analyzing these conditions. Other weather problems and library research are part of the course. (3 crs.)

**EAS 342. DYNAMIC METEOROLOGY.** An in-depth examination of the forces and laws that govern atmospheric flow. Topics investigated and analyzed include scale analyses, geotropic and gradient wind models, vorticity, vertical motion and boundary layer dynamics. (3 crs.) S

**EAS 343. GEOMORPHOLOGY.** This course involves the study of the origin, history, and characteristics of landforms and landscapes as they are produced by the processes of weathering, mass-wasting, fluvial, glacial, wind, and wave erosion (or a combination of these) acting upon the geological materials and structures of the earth's crust. (3 crs.)

**EAS 350. MICROPALAEONTOLOGY.** Micropaleontology deals with the essential biological and geological principles which are basic to all paleontological studies. In addition, considerable time is devoted to the study and identification of various microfossil groups. Consideration is also given to the origin of life and to its preservation in ancient Precambrian rocks. Laboratory work emphasized. Problems to be solved are similar to those that would be encountered by the student in the petroleum industry. (3 crs.)

**EAS 372. FIELD MAPPING.** This is a field-oriented course in which the student will learn proper use of measuring and mapping instruments and the techniques in the construction of simple maps. Interpretation of air photos and topographic maps is also stressed. (3 crs.) F

**EAS 373. STATISTICAL CARTOGRAPHY.** The statistical approach to cartographic representation. Methods of data manipulation, problems of symbolization and techniques of presentation are emphasized. (3 crs.)

**EAS 375. MAP AND AERIAL PHOTOGRAPHY INTERPRETATION.** This course covers the composition and interpretation of aerial photographs and various types of maps. Students will learn how to interpret photos and maps for quantitative and qualitative information on natural and man-made features. Some of the work requires independent and group interpretation of maps, photographic slides of satellite imagery, computer processed and enhanced images, and SLAR imagery. (3 crs.) F

**EAS 421. SEDIMENTOLOGY.** An advanced course that deals with the detailed analysis of sediments and sedimentary rocks. Both qualitative and quantitative techniques are utilized to derive the maximum information from rock samples. This information relates to the erosional, transportational and depositional history of rocks. To the greatest extent possible, the student works independently through a complete set of problems. (3 crs.) F

**EAS 422. STRATIGRAPHY.** In this course a study is made of the basic principles governing the origin, interpretation, correlation, classification, and naming of stratified rock units. The gross stratigraphy of the United States is considered, with particular emphasis placed on the rocks of the Pennsylvania System. (3 crs.) S

**EAS 425. STRUCTURAL GEOLOGY.** The primary and secondary structures of rock masses and their formation are covered in this course. Actual structures are examined in the field. Geologic maps are utilized. (3 crs.) F

**EAS 430. OPTICAL MINERALOGY.** An in-depth examination of the optical behavior of mineral crystals in polarized light with emphasis on identification. (3 crs.) S

**EAS 436. FIELD METHODS IN EARTH SCIENCE.** This a course designed to provide majors with the knowledge of problems encountered in field work and the techniques utilized to solve these problems. This course consists of planned trips. Lectures and discussions are used to supplement the trips. (3 crs.)

**EAS 437. FIELD METHODS IN GEOLOGY.** This is a course designed to provide students with a knowledge of geologic problems encountered in field work and the techniques utilized to solve those problems. The student is exposed to geologic and topographic maps as well as various geologic instruments. The course consists of planned trips to areas of geologic interest. Summary reports, field exercises, and laboratory problems constitute the students' work responsibility. (3 crs.)

**EAS 463. SEMINAR IN OCEANOGRAPHY.** This seminar is designed for those who wish to improve their scientific writing abilities and to learn more about the oceans. The course is built around an excursion to sites of oceanographic interest, library information and data collection, the writing of both short and long papers and the presentation of research. (3 crs.)

**EAS 464. SEMINAR IN METEOROLOGY.** A scientific writing course in which the student pursues a meteorologic topic through library or field research. Students learn to define a problem, to obtain relevant literature, to gather data and to write and defend a research paper. (3 crs.)

**EAS 491. FIELD COURSE IN EARTH SCIENCE.** This course is designed for serious Earth Science students who desire to apply their classroom knowledge to specific sites and earth science field problems. Each semester will include trips to various sites at which geologic, meteorological, or oceanographic processes, principles and phenomena can be studied. (Variable)

**EAS 492. FIELD COURSE IN GEOLOGY.** This course provides advanced geology students with opportunities to study geology *in situ*. Field trips to classic and less well known sites will be incorporated into lectures, data collection, and scientific reporting. Laboratory exercises will reflect field experiences. (Variable)

**EAS 494. GEOLOGY WORKSHOP.** Provides the student with a variety of geologic experiences. Included are lectures, laboratory exercises, field work and problems. To the greatest extent possible, the course also is tailored to meet the needs of individual students. Permission of the staff is required. (Variable)

**EAS 496. SEMINAR IN GEOLOGY.** A scientific writing course in which the student pursues a geologic topic through library or field research. Students learn to define a geologic problem, to obtain relevant literature, to gather raw data and to write and present a research paper. (3 crs.)

**EAS 498. INTERNSHIP IN GEOLOGY.** The student combines academic theory with practical on-the-job experience by spending up to a full semester in one of several state or local governmental agencies. The practicum can be taken for from 3 to 17 credits and includes supervision by the participating agency as well as performance evaluation by the academic advisor. Limited to Geology majors. (Variable)

**EAS 527. TECTONICS.** To evaluate tectonic theories within a framework of worldwide historical geology but special attention is given to the Appalachian and the North American Cordilleran orogenic events. (3 crs.) F

**EAS 528. QUANTITATIVE APPLICATIONS IN EARTH SCIENCE.** An upper-level course designed to provide students opportunity to apply various procedures to the solution of geologic problems. (3 crs.) F

**EAS 541. ADVANCED ENVIRONMENTAL GEOLOGY.** This course deals with the human natural environment, particularly geologic factors that can impact upon life or way of life. Emphasis is placed on an in-depth study of environmental problems and possible alternative solutions to such problems. Basic engineering principles as applied to geological problems are considered. Laboratory exercises, problems, and written reports are an integral part of the course. (3 crs.)

**EAS 546. PETROLEUM GEOLOGY.** This course deals with the fundamental properties of petroleum and petroleum reservoirs, including the origin, migration, and accumulation of oil and natural gas. Other topics include exploration techniques, computer applications, well drilling and completion, and major oil fields of the United States. Emphasis is on problem solving and laboratory work. (3 crs.)

**EAS 547. RESERVOIR EVALUATION.** The purpose of this course is to analyze in detail rocks which serve for the storage and ultimately for the production of petroleum. The characteristics of these rocks will be studied in hand specimen, in section, in cores, and on well logs. Laboratory work and problem solving are emphasized. (3 crs.)

**EAS 550. REGIONAL CLIMATOLOGY.** An advanced course that deals with the application of various analytical methods and classification systems in climatology. The Koppen classification of climates is stressed. The climate patterns of each continent and the factors which produce them are investigated. (3 crs.) S

**EAS 551. INVERTEBRATE PALEONTOLOGY.** This course involves a detailed study of fossil representatives of the various invertebrate phyla as well as a consideration of the more important of these as index fossils. Emphasis is on laboratory exercises and problem solving. It is hoped that this course will prove to be of interest to students in biology as well as those in geology. (3 crs.)

**EAS 563. COASTAL GEOMORPHOLOGY AND MARINE RESOURCES.** A study of the physical processes that shape coastal landforms and the pelagic and neritic resources of the oceans. Topics include longshore transport, wave action, swash zone dynamics, estuarine and deltaic geomorphology, ferromanganese and petroleum resources, and beach structure. Prerequisite: Introduction to Oceanography or permission of the instructor. (3 crs.)

## GEOGRAPHY COURSES (GEO)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

**GEO 100. INTRODUCTION TO GEOGRAPHY.** Introduces students to regional differences throughout the world in terms of landforms, climates, soils and vegetation as well as population characteristics and economic activities. Representative areas like Western Europe, Soviet Union, Japan and Latin America are developed. (3 crs.) F S

**GEO 105. HUMAN GEOGRAPHY.** The course provides insights into the existing patterns and distributions of various social groups which occupy the earth. Broad outlines of human evolution, development and demographic patterns are emphasized. (3 crs.) F S

**GEO 110. MAP PRINCIPLES.** A non-technical course to develop competence in the development, recognition, understanding and evaluation of map information. Interpretation of thematic maps, both regional and world, is emphasized. (3 crs.) F

**GEO 150. SURVEY OF TRAVEL AND TOURISM.** An overview of the travel and tourism industry emphasizing aspects of field geographic, economic and cultural importance. Topics include introductory principles, measuring and forecasting demand, tourism planning, tourism marketing, tourism development, and the role of the geographer. (3 crs.) F S

**GEO 200. ECONOMIC GEOGRAPHY.** The study of areal variation on the earth's surface in man's activities related to producing, exchanging, and consuming resources. (3 crs.) S

**GEO 205. WORLD CITIES/GEOGRAPHY OF TOURISM.** The geography of tourism in selected cities of the world with an emphasis on form and function. Topics include an analysis of resources for tourism, the organization of related land use patterns, and developmental processes. (3 crs.) S

**GEO 210. URBAN GEOGRAPHY.** An investigation of city environments. Topics investigated and analyzed about cities include their classification, location, distribution, function, growth, type, and pattern of land use. Emphasis toward urban planning is incorporated. (3 crs.) F

**GEO 217. DEMOGRAPHIC ANALYSIS.** A basic course that deals with demographic processes and trends. Emphasis is placed on distribution patterns and environmental ramifications. (3 crs.)

**GEO 220. GEOGRAPHY OF THE UNITED STATES AND PENNSYLVANIA.** A study of the physical and cultural environment throughout the United States and Pennsylvania particularly as it relates to spatial patterns of population, agriculture, industry, service and transportation patterns. (3 crs.)

**GEO 240. HUMAN ECOLOGY.** A social science approach to dealing with relationship between humanity and the organic and inorganic environment. Emphasis is placed on the physical, biological and cultural basis of human adaptation to the environment. (3 crs.)

**GEO 285. RETAIL TRAVEL.** The skills used in the worldwide travel industry that are essential for a career as a travel agency owner, manager, or agent, as a tour operator, or as a corporate, convention travel planner or manager. (3 crs.)

**GEO 306. MARKETING GEOGRAPHY.** Spatial patterns associated with the consumption of goods and services are stressed, emphasis is placed on the collection and subsequent distribution of goods and services as related to aspects of the cultural environment. (3 crs.)

**GEO 311. GEOGRAPHIC INFORMATION SYSTEMS.** This course provides an analysis of different methods and techniques of representing geographic data through the use of various manual and computer-based technologies. The focus is upon the processes involved in the collection, compilation, and display of geographic data within a data base. (3 crs.)

**GEO 315. URBAN TRANSPORTATION.** Transportation patterns within cities and current transportation problems as they relate to travel demands and transportation policy. Urban spatial variation and its relationship to travel are stressed. (3 crs.)

**GEO 316. CONTEMPORARY GEOGRAPHIC PROBLEMS.** Topical analysis of local, regional and world areal association problems from a geographic perspective. (3 crs.)

**GEO 317. LAND USE ANALYSIS.** An analysis of the structure of urban and rural land use which emphasizes of patterns and trends in land use. Methods of analysis are developed so that land use can be effectively understood. (3 crs.)

**GEO 318. GEOGRAPHY OF CHINA.** A geographic study of the historical, cultural, political and economic factors as they combine to make twentieth-century China an important factor in world affairs. (3 crs.)

**GEO 325. GEOGRAPHY OF EUROPE.** A systematic of the forces which have shaped the human landscape of Western Europe. National and regional disparities ranging from land relief and climate to social and economic phenomena are studied. (3 crs.)

**GEO 328. GEOGRAPHY OF LATIN AMERICA.** Concentrates upon the effects of the physical environment upon human activities and upon the effects of the historical background, types of governments, and ethnic backgrounds of the people upon the development of the natural resources of. The study is regional by nations. (3 crs.)

**GEO 330. GEOGRAPHY OF THE SOVIET UNION.** A regional study of the physical and cultural features of the Soviet Union. The emphasis is placed upon those factors responsible for the current position of the Soviet Union as a major world power and on potential future development. (3 crs.)

**GEO 338. GEOGRAPHY OF THE PACIFIC BASIN.** Lands and people of the great ocean. Particular attention given to Australia, Indonesia, New Zealand, and the Philippines. (3 crs.)

**GEO 340. HISTORICAL GEOGRAPHY.** A study of the interrelationships between the natural and cultural environments and the historical development of the cultural landscape. The historical development of the United States is emphasized. (3 crs.)

**GEO 345. POLITICAL GEOGRAPHY.** The state is the focus of the course, particularly in terms of the role played by the physical and cultural environment in terms of its form and function. Particular emphasis placed on frontiers, boundaries, law of the seas, transportation and ecology. (3 crs.)

**GEO 358. COMPREHENSIVE TRAVEL PLANNING.** A basic understanding of the procedures and components of travel planning and promotion. It presents major principles and techniques in developing travel programs, trip packages, and group tours. The course studies transportation and information systems, community services supporting tourism, trends in accommodations and services, tours and junkets, travel sales and agency operations. (3 crs.)

**GEO 362. SITE PLANNING AND DESIGN.** The components of the site design process. Instruction centers on the specific tools and procedures necessary to enable the student to be an effective planner of recreation and park facilities. The student gains an understanding of the complete planning process from conceptualization through implementation and construction. (3 crs.)

**GEO 374. DEVELOPING AND MANAGING LEISURE ENTERPRISES.** An overview of the commercial leisure industry, specifically focusing on the procedures involved in the developing, marketing, and managing of the enterprise. The student will acquire a knowledge of the step by step procedure involved in starting a leisure business either through purchasing a going concern or through establishing an enterprise from its beginning. The student then will be instructed on the management skills necessary for the effective and profitable management of the enterprise. (3 crs.)

**GEO 378. RECREATION INDUSTRY MANAGEMENT.** Analysis of managerial and administrative practices and processes in recreation, park and agency departments, including departmental organization, policy making, liability and negligence, personnel management and staffing, fiscal management, budgeting, finance, records and reports, office management, and public relations. (3 crs.)

**GEO 412. PROGRAM PLANNING AND ADMINISTRATION.** The course emphasizes the analysis of a community, assessment of its residential leisure needs, and implementation of recreational programs into the community. Students will acquire an understanding of the program fields in relation to principles, planning, objectives, goal setting, structural organization, advertising, and evaluation. (3 crs.)

**GEO 445. FIELD METHODS IN GEOGRAPHY.** An intensive micro-geographic study through field work. An advanced course using geographic field tools and techniques. (3 crs.)

**GEO 474. DEVELOPING THE MASTER PLAN.** This course examines planning as a process with attention focused on those particular activities and components that must be related and completed in order to initiate preparation and successful implementation of a comprehensive master plan. The course provides experience in applying acquired skills to specific urban and regional problems. Class participants analyze a real or a hypothetical problem, develop and evaluate alternative approaches, and recommend courses of action. (3 crs.)

**GEO 479. INTERNSHIP.** The internship provides the student with the opportunity to apply classroom theory to realistic, professional-level situations. It is intended to give the student a concentrated practical experience in a professional organization. The concepts and experiences acquired in the classroom are honed and fine-tuned at this level to prepare students for their career undertaking. (Variable)

**GEO 491. FIELD COURSE IN GEOGRAPHY.** Field investigation utilizing geographic tools and techniques concentrating on primary data. (Variable)

**GEO 493. SEMINAR IN GEOGRAPHY.** Consideration of evolving geographic thought, evaluation of selected geographic literature, and the development of individual or group research projects. Recommended as a culminating course for majors in geography. (3 crs.)

**GEO 498. INTERNSHIP IN GEOGRAPHY.** This course involves the geography intern during the sophomore, junior or senior year in a semester of practical experience with a planning, governmental, business, industrial, or social agency. Credit for the course varies, depending upon the nature of the internship assignment and the number of hours of on-the-job training. (Variable)

**GEO 520. PHYSIOGRAPHY OF THE UNITED STATES.** This course is for students with a background that includes Principles of Geomorphology. It involves a systematic survey of the major physiographic provinces in the United States. Emphasis is placed on the relationship of the underlying geology, geologic history, and climate to the development of today's landscapes. Laboratory work principally involves interpretations from air photos and topographic maps. (3 crs.)



**EDU (EDUCATION) COURSES**

**EDU 210. TEACHING IN A MULTICULTURAL SOCIETY.** The development of intergroup-interpersonal awareness to promote a better understanding of different races, sexes, religious beliefs, national origins, and socio-economic backgrounds found in our multicultural society. Emphasis on developing the awareness, knowledge skill and competency needed for positive human relationships. (3 crs.) F-S

**EDU 340. MAINSTREAMING EXCEPTIONAL LEARNERS.** This course is designed to prepare educational personnel with the information and skills necessary for accommodating exceptional learners in a variety of school arrangements. Focus is on assessment and remediation of learning problems, classroom organization and management, teaching resources, legal issues, curriculum considerations, parent involvement, condition of professional services, and many other issues pertinent to the education of exceptional learners in the "mainstream" of education. (3 crs.)

**EDU 449. STUDENT TEACHING — SPECIAL EDUCATION.** (Variable) F-S

**EDU 459. STUDENT TEACHING — ELEMENTARY EDUCATION.** (Variable) F-S

**EDU 469. STUDENT TEACHING — SECONDARY EDUCATION.** (Variable) F-S





**DEPARTMENT OF EDUCATIONAL STUDIES****EDUCATIONAL STUDIES (EDF)  
SECONDARY EDUCATION (EDS)**

Professor Marilyn Stanard, *chair*. Professors Dilawar Mumby Edwards, George J. Frangos, John P. Moreschi, Jr., JoAnn Nelson, Angelo J. Orlandi, George A. Reid; Associate Professors John C. Black, David N. Campbell, Lizbeth A. Gillette, Robert A. Levin, Caryl Sheffield, John R. Young.

The department is responsible for the Secondary Education programs, the Principals Program, the Professional Education components of programs in the College of Education and Human Services and in the Graduate School, and a diversity of services to the University.

The Secondary Education curriculum is organized around the concept of "teacher as decision maker." Teacher candidates learn to make important decisions concerning how to organize and manage classrooms utilizing a wide range of technologies and methodologies. The Secondary Education program provides students with opportunities to work in a variety of school settings. These include the School of the Future (an urban experience involving innovative techniques and opportunities), Rural and Urban Schools, Schools on Native American Reservations as well as overseas schools.

For the Secondary Education Curriculum the department offers a Bachelor of Science in Education degree in the following Certification areas: Athletic Training, Biology, Chemistry, Communication, Earth Science, General Science, English, Mathematics, Modern Foreign Languages, Physics, and Comprehensive Social Sciences. Accordingly, this curricular function is the responsibility of the Educational Studies Department in cooperation with the appropriate academic departments. Curricula and requirements will be found in this catalog in the listings of the individual departments.

Therefore, each student who is a Secondary Education major functions under a system of dual advising whereby the student's advisor from the Educational Studies Department assists the student in satisfying Certification requirements, while an advisor from the student's chosen discipline guides the student in the area of specialization. Final advising is with the student's advisor from the Educational Studies Department.

Students in the Secondary Education curricula must pass the NTE in order to achieve Pennsylvania Teaching Certification. Students must achieve a 2.50 grade-point average in both their major area and a 2.50 overall grade-point average for graduation.

Students who satisfactorily complete the program in Secondary Education may, at graduation, qualify for the Pennsylvania Instructional I Certificate for teaching in their certification area at the middle school and secondary school levels. Requirements are such that the student may pursue certification in one or more teaching areas as mentioned above.

<p style="text-align: center;"><b>SECONDARY EDUCATION (EDS) AND EDUCATIONAL FOUNDATIONS COURSES (EDF)</b></p>
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**F and S indicate whether the course is usually offered in the Fall or the Spring.**

**EDF 100. FOUNDATIONS OF EDUCATION.** A survey designed to contribute directly to the professional growth and development of the prospective teacher and to serve as an introductory course for the student in Liberal Arts or Science and Technology. It stresses the history, philosophy, and legal and social foundations of the American educational enterprise. Emphasis is also given to teaching as a profession, as well as to the structure, administration, and support of the system of public education at the local, state, and federal levels. The student is encouraged to think constructively and creatively about education and self. (3 crs.) S-F

**EDS 300. PROBLEMS OF SECONDARY EDUCATION.** The practical problems of teaching and learning in the secondary school with emphasis on principles of problem solving are studied. A survey is made of the structure and nature of American secondary education. Tools and techniques used in problem solving are introduced. A field experience of two classes per week for nine weeks in the local secondary schools is a requirement of the course. Prerequisite: EDF 100. S-F

**EDF 301. COMPUTERS FOR TEACHERS.** This course in educational computing provides the learner with fundamental concepts and skills that build a foundation for applying computers and other hardware and software in educational settings. The course focuses on the computer as an object of instruction, a productivity tool, and an adjunct to instruction in the classroom. Laboratory assignments requiring use of the university computer facilities are designed to provide generalizable and transferable competencies. (3 crs.)

**EDF 304. INTRODUCTION TO EDUCATIONAL MEDIA.** This course, for prospective and practicing teachers from various levels of education, pre-school to graduate school, is also relevant for persons in training programs in churches, business, and industry. Emphasis is placed on media as an inherent part of effective instruction as well as on effective media utilization practices, the acquisition of skills in selecting media hardware and software, and the operation of equipment and competence in simple local production techniques. The course has been designed to facilitate learning in three instructional modes: (1) large group, by means of mediated lectures; (2) small group, by means of demonstrations and practice in equipment operation/local production; (3) independent study, by means of film loops, film strips, slide-tape presentations, and computer-assisted instruction. Three class hours and one laboratory hour each week. (3 crs.)

**EDF 318. FOUNDATIONS OF DEATH AND DYING.** The phenomenon of death and dying in the areas of anthropology, psychology, philosophy, education, literature, etc. (3 crs.) S

**EDF 360. COMPARATIVE EDUCATION.** An introduction to the various schools of the world. Selected countries include England, France, Italy, Spain, West Germany, the U.S.S.R., and the United States. The general strategy is to explore the history, social organizations, and economic and political conditions that have shaped educational institutions in each country. (3 crs.) S

**EDS 420. INTRODUCTION TO GUIDANCE AND PERSONNEL SERVICES.** The principles of guidance with emphasis on the basic concepts of individual and group counseling and the relationship of the counselor, teacher, and school nurse in grades K-12. (3 crs.)

**EDS 430. EDUCATIONAL TESTS AND MEASUREMENTS IN SECONDARY SCHOOLS.** A consideration of the simpler statistical measures, with particular stress on the application to classroom work, and of the principles underlying the construction of valid, reliable objective tests. Prerequisite: Educational Psychology (3 crs.) S-F

**EDS 436. TEACHING OF WRITING.** A course to help the prospective teacher create a curriculum that will enable students to write forcefully and clearly. The teacher should become aware of the students' needs and methods by

which those needs can best be met. Such needs range from developing skills related to writing, like correct spelling and punctuation, to developing compositions that may vary from the utilitarian to the form-oriented to the empathic. The effective teacher should also tie writing instruction in with the rest of the English curriculum. Finally, the teacher should consider how to evaluate completed papers in a way that will contribute to students' further progress and ultimate independence of the teacher. (3 crs.)

**EDS 437. TEACHING OF COMMUNICATION.** For Communication teaching candidates; a specially designed methods course team taught by instructors from the departments of English, Communication Studies, and Theatre who have had teaching experience in secondary schools. The course develops proficiency in applying learning theory and historical perspectives to the Communication curriculum, developing and presenting lesson plans in teaching simulations, developing curriculum appropriate to the areas of specialization, directing young people in extension activities (newspaper, yearbook, drama, forensics, radio and television), adapting content to students with varying levels of motivation and skill development, and becoming aware of availabilities in the job market. (3 crs.)

**EDS 440. TEACHING OF ENGLISH IN SECONDARY SCHOOLS.** The application of principles of educational psychology, philosophy, and sociology to the teaching of English in junior and senior high school. The course includes both practical techniques of classroom practice and an investigation of the larger problems of the profession. Adequate prior content courses in English are necessary to the student undertaking this course. (3 crs.) F

**EDS 445. TEACHING OF SOCIAL STUDIES IN SECONDARY SCHOOLS.** Methods that may be used in teaching Social Studies. Emphasis is placed on the philosophy, objectives, courses of study, and organization of subject matter for teaching purposes, curriculum materials, procedures and development. (3 crs.) F

**EDS 447. TEACHING OF EARTH SCIENCE IN THE SECONDARY SCHOOL.** A review of concepts and basic philosophy in Earth Science. The course includes a survey of available materials and current curricula in the field of earth science which form the bases for analysis of modern techniques in the teaching of this discipline. (3 crs.)

**EDS 455. MODERN METHODS IN SECONDARY SCHOOLS.** A capstone course in secondary education. Students learn current research on teaching, planning, instructional strategies. Classroom management and decision-making skills. (3 crs.) S-F

**EDS 456. THE SECONDARY SCHOOL CURRICULUM.** An analysis of the functions of secondary school curriculum including the historical development of the high school curriculum; current and projected trends; patterns of curriculum development; the dynamics of curriculum improvement; curriculum provisions for meeting individual differences; trends in specific instructional fields; the place and purpose of student activities and the extra-class curriculum. (3 crs.)

**EDS 460. TEACHING MATHEMATICS IN SECONDARY SCHOOLS.** The mathematical abilities of the secondary student; methods of mathematical teaching; results of mathematical education according to recent research; the control and use of the visual aids pertaining to mathematics, and student, teacher, administration and community problems with proper methods of instruction. Content material is included at the discretion of the Mathematics department. Evaluation is maintained by tests, reports, textbook evaluations, course outlines, unit plans, projects and teaching lessons. (3 crs.) S-F

**EDS 461. STUDENT TEACHING AND SCHOOL LAW.** Observation and participation in all teaching and activities related to the performance of a teacher's work, in the area of the student's specializations. Prerequisite: A general quality point average of 2.50 and 2.50 in the area of specialization. The student spends full time in actual classroom teaching for a semester of 16 weeks. (12 crs.) (Variable credit in special circumstances) S-F

**EDS 465. DEVELOPMENTAL READING IN THE SECONDARY SCHOOL.** Intended to help the prospective teachers of the Secondary Education academic subject areas develop an understanding and appreciation of the reading skills needed by their students. Methods of establishing awareness of general reading needs as well as the special skills unique to their subject area are stressed. (2 crs.) S-F

**EDS 466. TEACHING MODERN LANGUAGES (K through 12).** This course is taught in the Language Laboratory. It covers the theory and practice of teaching modern languages. Instruction in the use of the laboratory is given. Emphasis is given to the student developing an adequate understanding of the needs, interests, learning characteristics and motivations of students at various ages of development K through 12. (3 crs.)

**EDS 467. TEACHING OF SCIENCE IN SECONDARY SCHOOLS.** Gives the prospective science major a thorough grounding in the problems of teaching science. The objectives of the science program in the secondary school, selection of textbooks, sources of suitable literature, how to secure materials for instruction, the preparation of units, and special techniques are studied. Prerequisite: Twelve hours of work in major field. (3 crs.) S-F

**EDS 469. INDEPENDENT STUDY IN SECONDARY SCHOOLS.** (Variable)

**EDS 491. HONORS SEMINAR IN SECONDARY EDUCATION.** A seminar intended to provide an experience of quality that utilizes the human and other resources of the university. The major emphasis is on inquiry rather than mere acquisition of information. The methodology of the course is designed to feature the Socratic method, case study, action research, or problem-oriented techniques. The examination is in the form of a defense of a paper written by students in their major fields. It is intended to minimize routine summary and to maximize critical thinking. (Variable)

**EDE 494. STUDENT TEACHING WORKSHOP.** For students seeking secondary teaching certification in Pennsylvania who have had prior teaching experience in secondary schools. The learning procedures assume various understandings and competencies. Registration for this workshop requires the approval of the Dean of Education and the Director of Student Teaching. (8 crs.) S

**EDF 500. CREATING INSTRUCTIONAL MATERIALS.** This basic production course encompasses the principles, techniques, and skills used in the effective preparation of a variety of inexpensive teacher-made instructional materials, such as transparencies, opaque projection materials, individual materials to support projector instruction, duplicating disc recordings on tape, duplicating tapes, making sound effects, chalkboard techniques, mounting and preserving pictorial materials and specimens, lettering techniques, devices for the display and study of live specimens, special-purpose maps, models and mock-ups, (flannel boards, magnetic boards, electric boards, diorama stages, and effective bulletin boards). (3 crs.)

**EDF 510. PHOTOGRAPHIC COMMUNICATION.** Beginning with the fundamentals of photography, this course considers the skills and techniques needed to take and display effective photographs in black and white or in color, and how to use various cameras, common supplements, attachments, and materials. Because photography also depends on the photographer's perception and style, students are encouraged to seek out subjects that interest them. They plan and execute individual projects in communicating thoughts or feelings to others. Applications to problems of instructional communication and instructional development are encouraged, and emphasis is placed on techniques of presentation. (3 crs.)

**EDF 520. TELEVISION PRODUCTION FOR TEACHERS.** A study of the techniques for producing and directing effective televised instruction. Students develop skills and competencies by doing exercises in planning, designing, scripting, preparing graphics for, and teaching and directing short television lessons. Effective utilization techniques and evaluation of televised instruction are also considered. (3 crs.)

**DEPARTMENT OF ELEMENTARY EDUCATION****ELEMENTARY EDUCATION (EDE)****EARLY CHILDHOOD EDUCATION (ECE)****ELEMENTARY EDUCATION/EARLY CHILDHOOD**

See also: Special Education in this catalog, pages 326 and following, for dual majors in Early Childhood and Special Education, and in Elementary Education and Special Education.

Professor Roger J. Orr, *chair*; Associate Professor Elwin Dickerson, *assistant chair*. Professors M. Eileen Aiken, Dorothy M. Campbell, Ronald A. Christ, Allan D. Jacobs, Gary W. Kennedy, J. Gregory Martin, Phyllis S. McIlwain, Anthony J. Saludis; Associate Professors Diane H. Nettles, Jannene Southworth, John R. Vargo; Assistant Professors Beverly J. Melenzyer, Joseph D. Scarmazzi

Student in all curricula must achieve a satisfactory score on the National Teachers' Examination in order to acquire Pennsylvania Certification.

**BACHELOR OF SCIENCE IN EDUCATION: ELEMENTARY EDUCATION**

The goal of the Elementary Education program is to have students acquire the knowledge, skills, and attitudes essential to becoming a successful member of the teaching profession.

The term Developmental Interaction is used to summarize the department's belief that:

- (1) learning is the result of interaction between heredity and environmental factors;
- (2) learning is the result of interaction between cognitive, affective, and psycho-motor areas of development; and
- (3) learning occurs in predictable stages of development which are age-related.

The Elementary/Early Childhood Professional Education Program seeks to prepare teachers who facilitate learning by emphasizing the following: (1) process-oriented teaching strategies, (2) diagnostic teaching, (3) holistic learning experiences, (4) reliance upon intrinsic motivation, (5) responsive environments, (6) integration of cognitive and affective objectives, and (7) home/school collaboration.

Elementary Education majors must successfully complete one semester of student teaching, which includes field work at two grade levels. Certification to teach kindergarten through sixth grade is awarded upon graduation and upon successful completion of the NTE.

The College of Education is accredited by the National Council for Accreditation of Teacher Education. The Placement and Career Services Office aids students seeking teaching positions locally and out-of-state.

**Curriculum:**

(A) **General Education:** 18 credits in Humanities (including English Composition I-II and Oral Communication); 15 credits in Natural Sciences (including mathematics, biological science, physical science and environmental science); 15 credits in Social Sciences (including Geography, American History, Economics and General Psychology), 3 credits in Health and Physical Activities

(B) **Professional Education:** Foundations of Education (EDF 100); Computers for Teachers (EDF 301); Teaching in a Multicultural Society (EDU 210); Educational Psychology (PSY 208); Child Psychology (PSY 205); Introduction to Educational Media (EDF 305); Mainstreaming Exceptional Learners (EDU 340); Student Teaching (EDE 461)

(C) **Professional Specialization:** Art for Elementary Teachers (EDE 205); Teaching Music in Elementary Grades (EDE 207); Health and Physical Education in Elementary Grades (EDE 208); Instructional Strategies in Elementary and Early Childhood Education (EDE 210); Teaching of Reading (EDE 301); Children's Literature I (EDE 311); Field Experiences in Early Childhood (ECE 202); Observation and Conference (EDE 409); Mathematics Content and Method in the Elementary School (EDE 305); Teaching of Social Studies (EDE 306); Science in the Elementary School (EDE 307); Teaching of Language Arts (EDE 308); Assessing Children's Performance (EDE 450)

Pennsylvania certification requires a satisfactory score on the NTE.

**BACHELOR OF SCIENCE IN EDUCATION: EARLY CHILDHOOD**

The Early Childhood Education program provides the academic background and field work needed for teaching certification from infancy through third grade. Upon completion of the program and upon successful completion of the National Teachers' Examination, the prospective teacher will receive a Bachelor of Science degree and a Pennsylvania Instructional Certificate. The College of Education is accredited by the National Council for Accreditation of Teacher Education, and certification in Pennsylvania can apply to all fifty states. Our Placement Office is active in aiding students seeking teaching positions locally and out of state.

California University of Pennsylvania has had exceptionally high placement of its Early Childhood graduates, and given the number of students graduating in the field, future employment looks promising.

The objectives of the Early Childhood program are to help students:

- Understand the growth and development of children;
- Plan educational experiences using knowledge of different cultures and societies;
- Select and use instructional resources wisely.

**Curriculum:**

(A) **General Education:** 18 credits in Humanities, including English Composition I-II (ENG101-102), Oral Communication (COM 101), and courses in literature, music, and art history; 15 credits in Natural Sciences, including Mathematics, Biology, Physical Science, and Environmental Science; 15 credits in Social Sciences, including Geography, American History (Before or Since 1877), American Government, Elements of Economics Geography, and General Psychology), 3 credits in Health, including Health Coed.

(B) **Professional Education:** Foundations of Education (EDF 100); Computers for Teachers (EDF 301); Teaching in a Multicultural Society (EDU 210); Educational Psychology (PSY 208); Child Psychology (PSY 205); Introduction to Educational Media (EDF 305); Mainstreaming Exceptional Learners (EDU 340); Student Teaching (EDE 461)

**(C) Professional Specialization:** Field Experience with Infants, Toddlers, and Preschoolers (ECE 203); Field Experiences in Early Childhood (ECE 202); Art for Early Childhood (ECE 215); Instructional Strategies in Elementary and Early Childhood Education (EDE 210); Music for Early Childhood (ECE 217); Health and Physical Education in Elementary/Early Childhood (EDE 218); Reading Experiences in Early Childhood (ECE 301); Children's Literature I (EDE 311); Mathematics Content in Early Childhood (ECE 315); The Child in a Social and Physical Environment (ECE 316); Science for Elementary/Early Childhood (EDE 307); Communicative Arts in Early Childhood (ECE 318); Early Childhood Seminar (ECE 405)

Pennsylvania certification requires a satisfactory score on the NTE.

<p><b>BACHELOR OF SCIENCE IN EDUCATION: ELEMENTARY/EARLY CHILDHOOD (DUAL MAJOR)</b></p>
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**Curriculum:**

**(A) General Education:** 18 credits in Humanities, including English Composition I-II (ENG101-102), Oral Communication (COM 101), and courses in literature, music, and art history; 15 credits in Natural Sciences, including Mathematics, Biological Science, Physical Science, and Environmental Science); 15 credits in Social Sciences, including Geography, American History (Before or Since 1877), Elements of Economics and General Psychology), 3 credits in Health, First Aid and Personal Safety.

**(B) Professional Education:** Foundations of Education (EDF 100); Computers for Teachers (EDF 301); Teaching in a Multicultural Society (EDU 210); Educational Psychology (PSY 208); Child Psychology (PSY 205); Introduction to Educational Media (EDF 305); Mainstreaming Exceptional Learners (EDU 340); Student Teaching (EDE 461)

**(C) Professional Specialization:** Art for Elementary Teacher (EDE 205); Teaching Music in Elementary Grades (EDE 207); Health and Physical Education in Elementary/Early Childhood (EDE 218); Instructional Strategies in Elementary and Early Childhood Education (EDE 210); Teaching of Reading (EDE 301); Children's Literature I (EDE 311); Field Experience in Early Childhood (ECE 202); Observation and Conference (EDE 409); Mathematics Content and Methods (EDE 305); Teaching of Social Studies (EDE 306); Science for Elementary Teachers (EDE 307); Teaching Language Arts (EDE 308); Field Experiences with Infant, Toddlers, Preschoolers (EDE 203); Reading Experiences in Early Childhood (ECE 301); Mathematics Content in Early Childhood (ECE 315); Child in Social and Physical Environment (ECE 316); Communicative Arts in Early Childhood (ECE 318); Early Childhood Ed Seminar (ECE 405); Assessing Children's Performance (EDE 450)

Pennsylvania certification requires a satisfactory score on the NTE.



**ELEMENTARY EDUCATION COURSES (EDE)**

F and S indicate whether the course is usually offered in the Fall or the Spring.

**EDE 100: READING, STUDY AND LISTENING SKILLS.** The purpose of this course is to develop listening, reading and study skills necessary for academic success in University studies and future vocational and professional work. *This course does not carry credit towards graduation.* (3 crs.)

**EDE 205: ART FOR THE ELEMENTARY GRADES.** Development of art activities suitable for the elementary grades. Emphasis is placed upon the integration of art education with other school subjects. (3 crs.)

**EDE 207: TEACHING OF MUSIC IN ELEMENTARY GRADES.** For classroom teachers of elementary, early childhood and middle school grades, this course demonstrates proper techniques of teaching music to children. Basic performance skills and their application in the classroom, such as the use of rhythm instruments, singing games, records, dances, creative activities and part-singing are taught. Information on resource material is included. Students practice teaching selected music topics to the other students in the class. (3 crs.)

**EDE 210. INSTRUCTIONAL STRATEGIES IN ELEMENTARY AND EARLY CHILDHOOD EDUCATION.** The role of a developmental interactionist teacher is explored in this course. Preservice teachers are taught specific pedagogical skills and strategies that develop a teacher who does the following effectively: observes and assesses children, facilitates active learning, provides a rich learning environment, attends to both affective and cognitive demands of learning, and views learning as an intersection of environmental and developmental factors. (3 crs.)

**EDE 218: TEACHING HEALTH AND PHYSICAL EDUCATION: EARLY CHILDHOOD/ELEMENTARY AGE CHILDREN.** An introductory course with special emphasis on planning, assessing, prescribing, teaching and evaluating activities which enhance the development of growth of children beginning at infancy. Teacher directed practicum experiences are provided during class time. Prerequisite 32 credits. (3 crs.)

**EDE 301: TEACHING OF READING.** Theoretical background and the research base behind suggestions to put theory into practice are included to give the prospective teacher a balanced perspective. Students are presented practical information, activities and strategies for teaching reading, and given the opportunity to participate through observations, demonstrations, and actual lesson planning and teaching situations. Prerequisite: 32 credits; 9 Humanities credits. (3 crs.)

**EDE 302: DIAGNOSTIC AND REMEDIAL READING.** Major emphasis is placed on acquainting the student with the techniques of diagnosing reading difficulties and of determining appropriate remedial treatment. Prerequisite: EDE 301. (3 crs.)

**EDE 305: MATHEMATICAL CONTENT AND METHOD IN THE ELEMENTARY SCHOOL.** Emphasis is on understanding the cognitive development and the perception of children and their work with mathematics. To accomplish this it is suggested that students work with children. The professor demonstrates learning activities appropriate to the developmental and academic levels of the children. As time permits, and on the basis of the experiences gained through observing and working with children, critical analyses of commercial arithmetic materials and texts, as well as recent trends and current projects in arithmetic, are considered. Prerequisites 32 credits, 9 Natural Science credits. (3 crs.)

**EDE 306: TEACHING OF SOCIAL STUDIES FOR ELEMENTARY GRADES.** The foundations of the social studies are examined, and teaching strategies are emphasized. Attention will be given to current trends and the present status of social studies. Child growth and development are related to knowledge bases throughout the course. Prerequisite: 32 credits, 9 Social Science credits. (3 crs.)

**EDE 307: SCIENCE FOR THE ELEMENTARY SCHOOL.** This course is required of all students in the Elementary curriculum. It is designed to acquaint students with the history of science curricula, the content of science, and the process of science teaching. Additionally, the instructor generates behavioral outcomes by encouraging scientific skills, describing positive attitudes, and enhancing appreciations and science interest. Prerequisite: 32 credits; 9 Natural Science credits. (3 crs.)

**EDE 308: TEACHING OF LANGUAGE ARTS.** Presents a broad foundation of the various aspects of the language arts in elementary education. Emphasis given to the knowledge of the facets of the language arts, basic principles techniques, materials of instruction, recent trends and research, and practice planning language arts experiences. Prerequisite: 32 credits, 9 Humanities credits. (3 crs.)

**EDE 311: CHILDREN'S LITERATURE.** Acquaints the student with literature available for children and various techniques that may be employed in elementary classrooms to stimulate interest in reading and telling stories and poems. Prerequisites: 32 credits; 9 Humanities credits. (3 crs.)

**EDE 312: CHILDREN'S LITERATURE II.** An extension of Children's Literature I. Emphasis on selection and use of literature compatible with children's needs, interests, and abilities. Focuses on heightening appreciation of literature in children. Prerequisite: EDE 311 (3 crs.)

**EDE 335: READING IN URBAN SOCIETY.** Presents an understanding of the reading process and its relationship to students in the urban school. Emphasis is given to characteristics of the disadvantaged child, phases of the reading process, stages of readiness, needs of the disadvantaged child, providing for individual differences, various multi-ethnic basal reading programs, and materials and equipment. Prerequisite: EDE 301. (2 crs.)

**EDE 337: POETRY FOR THE ELEMENTARY SCHOOL CHILD.** The study of poetry and verse, the heart of all literary experiences, mainly in terms of the pleasure they give children through their meaning, music and rhythm. Emphasis is given to the special pleasure inherent in poetry for children by extending their imaginations, contributing new sensations, and enhancing their past experiences. Prerequisite: 32 credits, 9 Humanities credits. (2 crs.)

**EDE 409: OBSERVATION AND CONFERENCE.** The student receives background and experience in working with intermediate grade children in the classroom. Lectures and classroom teaching experiences are combined to give the student an opportunity to discover an aptitude and interest in working with children. (3 crs.)

**EDE 450: ASSESSING CHILDREN'S PERFORMANCE.** This course reflects the developmental interaction model of teaching with a focus on the consideration of developmental factors in planning evaluation procedures. This course's content includes the development and adaptation of instruments and procedures for evaluation of activities associated with a variety of teaching approaches including inquiry and discovery learning.

**EDE 461: STUDENT TEACHING.** During this course the student is assigned to work in two classrooms in the public schools. Under supervision, the student observes and participates in all teaching activities related to the performance of a teacher's work in the elementary grades. Beside field work, students attend practicum class once a week. Discussions are centered around the current materials utilized in all subject areas. Pennsylvania school laws relevant to the work of the classroom teacher are analyzed and discussed thoroughly. Opportunities are provided to discuss problems encountered by students in their student teaching experiences. Teaching opportunities are identified and discussed on a weekly basis. (12 crs.)

**EDE 498: INNOVATIVE TECHNIQUES IN ELEMENTARY SCHOOL.** The techniques and the experiences of educational innovation are nearly boundless; therefore, we focus on educational innovation as reaction to national crisis, as reaction to technical innovation, and as reaction to political fad. From this perspective, we assess the present social and political forces that engender change in our national experience and that foster innovation in our educational practices. We will examine the role of the NTE as an agent of change. Prerequisite: 32 credits. (3 crs.)

**EARLY CHILDHOOD EDUCATION COURSES (ECE)**

F and S indicate whether the course is usually offered in the Fall or the Spring.

**ECE 202: FIELD EXPERIENCES IN EARLY CHILDHOOD.** The students receive background and experience in working with primary grade children in the classroom. Lectures and classroom teaching experiences are combined to give students an opportunity to discover their aptitude for and interest in working with young children. Prerequisites: 32 credits, EDF 100, PSY 208. (3 crs.)

**ECE 203: FIELD EXPERIENCES WITH INFANTS, TODDLERS, AND PRESCHOOLERS.** Introduces the student to working with young children, from infancy through five by providing field experiences in infant/toddler day care centers and preschool centers (Day Care, Head Start, or Nursery School). The student observes, plans activities, and prepares learning materials for children in group settings. Lectures and classroom teaching are combined to give students an opportunity to discover their aptitude for and interest in working with very young children. Prerequisite: 32 credits, EDF 100, PSY 208. (3 crs.)

**EDE 210. INSTRUCTIONAL STRATEGIES IN ELEMENTARY AND EARLY CHILDHOOD EDUCATION.** The role of a developmental interactionist teacher is explored in this course. Preservice teachers are taught specific pedagogical skills and strategies that develop a teacher who does the following effectively: observes and assesses children, facilitates active learning, provides a rich learning environment, attends to both affective and cognitive demands of learning and views learning as an interaction of environment and developmental factors. (3 crs.)

**ECE 217: MUSIC FOR EARLY CHILDHOOD.** A creative approach to the music interests and needs of the very young child designed to acquaint the prospective teacher with current music education practices in preschool and the primary grades. Experiences are provided in singing, listening, playing instruments, rhythmic movement, and creative music activities. Prerequisite: 32 credits; 9 Humanities credits. (3 crs.)

**EDE 218: TEACHING HEALTH AND PHYSICAL EDUCATION: EARLY CHILDHOOD/ELEMENTARY AGE CHILDREN.** An introductory course with special emphasis on planning, assessing, prescribing, teaching and evaluating activities which enhance the development of growth of children beginning at infancy. Teacher directed practicum experiences are provided during class time. Prerequisite: 32 credits. (3 crs.)

**ECE 301: READING EXPERIENCES IN EARLY CHILDHOOD.** This course prepares Early Childhood students to become facilitators of early literacy learnings. Content deals with concepts of emerging literacy and the introduction of reading skills from infancy throughout the primary grades. Prerequisite: 32 credits, 9 Humanities credits. (3 crs.)

**EDE 307: SCIENCE FOR THE ELEMENTARY SCHOOL.** This course is required of all student in the Elementary and Early Childhood curricula. It is designed to acquaint students with the history of science curricula, the content of science, and the process of science teaching. Additionally, the instructor, generates behavioral outcomes by encouraging scientific skills, describing positive attitudes, enhance appreciations, and science interest. Prerequisite: 32 credits, 9 Natural Science credits. (3 crs.)

**ECE 315: MATHEMATICAL CONTENT IN EARLY CHILDHOOD.** The student is introduced to how mathematics develops in the very young child and how to assess this development. The student is introduced to the teaching of arithmetic, measurement, and geometry to the young child. Skills and understandings that children acquire from infancy to age 8 are covered. Prerequisites: 32 credits, 9 Natural Science credits. (3 crs.)

**ECE 316: THE CHILD IN A SOCIAL AND PHYSICAL ENVIRONMENT.** Provides student with skills necessary to develop children's awareness of their social and physical world. Teaching strategies are developed and evaluated

as they pertain to children at the early childhood level of birth through eight years. Prerequisite: 32 credits, 9 Social Science credits. (3 crs.)

**ECE 318: COMMUNICATIVE ARTS IN EARLY CHILDHOOD.** Familiarize students with methods of teaching communication skills to young children. The integration of the cognitive and affective domains, so important in helping children communicate, receives special emphasis. Strategies and techniques for teaching the language arts are included. Prerequisite: 32 credits; 9 Humanities credits. (3 crs.)

**ECE 405: EARLY CHILDHOOD EDUCATION SEMINAR.** How young children have been viewed and educated by society throughout history. The present-day circumstances of children and families are studied. Students receive background in how to work with parents, communities, other professionals, and policy-makers to ensure a quality, developmentally appropriate education for young children. Prerequisite: 32 credits, EDF 100, PSY 208. (3 crs.)

**ECE 491: FUNDAMENTALS OF DAY CARE EDUCATION.** Background in the origin and current trends of day care and the fundamentals of setting up a day care center. The course teaches students how to administer a program focusing on aspects such as budgeting, personnel management, and developing program components. Prerequisite: 32 credits; EDF 100, PSY 208. (3 crs.)

**ECE 493: DEVELOPMENT OF THE PRESCHOOL CHILD.** The development of the child from conception to six years of age. The areas of development to be explored are sensory-motor, social-emotional, language, and intellectual. Strategies for enhancing growth through the various stages are emphasized. Prerequisite: 32 credits, EDF 100, PSY 208. (3 crs.)



<b>DEPARTMENT OF ENGLISH</b>
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**ENGLISH (ENG)****LITERATURE (LIT)****PROFESSIONAL WRITING PROGRAM, Options in**

- BUSINESS AND COMMERCIAL WRITING**
- CREATIVE WRITING**
- JOURNALISM**
- RADIO-TELEVISION MEDIA**
- SCIENTIFIC AND TECHNICAL WRITING**

See also the program in Secondary Education Communication Certification (pages 164-165 in this catalog).

Professor Jack D. Goodstein, *chair*. Assistant Professor Ronald L. Forsythe, *assistant chair*. Professors Philip Y. Coleman, Robert W. Dillon, Sr., John M. Hanchin, Robert A. Korcheck, Horace S. Rockwood, III, Charles R. Thomas; Associate Professors Glenn H. Blayney, Edward J. Chute, Sumner Ferris, Gene Patrick Halboth, Madelon Jacoba, Frederick S. Lapisardi, William M. Murdick, J. Alan Natali, Connie Mack Rea; Assistant Professors William J. Beardsley, William K. Bennett, Bernard J. DeFilippo, Judith A. Good, Robert H. Grimes, Patricia L. Hartman, William Hendricks, Arthur W. Knight, Pratul C. Pathak, Lisa M. Schwerdt, G. Ralph Smith, II, Madeline C. Smith, Carole A. Waterhouse; Instructor William A. Yahner

**PURPOSE**

English is a comprehensive discipline. Its scope encompasses a study of the evolution of the language itself, the various types of writing, the literature in English (poetry, drama, fiction, and essay regardless of national origin), and the study of literature in languages other than English.

Enabling people to express their ideas clearly and to read their ideas and the ideas of others in an appreciative and critical manner sets English off as a “liberalizing” course of study. The ideas expressed are boundless. The content expressed is emotive as well as rational. What is written is a personal and social record of the struggle to create meaning for human existence. The reader is made more self-aware. Insight into the past and into the present creates an interdisciplinary and common core of ideas to be discussed and analyzed by scholars in many disciplines.

**PROGRAMS**

The English major has seven options or areas of specialization. One is the general English program. Five options form the Professional Writing Program: Business and

Commercial Writing, Creative Writing, Radio-Television Media, Scientific and Technical Writing, and Journalism. The seventh option is for persons who want to teach English or an allied area: the English Department in cooperation with the College of Education and Human Services provides course work necessary for secondary school certification in English and in Communication (which certifies students to teach English, Speech, or Theatre).

A well developed internship program supports classroom studies in the Professional Writing Program. Depending upon the Professional Writing option undertaken, a student may take as many as sixteen credits of internship experience. Policies and procedures regarding internships can be secured from the departmental office or faculty internship supervisor.

### HONOR SOCIETY

Sigma Tau Delta ( $\Sigma\tau\Delta$ ) is the National English Honor Society. The California University Chapter, Delta Theta ( $\Delta\theta$ ), was chartered in 1959 and is the oldest chapter in the Pennsylvania State System of Higher Education. Membership in Sigma Tau Delta is open not only to English majors but also to all those who have English as an interest, provided they have at least a 3.0 average in their English courses, rank in the highest 35% of their class in general scholarship, have completed at least three semester of college, and have completed at least two courses in literature in addition to freshman English.

### AWARDS

The English Department offers the following awards, in order to encourage and reward academic achievement:

*The Eleanore C. Hibbs Writing Award* is given annually to a student in Composition I and Composition II. An applicant for the award must submit an essay that was written for one of these classes and that carries the recommendation of the student's instructor. All entries are judged by a special committee of the English Department. The winner receives a certificate of merit and \$100, both awarded at a luncheon in May.

*The Minor W. Major Award* is given annually to a student who has achieved distinction in the study of English. The award is given for merit alone, usually to a student of junior standing. A departmental committee reviews the academic records of prospective recipients, usually English majors, and singles out the student who best meets its standards. The award is named for Dr. Minor W. Major, late professor of English, 1957-1975. The recipient receives a certificate of merit and a cash award, both presented at a luncheon usually in April.

*The English Faculty Award* is given annually to the student in English whose development has been most noteworthy over four years. The recipient receives a certificate of merit and an inscribed book, awarded at the senior dinner in May.



## CAREERS

Besides preparing the graduate for graduate work in English and American literature, linguistics, library work, law, and a number of other fields, the English program offers career opportunities in such positions as a newspaper reporter, magazine editor, writer, public information assistant, advertising researcher, communications specialist, proof reader, radio and television editor, and employment interviewer.

### BACHELOR OF ARTS IN ENGLISH

**Curriculum:**

**(A) General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

**(B) Area of Concentration:** English Literature I-II (ENG 301 and 302); American Literature to 1865 (ENG 365); American Literature from 1865 to World War I (ENG 366); American Literature from World War I (ENG 367); Chaucer (ENG 415) or Milton (ENG 427) or Survey of Old and Middle English Literature (ENG 310); Shakespeare (ENG 425); History of Literary Criticism (ENG 348) or Practical Criticism (ENG 448); Introduction to Linguistics (ENG 247) or History of the English Language (ENG 346) and 12 credits of 300-400 level English courses. Related Courses: 30 credits, at least 16 of which must be in a Related Discipline approved by the advisor and at least 16 of which must be at the 200 level or above.

### BACHELOR OF ARTS IN ENGLISH: PROFESSIONAL WRITING PROGRAM

**Curriculum:**

**General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

### Business and Commercial Writing Option

**Area of Concentration:** Advanced Writing (ENG 375); Advertising (ENG 437); Great Books (ENG 203); Business Writing I (ENG 211); and II (ENG 212); Journalism I (ENG 307); Research for Writers (ENG 308); Publishing the Magazine (ENG 351); Writing for Publication (ENG 496). 9 credits of restricted electives: Studies in Writing (ENG 352); Article Writing (ENG 435); Journalism II (ENG 311) and III (ENG 312); Copywriting (ENG 401); Directed projects in English (ENG 478); English Grammar and Usage (ENG 345); 21 credits of related courses: Introduction to Business (BUS 100); Accounting I (BUS 111); Introductory Microeconomics (ECO 301); Introductory Macroeconomics (ECO 302); Principles of Marketing (BUS 321); Salesmanship (BUS 221); Principles of Management (BUS 201); 11 credits of electives.



### Creative Writing Option

**Area of Concentration:** Poetics (ENG 318); Creative Writing: Fiction (ENG 376) or Poetry (ENG 377); Creative Writing Seminar (ENG 495); Publishing the Magazine (ENG 351); Advanced Writing (ENG 375); Article Writing (ENG 435); Studies in Writing (ENG 352); Research for Writers (ENG 308); Writing for Publication (ENG 496). Three of the following restricted elective courses: Great Books (ENG 203); Adaptation of Literary Materials (ENG 430); Playwriting (THE 250); Business Writing I (BUS 211); Scientific and Technical Writing (ENG 217); Advertising (ENG 437); Journalism I (ENG 307); Creative Writing: Fiction (ENG 376) or Poetry (ENG 377); Copywriting (ENG 401). 32 credits of electives drawn from literature (300 level and beyond), linguistics, speech, foreign languages, and theatre, including 12 hours of electives from any one area.

### Journalism Option

**Area of Concentration:** Word Processing (ENG 151); Journalism I (ENG 307) and Journalism II (ENG 311) and Journalism III (ENG 312); Press Law and Ethics (ENG 253); American Journalism (ENG 254); Newspaper Reporting I (ENG 334); Writing for Publication (ENG 496). Six of the following: Research for Writers (ENG 308); Article Writing (ENG 435); Studies in Writing (ENG 352); Newspaper Reporting II (ENG 335); Publishing the Magazine (ENG 351); Sportswriting I (ENG 313); Sportswriting II (ENG 314); Advertising (ENG 437). Twelve credits in a related discipline; 16 credits in internship or related electives.

### Radio-Television Media Option

**Area of Concentration:** *Writing core:* Advanced Writing (ENG 375); Journalism I (ENG 307); Research for Writers (ENG 308); Article Writing (ENG 435); Directed Projects in English (ENG 478); Adaptation of Literary Materials (ENG 430); Writing for Publication (ENG 496). *Media Core:* Introduction to Television Production (COM 240); Introduction to Radio Production (COM 245); Radio and Television Writing: News and Commercials (COM 330); Radio and Television Writing: Drama (COM 335); Radio Workshop I (COM 196) and II (COM 296) and III (COM 396) or Television Workshop I (COM 195) and II (COM 295) and III (COM 395). Six to 15 credits of writing electives from among: Playwriting (THE 250); Journalism II (ENG 311) and III (ENG 312); Creative Writing: Drama (ENG 378); Advertising (ENG 437); and Business Writing I (ENG 211). Six to 12 credits of media electives from among: Radio and Television Announcing (COM 246); Appreciation of Television (COM 270); Advanced Television Production (COM 340); and Special Problems in Speech Communication (COM 420). Three to 15 credits of literature electives from among: Great Books (ENG 203); Shakespeare (ENG 425); Studies in Drama (ENG 488); Shakespeare in the Theatre (THE 305); World Drama (THE 315); Dramatic Theory and Criticism (THE 400); or other advanced literature courses.

### Scientific and Technical Writing Option

**Area of Concentration:** Writing Core: Advanced Writing (ENG 375); Journalism I (ENG 307); Scientific and Technical Writing I (ENG 217) and Technical Writing II (ENG 218); Publishing the Magazine (ENG 351); Article Writing (ENG 435); Research for Writers (ENG 308); Studies in Writing (ENG 352); Writing for Publication (ENG 496); Literature Core: Six credits from among: Great Books (ENG 203); English Literature I (ENG 207) and English Literature II (ENG 208); American Literature to 1865 (ENG 365); American Literature from 1865 to World War I (ENG 366); American Literature from World War I (ENG 367). **Related Electives:** 14 credits from among: English Grammar and Usage (ENG 345); Journalism II (ENG 311); Advertising (ENG 437); Copywriting (ENG 401); Business Writing I (ENG 211); Directed Project in English (ENG 478). 3-8 credits of literature electives; and a 3-11 credit internship. 21 credits of Scientific or Technical courses, 15 credits in one discipline code.

**BACHELOR OF SCIENCE IN EDUCATION:  
CERTIFICATION IN ENGLISH FOR SECONDARY SCHOOLS**
**Curriculum:**

(A) **General Education:** Humanities (15 credits minimum): including Composition I (ENG 101); Composition II (ENG 102), Theatre Course, World Literature to 1600 (ENG 205) or World Literature since 1600 (ENG 206); Natural Science (9 credits minimum); Social Science (9 credit minimum); Health or Physical Activities (3 credit minimum); Oral Communication (COM 101); General Psychology (PSY 101).

(B) **Professional Education:** (41 credits): Foundations of Education (EDF 100); Educational Psychology (PSY 208); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multicultural Society (EDU 210); Mainstreaming Exceptional Learners (EDU 340); Computers for Teachers (EDF 301); Teaching of English in Secondary Schools (EDS 440); Student Teaching and School Law (EDS 461).

(C) **Professional Specialization:** (45 credits): Advanced Writing (ENG 375) or Scientific & Technical Writing (ENG 217) or Creative Writing (ENG 376); History of the English Language (ENG 346); English Grammar and Usage (ENG 345); History of Literary Criticism (ENG 348); Introduction to Linguistics (ENG 347); Argumentation & Debate (COM 230).

(D) **Advanced Requirements:** (27 credits): American Literature to 1865 (ENG 365); American Literature from 1865 to World War I (ENG 366); American Literature from World War I (ENG 367) or American Literature Elective; English Literature I (ENG 301); English Literature II (ENG 302); Shakespeare (ENG 425); Communication Theory (COM 490); Fundamentals of Acting (THE 130) or Stagecraft (THE 151) or Fundamentals of Directing (THE 200); 300-400 ENG literature elective.

Students must achieve a satisfactory score on the NTE in order to achieve Pennsylvania Certification.

**ENGLISH COURSES (ENG)**

Introductory level courses are indicated by a plus (+)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

+ENG 100. ENGLISH LANGUAGE SKILLS. A beginning course which provides guided practice in writing and reading, with emphasis on the interrelationship of reading, thinking, and writing to evaluate the effective use of the written language and, after evaluation, to help develop these skills to the level of competency expected of college students. ENG 100 stresses learning fundamental principles and attitudes concerning the writing process as well as how to put into practice these principles and attitudes. It explores the importance of essential compositional skills: the ability to read correctly and to organize material effectively and, by adherence to the innate logic of language (revealed in its rules of grammar, syntax, punctuation and vocabulary choice) to express ideas clearly and precisely. *This course does not carry credit towards graduation.* (3 crs.)

+ENG 101. ENGLISH COMPOSITION I. Composition I is a natural sequel to English Language Skills. It provides guided practice in writing, with emphasis on thoughtful analysis of subject matter, clear understanding of the writing situation, flexible use of rhetorical strategies, and development of stylistic options, particularly those related to an understanding of a variety of purposes and voices. ENG 101 continues the development of the essential writing, reading and thinking skills stressed in ENG 100. (3 crs.)

**+ENG 102. ENGLISH COMPOSITION II.** The sequence of Composition I - Composition II provides guided practice in writing, with an emphasis on more demanding writing situations. It continues the work begun in Composition I with more complicated rhetorical strategies and stylistic options, especially audience-centered considerations. ENG 102 introduces research and research writing at the undergraduate level. (3 crs.)

**+ENG 106. INTRODUCTION TO POETRY.** An introduction to the elements of poetry through the close analysis and explication of selected poetry from a variety of poets. (3 crs.)

**+ENG 107. INTRODUCTION TO FICTION.** An introduction to the elements of fiction through the close reading of selected short stories, novellas, and novels by a variety of authors. (3 crs.)

**+ENG 108. INTRODUCTION TO DRAMA.** An introduction to the basic elements of drama. Readings will be selected from works from the Greek Classical Period to the Modern Age. (3 crs.)

**+ENG 151. WORD PROCESSING.** Familiarizes the student with the basic concepts of word processing. The student learns such operations as disk formatting, editing and printing standard document files, copying files from other sources, creating simple database files, and merging files to do mass-mailings. The course assumes no prior knowledge of computers. This course may not be used to satisfy Humanities requirements in the General Education program. (1 cr.)

**+ENG 155. BLACK LITERATURE.** An introduction to the writings of African Americans in poetry, fiction, and drama, ranging from the Harlem Renaissance of the 1920s to the contemporary productions of Leroi Jones and Ishmael Reed. (3 crs.)

**+ENG 191. STUDENT PUBLICATIONS WORKSHOP.** The university newspaper and other publications serve as laboratories. The student practices writing, editing, photography, layout, and production. Above all, the student learns to work against the clock, a journalistic necessity. (1 cr.)

**+ENG 203. GREAT BOOKS.** The texts and historical backgrounds of selections from among the most highly regarded literature of the world. The range is from the classical Greek era to the twentieth century. (3 crs.)

**+ENG 205. WORLD LITERATURE TO 1600.** Examples of works from a variety of periods and cultures through 1600 are examined for their literary merit and national characters. Works are read in translation. (3 crs.)

**+ENG 206. WORLD LITERATURE FROM 1600.** Examples of works from a variety of cultures and periods after 1600 are examined for their literary merit and national characters. Works are read in translation. (3 crs.)

**ENG 211. BUSINESS WRITING I.** An introduction to the analysis, writing, and oral presentation of formal and semi-formal documents essential to business groups. Prerequisite: ENG 101. (3 crs.)

**ENG 212. BUSINESS WRITING II.** A continuation in the practice of those skills developed in Business Writing I. Prerequisite: Business Writing I or equivalent writing ability. (3 crs.)

**ENG 215. LITERATURE AND AGING.** The study of literature that includes aging as a thematic device. (3 crs.)

**ENG 217. SCIENTIFIC AND TECHNICAL WRITING I.** An introduction to the specific techniques used in the preparation of reports and other scientific documents. Recommended for Science and Technology majors. (3 crs.)

**ENG 218. SCIENTIFIC AND TECHNICAL WRITING II.** For students who wish to improve writing skills acquired in ENG 217: a problem-solving approach to adapting technical documents to various audiences; strategies of organization for complex technical documents such as formal proposals, professional articles, and computer documentation; the use of computers to master different formats in scientific and technical communication. Prerequisite: ENG 217. (3 cr.)

**ENG 253. PRESS LAW AND ETHICS:** This course helps student journalists understand not only what they can or can't do by law, but what they should or should not do within commonly accepted standards of good taste and morality.

**ENG 254. AMERICAN JOURNALISM:** A study of the recent history of journalism and of the present state of the profession. The emphasis is on print journalism; however, the news gathering and reporting aspects of radio and television are covered briefly. Prerequisites: Journalism I and II for Writing Majors.

**ENG 265. THE AMERICAN EXPERIENCE IN LITERATURE: NINETEENTH CENTURY.** A survey of selected works which (1) were very popular; (2) were influential in the course of American history; and (3) reveal facets of American life in the 19th century. (3 crs.)

**ENG 266. THE AMERICAN EXPERIENCE IN LITERATURE: TWENTIETH CENTURY.** A study of selected literature of twentieth century America in the context of major social, historical, economic, and intellectual trends. In addition to the treatment of standard twentieth century "classics," books which have had a wide popular appeal or which have influenced or interpreted the cultural life of modern America are studied. All genres are included, with special emphasis on fiction and non-fiction. A lower division course designed for the general educational student. (3 crs.)

**ENG 301. ENGLISH LITERATURE I.** A survey of English literature from its beginnings in the sixth century to the late eighteenth century. (3 crs.)

**ENG 302. ENGLISH LITERATURE II.** A survey of English literature from the Romantic poets to the present day. (3 crs.)

**ENG 307. JOURNALISM I (NEWSWRITING).** An introduction to basic newsgathering and newswriting taught by in-class exercises early in the semester, followed by weekly assignments that require submissions to the *California Times*. (3 crs.)

**ENG 308. RESEARCH FOR WRITERS.** For students in each of the Professional Writing tracks. Basic library materials and techniques, on-campus resources, government documents, research libraries, and advanced techniques of interviewing, document analysis, etc. Concludes with a pre-publication draft of a researched paper in the student's area of specialization. (3 crs.)

**ENG 310. SURVEY OF OLD AND MIDDLE ENGLISH LITERATURE.** A study of English literature from its beginnings to approximately 1500. Some of the topics, authors, and works are *Beowulf*, elegiac and Christian poetry, the rise of the drama, the romance (*Sir Gawain and the Green Knight* and Thomas Malory's *Morte Darthur*), and selections from Geoffrey Chaucer's *Canterbury Tales*. Most of the writing is read in Modern English versions. (3 crs.)

**ENG 311. JOURNALISM II (FEATURE WRITING).** Feature writing and in-depth news reporting. Students write four feature articles suitable for publication in the *California Times*. (3 crs.)

**ENG 312. JOURNALISM III.** Working on college publications, editing, proofreading, and rewriting materials for print are learned in the classroom and in the production of actual publications. (3 crs.)

**ENG 313. SPORTSWRITING I.** A study of the history of sportswriting in America and the techniques of writing daily coverage of sports and athletes. Students will study interviewing, finding and using statistics, the standards and practices of the profession and the make-up, layout and design of the daily sports page. Students will be assigned "beats" and will be asked to write at least one story per week. (3 crs.)

**ENG 314. SPORTSWRITING II:** A study of the techniques of writing lengthy, in-depth stories about sports and athletes. Students will be asked to write columns, feature stories and profiles and to do investigative reporting. Students should have taken Journalism I and Sportswriting I. (3 crs.)

- ENG 315. SURVEY OF AMERICAN WOMEN WRITERS: METHOD AND TEXT.** The importance of both text and method in the study of American women writers is emphasized in this course. Assigned readings and research workshops introduce students to a variety of texts and sources as well as to methods for reading, discovering, and interpreting writings. Integration of text and method is achieved through a series of writing and research projects that are tied to the assigned readings. (3 crs.)
- ENG 316. MYTHOLOGY I.** An exploration of the origins of mythology and various myths through a study of selected Greek, Roman, Nordic, Oriental, African, and American Indian mythologies, with attention to the roles of gods and heroes. (3 crs.)
- ENG 317. MYTHOLOGY II.** A further examination of mythology, with emphasis on legends and folktales, through study of English, Irish, German, Italian, French, and American mythologies. (3 crs.)
- ENG 318. POETICS.** Through readings from a text on poetic theory, essays on poetry by poets, and an anthology of poetry, students learn to analyze poems in great detail, stressing poetry as an act of language and something which is made as much as it is inspired. Students become acquainted with the variety of means by which the literary craftsman creates feeling and meaning. (3 crs.)
- ENG 321. THE ENGLISH RENAISSANCE: SKELTON THROUGH DONNE.** A study of nondramatic prose and poetry chosen from such writers as Thomas Wyatt, the Earl of Surrey, Thomas Sackville, John Skelton, Sir Philip Sidney, Edmund Spenser, William Shakespeare, and John Donne, with emphasis on such literary genres as the lyric and sonnet, and an examination of various philosophical, historical, and social documents. (3 crs.)
- ENG 322. THE ENGLISH RENAISSANCE: BACON THROUGH MARVELL.** A study of the non-dramatic prose and poetry of England in the seventeenth century from the works of Francis Bacon, Richard Burton, John Donne, Michael Drayton, George Herbert, Robert Herrick, Ben Jonson, the King James Bible, Andrew Marvell, John Milton, Henry Vaughan, and Izaak Walton. Emphasis on the three schools of poetry of the century. (3 crs.)
- ENG 334. NEWSPAPER REPORTING I.** A professional-level course that acquaints students with basic newsroom procedures and assignments. Prerequisites: Journalism I-II.
- ENG 335. NEWSPAPER REPORTING II.** The course builds on material learned in Newspaper Reporting I, but the emphasis shifts to extended coverage of more complex institutions and issues, culminating in a multi-part story which demonstrates a knowledge of both the issue and the governing, deliberative or enforcement agency involved. Prerequisites: Journalism I-II, Newspaper Reporting I.
- ENG 341. ROMANTIC LITERATURE.** An intensive study of selected works by such Romantic poets as William Blake, William Wordsworth, Samuel Taylor Coleridge, Percy Bysshe Shelley, John Keats, and Lord Byron. (3 crs.)
- ENG 342. VICTORIAN LITERATURE.** An historical and critical survey of the poetry and non-fictional prose of the Victorian period through such writers as Alfred Tennyson, Robert and Elizabeth Barrett Browning, Thomas Carlyle, Matthew Arnold, Dante Gabriel and Christina Rossetti, Gerard Manley Hopkins, John Stuart Mill, John Ruskin, John Henry Newman, T. H. Huxley, and Walter Pater. (3 crs.)
- ENG 345. ENGLISH GRAMMAR AND USAGE.** Provides future English teachers, professional writing majors, and other interested students, with a sophisticated background in English grammar. The course covers a variety of grammatical theories, issues of mechanical correctness in writing, and the sociology of usage. (3 crs.)
- ENG 346. HISTORY OF THE ENGLISH LANGUAGE.** A survey of the development of the language from its Germanic base to the emergence of American English. Explanations of sound shifts and foreign and social influences. (3 crs.)

**ENG 347. INTRODUCTION TO LINGUISTICS.** An examination of the several areas of language study: history of the language, phonology and morphology, grammars (traditional and modern), and contemporary American usage, dialects, lexicography, and semantics. (3 crs.)

**ENG 348. HISTORY OF LITERARY CRITICISM.** An examination of major critical documents from Plato through the modern critics. An intensive examination of the works themselves, with some additional concern for their place in literary history. (3 crs.)

**ENG 351. PUBLISHING THE MAGAZINE.** Students in this course publish a magazine, *Flipside*. They contribute works of literature and reportage, illustrate it with original work or with photographs, solicit contributors, finance the magazine through advertising, and establish editorial policy. (3 crs.)

**ENG 352. STUDIES IN WRITING.** A study in style: its definition, its analysis, and the techniques modern writers of creative non-fiction use to achieve it. Students analyze the work of such writers as Tom Wolfe, Joan Didion, Hunter Thompson and Truman Capote, and then apply to their own prose the techniques these writers learned from those writers. (3 crs.)

**ENG 355. SURVEY OF THE ENGLISH NOVEL I: THE BEGINNING THROUGH SCOTT.** A study of the development of the novel from its beginnings through the Romantic period, with emphasis on Daniel Defoe, Samuel Richardson, Henry Fielding, Tobias Smollett, Sir Walter Scott, and Jane Austen. (3 crs.)

**ENG 356. SURVEY OF THE ENGLISH NOVEL II: DICKENS TO THE PRESENT.** A study of the novels and novelists of the Victorian period and the twentieth century, including Charles Dickens, Charlotte, Emily and Ann Brontë, W. M. Thackeray, George Eliot, Joseph Conrad, James Joyce, and Virginia Woolf. (3 crs.)

**ENG 357. TWENTIETH CENTURY BRITISH LITERATURE TO WORLD WAR II.** A study of fiction, drama, and poetry with emphasis on W. B. Yeats, D. H. Lawrence, George Bernard Shaw, James Joyce, Joseph Conrad, Virginia Woolf, E. M. Forster, and W. H. Auden. (3 crs.)

**ENG 358. CONTEMPORARY LITERATURE SINCE WORLD WAR II.** An exploration of major genres in American, English and Continental literature by such authors as Saul Bellow, Norman Mailer, Kurt Vonnegut, John Fowles, Robert Lowell, Ken Kesey, John Updike, Lawrence Durrell, Bernard Malamud, Philip Roth, Sylvia Plath, Thom Gunn, Boris Pasternak, Samuel Beckett, Jean Genêt, Eugène Ionesco, and Bertold Brecht. (3 crs.)

**ENG 365. AMERICAN LITERATURE I.** The first course in the survey of American literature covers the period from settlement to 1865. Readings take into account the discovery and rediscovery of new as well as traditional texts: writings of Native Americans, Colonists, Federalists, Romantics, Transcendentalists, and others are studied with an emphasis upon the influence of Puritan and Enlightenment thought and upon the context of the implicit conflicts in American social history and culture. (3 crs.)

**ENG 366. AMERICAN LITERATURE II.** The second course in the survey of American literature focuses on the period of the Civil War to the end of World War I in which fiction and poetry dominate the literature. Consideration is given to the emergence of Black (in the Harlem Renaissance) and women writers within the context of a maturing America: growing expansion, immigration, industrialization, and national definition (3 crs.)

**ENG 367. AMERICAN LITERATURE III.** The final course in the survey of American literature deals with writings from World War I to the present. A growing diversity of "voices," styles, and genre reflect the increasing complexity and richness of the American literary landscape. Both Modernists and contemporary writers are studied. (3 crs.)

**ENG 375. ADVANCED WRITING.** The theories and practice of expository, persuasive, and specialized report writing. Prerequisites: English Composition I and English Composition II or equivalent writing ability. (3 crs.)

**ENG 376. CREATIVE WRITING: FICTION.** Techniques of fiction are studied and applied to the writing of short stories, and students are encouraged to use and shape their own experience, transmitting those everyday things around them into fictional realities. (3 crs.)

**ENG 377. CREATIVE WRITING: POETRY.** Aspects of poetry, such as line length, rhythm, sound patterns and imagery, are discussed. Students will apply those techniques to their own experience and vision, developing a poetic voice or style. (3 crs.)

**ENG 378. CREATIVE WRITING: DRAMA.** Writing techniques for the modern stage; e.g., developing character through dialogue and action. (3 crs.)

**ENG 401. COPYWRITING.** Students who have already taken the basic Advertising course are expected to improve preexisting writing skills through individual and group projects in each of these areas: (1) direct mail advertisements, (2) newspaper and magazine space advertisements, (3) industrial newsletters and brochures, (4) radio and TV advertisements. Each student writes at least two usable advertisements for off-campus and one for a campus program or organization. *Not for beginners.* Prerequisite: ENG 437 (3 crs.)

**ENG 415. CHAUCER.** *The Canterbury Tales* and other works. (3 crs.)

**ENG 419. INTERNSHIP IN PROFESSIONAL WRITING.** Introduces students to the competitive world of professional writing. Students and cooperating institutions conclude a formal agreement whereby they work at a job and simultaneously receive undergraduate credit. (All details of the course are to be worked out with the Director of Professional Writing. Variable credits.)

**ENG 425. SHAKESPEARE.** Explores in considerable depth, and with special reference to the conditions of Shakespeare's times and theater, some of his greatest plays, especially (a) those most often studied in secondary school and (b) his great tragedies. (3 crs.)

**ENG 427. MILTON.** An examination of the major poetry: *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, and *Lycidas*. The prose is treated insofar as it is related to the poetry. (3 crs.)

**ENG 430. ADAPTATION OF LITERARY MATERIALS.** Adaptation of literature to the mechanical demands of television, radio, theater, and film. While remaining faithful to an author's intent, the student must adapt one short piece of literature and one major, long piece to each of the following: radio, television, theater, and film. (3 crs.)

**ENG 435. ARTICLE WRITING.** The styles and techniques of article writing. The student learns the editorial demands of numerous magazines, and demonstrates versatility and writing ability by tailoring the work to the demands. Promotes astuteness by showing how to illustrate, "package," and market a special kind of writing. (3 crs.)

**ENG 437. ADVERTISING.** An introduction to marketing theories, behavior patterns, and techniques of advertising campaigns: copywriting, layout, and production of advertising through working for an actual client. (3 crs.)

**ENG 445. DESCRIPTIVE LINGUISTICS.** An examination of the methods used by linguists to describe languages in terms of their internal structures. Topics explored include world language families, language classification, writing systems, inventories of speech sounds, and other related material. (3 crs.)

**ENG 448. PRACTICAL CRITICISM.** Provides examples of criticism and the opportunity to criticize poetry, fiction, and drama. (3 crs.)

**ENG 481. STUDIES IN OLD AND MIDDLE ENGLISH LITERATURE.** Arthurian romance, medieval drama, *Beowulf*, medieval ballads, Old English Poetry. (3 crs.)

**ENG 482. STUDIES IN RENAISSANCE LITERATURE I.** Elizabethan lyric poetry, pre-Shakespearean drama, Jacobean drama, Renaissance prose, the school of Spenser, Metaphysical poetry, Cavalier poetry. (3 crs.)



**ENG 483. STUDIES IN THE RESTORATION AND EIGHTEENTH CENTURY.** Restoration drama, Augustan satire, the Scriblerus Club, periodical literature, neo-classical criticism. (3 crs.)

**ENG 484. STUDIES IN NINETEENTH-CENTURY LITERATURE.** Nineteenth-century drama, Romantic prose, nineteenth-century literary criticism, the pre-Raphaelites, the Edwardians, and the Georgians. (3 crs.)

**ENG 485. STUDIES IN TWENTIETH CENTURY ENGLISH LITERATURE.** Contemporary trends in literature, the war novel, the poets of the Thirties, Irish literature, the British novel. (3 crs.)

**ENG 487. STUDIES IN AMERICAN LITERARY GENRES.** The American short story, the nineteenth-century American novel, the twentieth-century American novel, modern American poetry, American drama, American non-fiction. (3 crs.)

**ENG 488. STUDIES IN DRAMA.** Classical drama, theater of the absurd, continental drama, film and television as drama, realism and naturalism in drama. (3 crs.)

**ENG 495. CREATIVE WRITING SEMINAR.** The fictional principles learned in ENG 376 are applied to the writing of major creative work, such as novella, and the student is given the opportunity to polish and extend writing skills previously acquired. (3 crs.)

**ENG 496. WRITING FOR PUBLICATION.** Students work individually with an instructor to refine their work for publication and are expected to publish at least one work during the semester. Simultaneously, they compile job-related portfolios, and work on a supervised project, e.g., a public relations scheme for the university. (3 crs.)

## LITERATURE COURSES (LIT)

Introductory level courses are indicated by a plus (+).

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

These are all introductions to literature, with emphasis on the subject indicated in the title. They are primarily intended for the general student and may not be used to fulfill requirements for the English major.

+LIT 111. "STAR TREK" AND MODERN MAN. (3 crs.)

+LIT 115. MAN'S VIEW OF GOD. An introduction to the Bible as a chronicle of Hebrew history in light of recent archeological and philological discoveries, to demonstrate how deeply this oriental book has affected the western mind. (3 crs.)

+LIT 116. MYTH, MAGIC, MYSTICISM. The four basic paths into the unknown: magic, mysticism, fantasy, and myth. (3 crs.)

+LIT 118. THE AMERICAN HERO. The development of the American hero in fiction, with specific emphasis on the hero's nature, character, and maturation. (3 crs.)

+LIT 125. THE AMERICAN WEST. A general introduction to the literature of the Great American West through an examination of a variety of literary types. (3 crs.)

**+LIT 127. WOMAN AS HERO.** An exploration of heroic roles assigned to women in literature, the contrast between reality and the literature, and the differences between fictional women created by male and female authors. An analysis of the reasons for these differences forms part of the subject. (3 crs.)

**+LIT 130. ATHEISM AND EXISTENTIALISM.** (3 crs.)

**+LIT 138. WAR IN THE NOVEL.** A study that limits itself to those wars fought after 1900 and to their treatments in literature. In particular, the course is interested in the effects of war upon individuals, and in the ambivalence toward war shown by novelists. (3 crs.)

**+LIT 147. SCIENCE FICTION.** An introductory survey of the forms of science fiction, with particular emphasis on the author's ability to detail and predict future developments. (3 crs.)

**+LIT 148. HORROR IN LITERATURE.** An examination of the tradition of horror literature in England and America from a literary, historical, and psychological viewpoint. Some emphasis on the sociological implications of the popularity of the form. (3 crs.)

**+LIT 150. BASEBALL IN LITERATURE.** This course requires the student to read, write, and talk about a game that Steinbeck called a "state of mind," a game that is, in the words of Jacque Barzun, a way "to know America." Thus the student that works learns about both himself and his country. (3 crs.)

**+LIT 160. AMERICAN NATURE WRITERS.** An introduction to the best of America's great naturalists emphasizing the development of informed and educated attitudes towards America's natural resources and issues of protection and exploitation. (3 crs.)

**+LIT 166. SACCO AND VANZETTI.**

**+LIT 170. ALL ABOUT WORDS.** An introduction to the total complexity and fascination of words. The course deals with words as shapes, analogs, formulas, and games. Indirectly, but significantly, it instructs in vocabulary by introducing a sizeable vocabulary for talking about words and by nurturing a student's natural curiosity about words. (3 crs.)



**DEPARTMENT OF FOREIGN LANGUAGES AND CULTURES**

**FRENCH (FRE)**  
**GERMAN (GER)**  
**RUSSIAN (RUS)**  
**RUSSIAN AND SOVIET STUDIES**  
**SPANISH (SPN)**

Associate Professor Elsbeth E. Santee, *chair*. Professors Alan H. Krueck, Bruce L. Weston; Associate Professors Raldo O. Parascenzo, Carol L. Kaplan; Assistant Professors Manuel G. Demetrakis, Margarita Ribar

**PURPOSE**

Rapid political and economic changes in the world require that students not only understand other cultures but that they can communicate with persons in those cultures. In this sense familiarity with speaking and reading a foreign language and being aware of how persons in other countries think about the world is pragmatic. It is good business or smart diplomacy. Instruction in an unfamiliar language also helps students see the world from a different perspective. Inasmuch as that occurs, students increase in self-awareness, lose a blind ethnocentrism, and gain a greater appreciation of all cultures, including their own. This makes life in general more meaningful.

**PROGRAMS**

The department administers three programs: a language program in German, French, Spanish, and Russian; an International Studies program with options in Business and Economics, Political Science, Geography and Languages (see the section on Earth Sciences, pages 167 and following, in this catalog); a language certification program for students who plan to teach in one of the language areas; and the Russian and Slavic Interdisciplinary Studies Program. Students in these programs will develop listening, speaking, reading and writing skills, as well as an awareness of cultural diversity and its impact on human behavior.

Language and culture are closely aligned. To support both the language programs, International Studies majors and the general education humanities electives, required across the university for graduation, a series of culture courses, taught in English, are available. These indicate how artistic expression, geography, economic and historical development in the principal areas where the four languages are spoken mutually influence each other.

## PLACEMENT

Students entering a foreign language course will be evaluated in order to determine the proper course-level placement for them. Students who wish to receive credit for previously acquired language proficiency can take a CLEP examination or a challenge examination (see pages 51-52 in this catalog).

## AWARDS

The Elsbeth E. Santee Scholarship Fund grants renewable awards annually for students majoring in a foreign language and who maintain a 3.0 QPA in their major. Information about the award and application procedures is available from the departmental office.

## CAREERS

Linguistic ability in languages other than English can promote employment opportunities in organizations working internationally, namely international legal, banking and commercial corporations, national and regional governmental agencies, social service and religious organizations, educational institutions, the communications, import-export and travel businesses and a variety of translation services. More information on specific employment opportunities is available in the Career Planning and Placement Office.

### BACHELOR OF SCIENCE IN EDUCATION: CERTIFICATION IN FOREIGN LANGUAGE TEACHING FOR GRADES K-12 (FRENCH, GERMAN, OR SPANISH)

#### Curriculum:

**(A) General Education:** 15 credits in Humanities, including Composition I-II (ENG 101-102); 9 credits in Natural Sciences; 9 credits in Social Science; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100); 9 credits of free electives .

**(B) Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300) ; Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multicultural Society (EDU 210); Mainstreaming the Exceptional Child (EDU 340); Computers for Teachers (EDF 301); Teaching Modern Languages K through 12 (EDS 460); Student Teaching and School Law (EDS 461).

**(C) Professional Specialization:** Intermediate I (203) and II (204); Conversation and Composition I-II (311 and 312); Advanced Composition, Grammar & Stylistics (FRE, GER, or SPN 401); 6 credits, Culture and Civilization; Survey of Literature I-II (421 and 422); Foreign Language Colloquium in appropriate language (FRE, GER, or SPN 450); 6 credits of electives in major field in second foreign language.

Students in these curricula also must achieve a satisfactory score on the NTE in order to achieve Pennsylvania Certification.

## BACHELOR OF ARTS IN FRENCH

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of Free Electives.

(B) **Area of Concentration:** Intermediate French I-II (FRE 203 and FRE 204); French Conversation, Composition, and Phonetics I-II (FRE 311 and FRE 312); Advanced Composition: Grammar and Stylistics (FRE 401); French Colloquium (FRE 450); Studies in French Culture (6 credits); Survey of French Literature I-II (FRE 421 and FRE 422); Geography of Europe (GEO 325). Six credits in one other foreign language; 3 credits in each of History, English, Philosophy, Psychology, and Communication Studies. Fourteen credits of related electives with the adviser's approval.

## BACHELOR OF ARTS IN GERMAN

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Science; 18 credits of Free Electives.

(B) **Area of Concentration:** Intermediate German I (GER 203) and II (GER 204); German Conversation and Composition I (GER 311) and II (GER 312); Advanced Composition: Grammar and Stylistics (GER 401); Studies in German Culture (6 credits); Survey of German Literature I (GER 421) and (GER 422); German Colloquium (GER 450) or History of the German Language (GER 452); Geography of Europe (GEO 325); six credits in one other foreign language; at least three credits in each of Philosophy, Psychology, Communication Studies, History, and English. 14 credits of electives with the adviser's approval.

## BACHELOR OF ARTS IN SPANISH

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of Free Electives.

(B) **Area of Concentration:** Intermediate Spanish I (SPN 203) and II (SPN 204); Spanish Conversation and Composition I (SPN 311) and II (SPN 312); Advanced Composition: Grammar and Stylistics (SPN 401); Studies in Hispanic Culture (6 credits); Survey of Spanish Literature (SPN 421); Survey of Spanish-American Literature (SPN 422); Geography of Latin America (GEO 328); Spanish Colloquium (SPN 450); Six credits in one other foreign language; at least three credits in each of Philosophy, Psychology, Communication Studies, History and English. Fourteen credits of electives taken with the advisor's approval.

## BACHELOR OF ARTS IN INTERDISCIPLINARY STUDIES, WITH A SPECIALIZATION IN RUSSIAN AND SLAVIC STUDIES

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of Free Electives.

(B) **Area of Concentration:** Elementary Russian I-II (RUS 101-102); Intermediate Russian I-II (RUS 203-204); Soviet Russian Culture (RUS 296); Geography of the Soviet Union (GEO 330); History of Russia (HIS 245); Philosophy of Marxism (PHI 270); Comparative Economic Systems (ECO 351); Politics and Government of the Soviet Union (POS 280); Studies in Russian Literature (RUS 469); 35 credits of restricted electives.

**FRENCH COURSES (FRE)**

Introductory level courses are indicated by a plus (+)

Culture Courses (FRE 240 and 296-301) are taught in English and are intended to satisfy General Education Humanities Elective Requirements as well as those in the major. Courses are not taught on a regular FS cycle. One culture course is offered each regular semester.

**+FRE 101. ELEMENTARY FRENCH I.** For the student without previous knowledge of French. The development of the fundamentals of correct idiomatic French. Instruction in basic audio-lingual comprehension, sentence structure, reading, writing, and speaking. Classroom instruction is supplemented by laboratory study and practice. Three class hours each week and one hour language laboratory per week. (3 crs.)

**+FRE 102. ELEMENTARY FRENCH II.** A continuation of French 101. Three class hours each week and one hour language laboratory per week. Prerequisite: French 101 or one year of high school French. (3 crs.)

**+FRE 203. INTERMEDIATE FRENCH I.** French grammar and reading. A review of essential French grammar. Development of audio-lingual comprehension, reading and writing facility. Three class hours each week; one hour language laboratory per week. Prerequisites: French 101 and 102 or two years of high school French. (3 crs.)

**+FRE 204. INTERMEDIATE FRENCH II.** Continuation of French 203. Oral-aural work continues but is accompanied by a development of reading skill through discussion of selected prose and poetry. Three class hours and one hour language laboratory each week. Prerequisite: French 203 or equivalent. (3 crs.)

**+FRE 240. THE MIDDLE AGES AND THE RENAISSANCE (800-1600).** This course surveys the evolution of French culture from the Middle Ages to the end of the sixteenth century, from an age of analogy to one of skepticism. While it does follow sociological, political, philosophical and historical developments to a certain degree, the course puts its primary emphasis on the artistic domains of literature, music, architecture, and the visual arts of the period. In so doing, this course illustrates to the student the ways in which France has been influenced by its rich cultural heritage. (3 crs.)

**+FRE 296. THE SEVENTEENTH CENTURY AND THE CLASSICAL AGE.** This course surveys the evolution of French culture from the early seventeenth century or the Baroque (1600-1640) to the classical period (1640 to the end of the century). The course seeks to introduce the student to the history of French thought in the Splendid Century. While it does follow sociological, political, philosophical and historical developments to a certain degree, its primary emphasis is on the artistic domains of literature, music, architecture, and the visual arts of the period. In so doing, this course illustrates to the student the ways in which France has been influenced by its rich cultural heritage. (3 crs.)

**+FRE 297. THE EIGHTEENTH CENTURY AND ENLIGHTENMENT.** This course surveys the evolution of French culture throughout the Age of Enlightenment, when scientific discovery and new historical methods acted as agents of change upon the traditional foundations of belief. Consideration is given to how these changes affected French thought, especially in the artistic domains of literature, music, architecture, and the visual arts of the period. The course will introduce the student to this age of criticism and reconstruction, an age viewed as the "crisis of the European mind" and gave birth to the *philosophe*, or "philosopher," one who was not only involved with the theories but with social reform as well. These reforms in human institutions and thought will be shown to terminate in the revolution of 1789 and the end of the *Ancien Régime*. (3 crs.)

**+FRE 298. THE AGE OF FRENCH ROMANTICISM: FROM THE NAPOLEONIC EMPIRE TO THE REVOLUTION OF 1848.** This course surveys the evolution of French culture throughout the Romantic Movement which permeated the sensibility of the young in France under the reign of Louis XVI and which reached a true

flowering in the nineteenth century, particularly from 1820 to 1845. Both the early precursors and the masters of this movement are considered through a study of the artistic expression of the times. (3 crs.)

+FRE 299. **THE AGE OF FRENCH REALISM: THE SECOND EMPIRE TO THE AFTERMATH OF THE FRANCO-PRUSSIAN WAR.** This course surveys the evolution of French culture during the Age of Realism; including the Franco-Prussian War, positivism and its aftermath. This period encompasses the dictatorship of Napoleon III, a monarchy marked by material success among the middle class and by disappointment and pessimism among thinkers, writers, and artists. This course considers the artistic achievements of the period within the framework of the sociological, political, and historical setting. The new generation of artists studied reflects a disgust with the reactionary politics of the Second Empire and the effects of the height of the Industrial Revolution. The course illustrates to the student how the artists found comfort and refuge in art as the only enduring value and as a substitute for religion. The closing decades of the nineteenth century were to elaborate and diversify two separate schools of art, naturalism fostered by the age of positivism and incorporated in the work of Comte, Renan, and Taine, and symbolism which expressed itself in the great poets, Verlaine, Rimbaud, and Mallarmé. This course seeks to illustrate to the student how these conflicting schools of artistic expression manifested themselves in the principal works of literature, philosophy, music, and the visual arts. (3 crs.)

+FRE 300. **THE BIRTH OF THE MODERN: FRENCH CULTURE IN THE ARTS 1900-WORLD WAR II.** This course surveys the evolution of French culture from 1900, the time of the *Belle Epoque* or Beautiful Period at the turn of the century, to the advent of the Second World War. While the course does follow the sociological, political, and historical developments of the period, it puts emphasis on the artistic ramifications of this period of conflict and rapid change. The interwar years are treated in all their artistic output, especially in inter-war theater, fiction, and the presence of the school of Surrealism in poetry, fiction, theater, and art. (3 crs.)

+FRE 301. **CONTEMPORARY FRENCH CULTURE IN THE ARTS SINCE WORLD WAR II.** This course surveys the evolution of French culture from the Occupation and Vichy Regime in France to the present day. It seeks to introduce the student to the literature, philosophy, music, films, and visual arts of the period which reveal the rich cultural heritage of France. As an orientation to the cultural arts, consideration will be given to the impact which important geographical, social, and historical elements had upon them. (3 crs.)

FRE 311. **FRENCH CONVERSATION, COMPOSITION, AND PHONETICS I.** Cultural themes are a basis for idiomatic conversation and discussions. Written compositions are assigned to teach the student how to write correct French. The course also provides a systematic study of the sounds and sound patterns of the French language. Three class hours and one hour language laboratory each week. Prerequisite: French 204. (3 crs.)

FRE 312. **FRENCH CONVERSATION, COMPOSITION, AND PHONETICS II.** Continuation of French 311 on a more advanced level as reflected in conversation, composition, and exercises in phonetic transcription. Prerequisite: French 311. (3 crs.)

FRE 401. **ADVANCED COMPOSITION: GRAMMAR AND STYLISTICS.** An in-depth grammatical analysis of the French language through intensive practice in exercises, compositions, and translations. It is required of all majors as well as those seeking a teacher certification degree or certification in French. Prerequisite: French 312. (3 crs.)

FRE 421. **SURVEY OF FRENCH LITERATURE I.** An introduction to French literature from the Middle Ages to 1800 through an examination of representative novels, plays, and poems of the period. Three class hours each week. (3 crs.)

FRE 422. **SURVEY OF FRENCH LITERATURE II.** An introduction to French literature from 1800 to the present through an examination of representative novels, plays, and poems of the period. Three class hours each week. (3 crs.)



**FRE 450. FOREIGN LANGUAGE COLLOQUIUM IN FRENCH.** An advanced course in intensive spoken contemporary French required of all French majors as well as those seeking teacher certification in French. Prerequisite: French 311. (3 crs.)

**FRE 469. STUDIES IN FRENCH LITERATURE.** Subject matter to be arranged. Designed for French majors who wish to take additional credits. Prerequisite: 18 hours of French. (Variable)

### GERMAN COURSES (GER)

Introductory level courses are indicated by a plus (+).

Culture Courses (GER 240-310 and 313-317) are taught in English and are intended to satisfy General Education Humanities Elective Requirements as well as those in the Major. Courses are not taught on a regular FS cycle. One culture course is offered each regular semester.

+GER 101. **ELEMENTARY GERMAN I.** For students who have had no previous instruction in German or who require additional instruction before attempting a more advanced level. Develops the fundamentals of correct idiomatic German through instruction in basic audio-linguistic patterns and sentence structure. Three class hours and one hour language laboratory each week. (3 crs.)

+GER 102. **ELEMENTARY GERMAN II.** Continuation of German 101. Three class hours and one hour language laboratory per week. Prerequisite: German 101 or one year of high-school German. (3 crs.)

+GER 203. **INTERMEDIATE GERMAN I.** The goals are to understand, speak, and write German on a more advanced level. A review of the structural principles covered in German 101 and German 102 and additional structural material, idioms, etc. is given. More emphasis is placed on speaking and reading. Three class hours and one hour language laboratory each week. Prerequisite: German 102 or two years of high-school German. (3 crs.)

+GER 204. **INTERMEDIATE GERMAN II.** Continuation of German 203, with speaking, reading, writing on a more advanced level emphasized. Three class hours and one language laboratory per week. Prerequisite: German 203. (3 crs.)

+GER 240. **FROM TACITUS TO LUTHER.** Fifteen hundred years of German Cultural History is traced in this course, including the tribal era, establishment of the Holy Roman Empire and medieval society. (3 crs.)

+GER 296. **THE GERMAN BAROQUE.** The topic incorporates roughly two hundred years of German cultural history beginning with the spread of Protestantism in the late Renaissance and concluding at the apogee of Enlightenment thought and influence. (3 crs.)

+GER 297. **THE AGE OF GOETHE: PART I—ENLIGHTENMENT.** The first half of the life of Johann Wolfgang von Goethe is the basis for the course chronology: 1749-1796; the period reflects the acceptance, endorsement and ultimate waning of Enlightenment (*Aufklärung*) ideals in the German lands. (3 crs.)

+GER 298. **THE AGE OF GOETHE: PART II—ROMANTICISM.** The concluding segment of Goethe's life (1796-1832) encompasses the reaction against Enlightenment ideals and the realities of the Napoleonic Wars. These led to the rise of romanticism and the first decisive steps to German cultural prominence in nineteenth century Europe. (3 crs.)

+GER 299. **RICHARD WAGNER AND HIS TIMES: TRIUMPH OF THE BOURGEOISIE.** The period covered begins in the year of Goethe's death, 1832, which is also the year which witnessed the first attempts of writing for the musical stage by Richard Wagner. The rise of the German middle class and triumph of bourgeois ideals form the background for the endeavors and developments of Wagner and his contemporaries. (3 crs.)

+GER 300. **THE WILHELMINIAN ERA.** The survey covers the period 1870-1918 when German lands are united into a powerful national state, the *Deutsches Reich*. Germany is viewed at the peak of her cultural leadership in western civilization, before the debacle of the First World War. (3 crs.)

+GER 301. **THE WEIMAR REPUBLIC.** The ill-fated German Weimar Republic lasted fourteen years, from 1919 to 1933, but in that period the world witnessed an unparalleled concentration of cultural endeavor born from military defeat, political humiliation and social and economic chaos following World War I. (3 crs.)

+GER 302. **GERMAN CULTURE UNDER THE NATIONAL SOCIALISTS.** The premise for this course is that German culture did not cease to manifest itself during the period from 1933 to 1945 when Adolf Hitler and the Nazi Party controlled Germany's destiny. What the German public was permitted in the way of cultural consumption during the Nazi era is the focal point of the survey. Only works produced in Germany at the time and either explicitly or tacitly endorsed by the Nazi government are dealt with. (3 crs.)

+GER 303. **GERMAN CULTURE IN EXILE.** Many intellectuals uprooted for political or racial reasons by the Nazi usurpation of political power in Europe fled their homelands, never to return. Documentary evidence from 1933 to 1949 is used to understand their exile and German culture abroad. (3 crs.)

+GER 309. **POSTWAR GERMANY—1945 TO 1990: BUNDESREPUBLIK (FEDERAL REPUBLIC OF GERMANY, WEST GERMANY).** The cultural spectrum of the Federal Republic of Germany (West Germany, *Bundesrepublik Deutschland*) is the subject of this survey. (3 crs.)

+GER 310. **POSTWAR GERMANY—1945 TO THE PRESENT: DEUTSCHE DEMOKRATISCHE REPUBLIK (GERMAN DEMOCRATIC REPUBLIC, EAST GERMANY).** The cultural spectrum of the German Democratic Republic (East Germany, *Deutsche Demokratische Republik*) is the subject of this survey which begins with the year "0" and continues to its demise.

GER 311. **GERMAN CONVERSATION, COMPOSITION, AND PHONETICS I.** Selected readings are used to develop further skills in reading, writing, and speaking German. Three class hours and one hour language laboratory per week. Prerequisite: German 204. (3 crs.)

GER 312. **GERMAN CONVERSATION, COMPOSITION, AND PHONETICS II.** Continuation of German 311, conducted on a more advanced level. Three class hours and one hour language laboratory per week. Prerequisite: German 311 or the completion of German 204 with a grade of A or B. (3 crs.)

+GER 313. **AUSTRIA: FROM THE BABENBERGS TO THE CONGRESS OF VIENNA 976-1813.** This topic presents an approximately one-thousand-year cultural history of the Austrian empire from its birth as protector and successor of the Holy Roman Empire, to its twilight at the end of the Napoleonic Wars. (3 crs.)

+GER 314. **AUSTRIA: FROM THE CONGRESS OF VIENNA TO THE TREATY OF VERSAILLES—1813-1918.** The last century of Hapsburg rule is the backdrop for this survey of the Golden Age of Austrian cultural enterprise. (3 crs.)

+GER 316. **AUSTRIA: FIRST REPUBLIC—HEIM INS REICH—SECOND REPUBLIC (1919-PRESENT).** This course presents a cultural history of Austria from 1919 to the present with representative works from the first Republic (1919-38), the period of Nazi annexation (*Anschluss*) (1938-45) and the post-World War II era which gave rise to the Second Republic (1955 to the present). (3 crs.)

GER 317. **SWITZERLAND.** This course presents a cultural survey of the German-speaking Swiss primarily though the cultural contributions of the other language groups are represented. Although it begins in the days of the Roman Empire and proceeds swiftly through the formation of the Swiss Confederation in the 13th century to the beginning of the 18th century, the greater part of the course deals with the last two hundred years of the Swiss cultural enterprise. (3 crs.)

**GER 401. ADVANCED COMPOSITION: GRAMMAR AND STYLISTICS.** The course provides in-depth grammar analysis of German. Intensive practice is given for translation and composition. Refinement of expository writing is a major goal, and emphasis is placed on achieving fluent and idiomatic expression to a degree acceptable by a native and educated speaker. (3 crs.)

**GER 421. SURVEY OF GERMAN LITERATURE I.** Presents a foundation on literary definition (style, form, period) and illustrates them through the works of leading German speaking authors. (3 crs.)

**GER 422. SURVEY OF GERMAN LITERATURE II.** Continuation of German 421. (3 crs.)

**GER 450. FOREIGN LANGUAGE COLLOQUIUM IN GERMAN.** The colloquium in German is designed for students in teacher education who must demonstrate a fluency in oral presentation in order to meet requirements for employment and tenure in Pennsylvania's school systems; as such it is required for students in teacher education. It is designed secondarily for the liberal arts major who wishes to enhance fluency in speaking, but it is not required for the German major. (3 crs.)

**GER 452. HISTORY OF THE GERMAN LANGUAGE.** For German language majors but open to any student meeting the prerequisites. The course begins with the emergence of a German language group from its Indo-European heritage and traces the development of contemporary German from Gothic through Old High German, Middle High German and dialectic manifestations, as well as its encounters with other European languages. The course is required for German majors. (3 crs.)

**GER 469. STUDIES IN GERMAN LITERATURE.** Designed to meet special needs of German majors. Prerequisite: 18 hours of German. (Variable)

## RUSSIAN COURSES (RUS)

Introductory level courses are indicated by a plus (+)

Culture courses (RUS 240-297) are taught in English and are intended to satisfy General Education Humanities Elective Requirements as well as those in the major. Courses are not taught on a regular FS cycle. One culture course is offered each regular semester.

**+RUS 101. ELEMENTARY RUSSIAN I.** The purpose of RUS 101 is to prepare students to read intermediate level Russian by the middle of Russian 102. To this end, it begins with practicing all skills but soon changes to a focus on structure and translation. Russian is presented without a text during the first week in order to establish awareness of the sounds of the language. Then study follows the units of the text. The grade is based on approximately 12 tests of equal weight. (3 crs.)

**+RUS 102. ELEMENTARY RUSSIAN II.** Completes the study of the structure of the Russian language. Reading of Russian history begins approximately halfway through the semester, with Stilman's *Graded Readings in Russian History*. Prerequisite: Russian 101 or one year of high-school Russian. (3 crs.)

**+RUS 203. INTERMEDIATE RUSSIAN I.** Russian 203 prepares the student to read advanced Russian. Upon completion of Stilman's *Graded Readings in Russian History*, the students read selected materials from the current Soviet press. Grammar review is presented as required. The grade is based on approximately six translation tests. Three class hours each week. Prerequisite: Russian 101 or 102. (3 crs.)

**+RUS 204. INTERMEDIATE RUSSIAN II.** This course is a continuation of RUS 203. Develops a reasonable control of spoken Russian through dialogue and oral practice. Students read selected materials from current Soviet publications. Prerequisite: Russian 203. (3 crs.)

+RUS 240. RUSSIAN CULTURE. Students read fiction by great Russian authors, listen to music by composers such as Tchaikovsky and Borodin, and grasp an understanding of Russia and its culture through slides, films, and other media. (3 crs.)

+RUS 296. SOVIET RUSSIAN CULTURE. Literary and non-literary writings, films, slides and recordings are used to present a broad picture of the Soviet Union. (3 crs.)

+RUS 297. EASTERN EUROPEAN CULTURE. Study the folk and high culture of Poland, Czechoslovakia, Hungary, Ukraine and Yugoslavia. Films, slides and recordings play a prominent role in the course. (3 crs.)

RUS 311. RUSSIAN CONVERSATION, COMPOSITION, AND PHONETICS I. Intensive practice of contemporary Russian as it is used in everyday situations by Soviet Russian speakers. While there is regular work on composition, the course stresses proficiency in speaking. (3 crs.)

RUS 312. RUSSIAN CONVERSATION, COMPOSITION, AND PHONETICS II. Continued intensive practice of contemporary Russian as it is used in everyday situations by Soviet Russian speakers. While there is regular work on composition, the course stresses proficiency in speaking. (3 crs.)

RUS 469. STUDIES IN RUSSIAN LITERATURE. Independent readings in Russian literature. The instructor and the student arrange a program of study according to the student's needs and desires. (Variable)

### SPANISH COURSES (SPN)

Introductory level courses are indicated by a plus (+).

Culture Courses (SPN 205-303) are taught in English and are intended to satisfy General Education Humanities Elective Requirements as well as those in the Major. Courses are not taught on a regular FS cycle. One culture course is offered each regular semester.

+SPN 101. ELEMENTARY SPANISH I. For the student without previous knowledge of Spanish who wishes to achieve a command of language fundamentals. Acquisition of speech skills in the classroom is reinforced in the language laboratory. Progressively greater emphasis is placed on reading and writing. Three class hours and one hour language laboratory per week. (3 crs.)

+SPN 102. ELEMENTARY SPANISH II. A continuation of Spanish 101. Three class hours and one hour language laboratory per week. Prerequisite: Spanish 101 or one year of high school Spanish. (3 crs.)

+SPN 203. INTERMEDIATE SPANISH I. A review of the essentials of Spanish grammar through intensive oral and written practice to facilitate the use of Spanish grammar and to develop the use of words and expressions accepted throughout the Spanish-speaking world. Three class hours and one hour language laboratory per week. Prerequisites: Spanish 101 and Spanish 102 or their equivalents. (3 crs.)

+SPN 204. INTERMEDIATE SPANISH II. Develops control of the principal structural patterns of the language through dialogue and oral reading, as well as through written exercises based on selected readings. Three class hours and one hour language laboratory per week. Prerequisites: Spanish 203. (3 crs.)

+SPN 205. 14TH CENTURY SPAIN. This course will examine the style of art, literature and music of the 14th century Spanish culture. This is a period of consolidation, of gradual assimilation of many influences and of significant contributions to western culture. One of the outstanding books in literature, *Libro de buen amor*, and,

in music, *Las Huelgas Codex* will be studied as well as Ferrer Bassa's murals and Luis Borrassa's three-dimensional works. (3 crs.)

+SPN 206. GOLDEN AGE AND BAROQUE. The Golden Age of Spain is a course designed to capture the significance of Spain's reawakening. It describes Lope de Vega's revolutionizing the entire concept of dramatic form; it details Spain's contributions to Western Civilization in the form of great characters like Don Juan and Don Quixote and how they influenced the cultures of the world. (3 crs.)

+SPN 207. 1700-MID 19TH CENTURY. This course will examine the style of Peninsular art, literature and music in the 18th and first half of the 19th centuries. Members of the House of Bourbon are on the Spanish throne and thereby there is a strong French influence upon artistic expression. This is the Age of Reason and the age of false and dictatorial sophistication of neoclassic standards which ends with the flowering of romanticism. (3 crs.)

+SPN 208. GENERATION OF 1898—MODERNISM. This course examines the latter part of the 19th century, a time in Spain when a new literary and social awareness was being expressed in the arts. Developments in the arts set the atmosphere in which an entire generation of artists, the generation of 1898, as they were referred to, set about the business of representing the heart and soul of Spain. This course closes by examining the work of the intellectuals who brought the *Modernismo* of Rubin Dario of Nicaragua to Spain. (3 crs.)

+SPN 209. 20TH CENTURY SPAIN—PART I. In this course we will consider the concept of a "generation" and two earlier movements in Spanish poetry (Ultraism and Creationism) before dealing with the poetry and the theater of the artists known as the generation of '27. Also, the composers of the *Grupo de Madrid*, an international film-maker, Luis Bunuel, as well as a very notorious painter, Salvador Dali, will be discussed. (3 crs.)

+SPN 210. 20TH CENTURY SPAIN—PART II. The explosive growth and rebirth of Spanish culture during the present century, especially the period following the repressive years of the Franco regime, is studied through the works of notable intellectuals and artists such as Salvador Dali, Pablo Picasso and Federico García Lorca. The student is offered a panoramic orientation to the culture of contemporary Spain. (3 crs.)

+SPN 213. SPANISH CARIBBEAN. The cultural achievements of contemporary Spanish Caribbeans. The course reviews changes in Caribbean societies since the movement *de avance* (Vanguardism, 1927). A sampling of the countries' art, unique music, architectural styles and folk dances, will be presented. (3 crs.)

+SPN 240. ORIGINS OF SPANISH CULTURE. The style of art, literature and music of the 12th and 13th centuries in Spain, in which the tendency is studied to recount wars, weddings and conquests is evident. (3 crs.)

+SPN 301. ROMANTICISM IN LATIN AMERICA. The style of art, literature and music of the 19th century in Latin America. Attention will be given to the subordination of form to content, the emphasis given to imagination and emotion which often celebrates nature, and the utilization of common man and freedom of spirit themes. (3 crs.)

+SPN 302. MEXICO 20TH CENTURY. The cultural achievements of contemporary Mexicans. Changes in Mexican society since the 1910 revolutions and the concern of Mexican writers with social and political themes. A sampling of the country's art, unique music, architectural styles, murals and folk dances will be presented. (3 crs.)

+SPN 303. CONTEMPORARY ARGENTINA. A view of Argentina's cultural tendencies in the Twentieth Century such as Surrealism, as well as the intellectuals' choice of a simpler expression of reality, surrealism, as well as the existential and neo-natural styles in literature, music and visual arts. (3 crs.)

SPN 311. SPANISH CONVERSATION, COMPOSITION, AND PHONETICS I. Intensive practice in conversation, composition and phonetics, based on modern prose, provides models of natural, spontaneous speech, including colloquialisms. Written compositions use orthographic rules. Three class hours and one hour language laboratory per week. Prerequisite: Spanish 311. (3 crs.)

**SPN 312. SPANISH CONVERSATION, COMPOSITION, AND PHONETICS II.** A study of the essential Spanish morphology, syntax, semantics, and linguistics as reflected in some representative authors. Prerequisite: Spanish 312. (3 crs.)

**SPN 401. ADVANCED COMPOSITION: GRAMMAR AND STYLISTICS.** This course is intended to provide an in-depth grammatical analysis of the Spanish language, emphasizing "shades of differences" in the meaning of words and expressions as used in oral and written expression. (3 crs.)

**SPN 405. CERVANTES:DON QUIXOTE:** Prerequisite: Spanish 321 or Spanish 322. (3 crs.)

**SPN 416. GOLDEN AGE NOVEL.** The major prose works of the Renaissance and Baroque styles are studied: the Pastoral, Chivalric, and Ficaresque novels. Prerequisite: Spanish 421 or Spanish 422. (3 crs.)

**SPN 421. SURVEY OF SPANISH LITERATURE.** An introduction to the masterpieces of Spanish literature, ranging from *Poema de Mio Cid* to current authors. Represented will be all of the important Spanish literary genres: narrative poetry (epic and ballad), lyric verse, the short story, and selections from novels and dramas. (3 crs.)

**SPN 422. SURVEY OF SPANISH-AMERICAN LITERATURE.** A study of representative selections from the Colonial period to the present, with emphasis on the salient characteristics and the distinctive contributions of each literary form in the period or movement under study. (3 crs.)

**SPN 444. HISTORY OF THE SPANISH LANGUAGE.** A history of the development of modern Spanish, beginning with Vulgar Latin as used in the Iberian peninsula. Attention is given to the impact of political and cultural influences on linguistic development as well as to making comparisons with the evolutionary development of other Romance languages. Prerequisite: Twelve hours of Spanish beyond Spanish 102. (3 crs.)

**SPN 450. FOREIGN LANGUAGE COLLOQUIUM IN SPANISH.** An advanced course in intensive spoken contemporary Spanish required of all Spanish majors as well as those seeking teacher certification in Spanish. Prerequisite: Spanish 312. (3 crs.)

**SPN 469. STUDIES IN SPANISH LITERATURE.** Designed to meet the special needs of Spanish majors. (Variable)





## DEPARTMENT OF GERONTOLOGY

Associate Professor Marilyn M. Patterson, *Chair*. Professor Karen L. Hornung; Assistant Professor Mary A. Hart. The following faculty members of other departments teach Gerontology courses: Philip Y. Coleman and Angelo J. Orlandi.

As the number of older people in the country increases, the need for trained professionals in the field of aging is also increasing dramatically every year. Employment opportunities for persons trained in gerontology are not only excellent at this time but have prospects of improving still further. The second largest projected growth area in jobs in the United States in the 1990's is in positions working with older adults. California University has the only approved Bachelor of Science in Gerontology program among the 14 universities in the State System of Higher Education.

## BACHELOR OF SCIENCE IN GERONTOLOGY

This program is dedicated to providing the student with a broad range of academic and practical experiences that will enable the graduate to function in a variety of settings, such as administration, planning, management, and delivery of services to older persons. It is the objective of this program to increase the numbers and competency of persons working with older adults, their families, and their communities.

The California Model Senior Center, located several blocks from campus, allows students a chance to receive actual experience under the supervision of a Gerontology department faculty member and a professional staff. It is one of very few Senior Centers in the nation with relations to an academic program in Gerontology.

Students are involved in the various educational, recreational, nutritional, informational, referral, transportation, and grant components of the multi-purpose Senior Center. Specifically, students may coordinate the intergenerational visitation program, coordinate Geriatric Assessment, facilitate support groups for caregivers and older adults, develop training and educational videos, assist with program and group development, and plan educational classes. The Senior Center is near campus and it offers accessible, invaluable, and practical experience in a real-life setting.

The Gerontology Department operates several grant-and university-funded programs providing a variety of services to the area's older population. Gerontology students are involved in all projects and receive invaluable practical experience. Some of the present ones are:

**SHARE:** Student Housing Alternative with Rural Elders is a unique project pairing University students with rural older adults in a shared living arrangement. This project has brought national recognition to the Gerontology program.

**Senior Center/Senior Swim Programs:** These provide educational, socialization, recreation, exercise, and nutrition services to older adults.



**SHINE: Student Helpers Involved with Neighborhood Elders** coordinates and trains student volunteers from the junior high school, high school, and university level to provide much-needed services to older adults.

**REACH: Rural Elderly Access to Consumerism and Homemaking** provides educational programs and related services to older adults.

The Gerontology Department also conducts research related to the projects it sponsors. By assisting in this research, students gain other skills that will be of value to them in employment or post-graduate studies.

**Curriculum:**

**(A) General Education:** Composition I and II (ENG 101,102); Business Writing I (ENG 211); 12 credits of Humanities, including Oral Communication (SPE 101); 12 credits of Natural Sciences, including one computer course; 12 credits of Social Sciences; 15 credits of free electives.

**(B) Area of Concentration:** Introduction to Gerontology (XGE 101); Aging in American Society (XGE 102); Aging Policies and Services (XGE 201); Biology of Aging (XGE 204); Media and Library Resources in Aging (XGE 205); Adult Development and Aging (XGE 380); Seminar in Gerontology (XGE 439). Eighteen credits in major electives selected from the following: Middle Years of Life (XGE 202); Group Work with Older Adults (XGE 210); Aging and the Family (XGE 249); Minority Aging/Institutionalization (XGE 289); Health and Safety in Aging (XGE 300); Counseling the Older Adult (XGE 320); Activities in Long-Term Care (XGE 340); Selected Topics (XGE 349); Exercise for the Elderly (XGE 350); Rural Aging (XGE 369); Nursing Homes (XGE 370); Professional Practicum (XGE 449); Senior Center Operations (XGE 449); Survey of Aging Programs and Services (XGE 449); Foundations of Death and Dying (EDF 318); Literature and Aging (ENG 223); Historical Perspectives on Aging (HIS 205). Related Courses (16 crs.): Introduction to Social Work (SOW 150); Word Processing (ENG 151); First Aid and Personal Safety (HPE 314); Delivery of Services (SOW 365); one other 200, 300, or 400 level Social Work course; one 200, 300, or 400 level Management or Marketing course. Required Field Experience: a minimum of 6 credits, including both Community Setting (3 credits) and Institutional Setting (3 credits). Related Electives: 1-7 credits.



## AGING SPECIALIST CERTIFICATE

The Aging Specialist Certificate is becoming recognized as the minimum credential of qualification in the field of aging. The Certificate in Gerontology is designed primarily for either undergraduates interested in working with older adults in relation to their undergraduate major (e.g., Social Work, Psychology, Nursing, Speech Pathology and Audiology) or people who are currently working with or on behalf of older adults who have had practical experience in the field of aging but who have had little formal training. The Aging Specialist Certificate is 18 hours of course work in Gerontology including a three-credit practicum experience.

### Curriculum:

Six credits in Gerontology: Introduction to Gerontology (XGE 101); Aging Policies and Services (XGE 201). A minimum of nine credits of selected Gerontology courses chosen in consultation with the advisor of the Gerontology Program. Three-credit practicum course (XGE 449).

## GERONTOLOGY COURSES (XGE)

F and S indicate whether the course is usually offered in the Fall or the Spring.

**XGE 101. INTRODUCTION TO GERONTOLOGY.** An introduction to the field of aging for majors and non-majors. A general overview of the psychosocial, biological, cultural, and behavioral aspects of late life. (3 crs.) F S

**XGE 102. AGING IN AMERICAN SOCIETY.** Examination of psychosocial aspects of work, retirement, leisure, institutionalization, and death as experienced in contemporary America. Examination of roles and adjustments in late life. (3 crs.) F

**XGE 201. AGING POLICIES AND SERVICES.** An overview of programs and services available to older adults, including the past, present, and future of aging policies. Covered are the Older Americans Act and amendments. Prerequisite: XGE 101, 205. (3 crs.) S

**XGE 202. MIDDLE YEARS OF LIFE.** Multidisciplinary life cycle approach to middlecence. Relationship of middle-aged to family, work, and community examined. Adult developmental tasks and stages emphasized. (3 crs.)

**XGE 204. BIOLOGY OF AGING.** Introduction to biological aspects of aging, both normal and pathological. Studied are age-related changes in the digestive, skin, musculoskeletal, endocrine, and reproductive systems. Prerequisite: XGE 205. (3 crs.) F

**XGE 205. MEDIA AND LIBRARY RESOURCES IN AGING.** Introduction to print and non-print aging materials. Students learn how to locate and use different types of library and media materials and write a literature review following the APA style. (3 crs.) F

**XGE 210. GROUP WORK WITH OLDER ADULTS.** Focuses on basic principles of group dynamics and information about aging as it applies to group work. Students are introduced to skills and specific techniques required to facilitate groups with older adults in institutional and community based settings. (3 crs.) S

**XGE 249. AGING AND THE FAMILY.** Overview of the theory/research on families in later life including a synthesis and review of existing literature, identification of research issues and needs, and implications of this information for practitioners, researchers, and family members. (3 crs.)

**XGE 289. MINORITY AGING/INSTITUTIONALIZATION.** An overview of the theory, research, and policy issues regarding minority aging and institutionalization, and implications of this information for practitioners, researchers, and society. (3 crs.)

**XGE 300. HEALTH AND SAFETY IN AGING.** Information and experience relative to health assessment, maintenance, promotion of wellness among older adults. Safety issues for older adults will be presented. (3 crs.)

**XGE 320. COUNSELING THE OLDER ADULT.** Combines information about the aging process with information and skills practice in counseling intervention. (3 crs.) F

**XGE 340. ACTIVITIES IN LONG-TERM CARE.** Basic principles of therapeutic recreation and activity program planning as it applies to serving older adults in long-term care settings, primarily nursing homes, personal care homes, and adult day care facilities. Students will be introduced to the skills needed to develop and implement a well-balanced activity program. (3 crs.)

**XGE 349. SELECTED TOPICS.** Roundtable discussions of selected gerontological topics. For students wanting to study either a new topic or a topic in more detail. Topics vary according to students and instructor. Prerequisite: XGE 101. (Variable credit)

**XGE 350. EXERCISE FOR THE ELDERLY.** Course provides information and experiences to develop and conduct physical activity programs for the elderly. Activities to maintain and improve health and fitness, and corrective and therapeutic activities are also presented. Prerequisites: XGE 204, HPE 314. (3 crs.) S

**XGE 369. RURAL AGING.** Overview of rural, non-metropolitan areas as they relate to older adults. Course compares rural older adults to their urban metropolitan counterparts. (3 crs.)

**XGE 370. NURSING HOMES.** Examines nursing homes from historical, medical, managerial, environmental, and psychosocial perspectives. (3 crs.)

**XGE 380. ADULT DEVELOPMENT AND AGING.** Introduction to psychology of aging. An overview of late life cognitive processes including intelligence, learning, memory, problem solving, and creativity. Examination of adult socialization, personality adjustment, psychopathology, and death. Prerequisites: XGE 101, 102, 204, 205, and junior level standing. (3 crs.) S

**XGE 439. SEMINAR IN AGING.** For advanced Gerontology students to intensively examine and discuss selected aging subjects. Topics chosen by instructor; research paper/project required. Prerequisites: XGE 101, 102, 201, 204, senior status, and permission of instructor. (3 crs.) F

**XGE 449, Section 1. GERONTOLOGY PRACTICUM: PROFESSIONAL PRACTICUM.** Opportunity to apply theoretical knowledge to practice through placement in agency or institution serving older people. Practicum sites include senior centers, nursing homes, adult day care centers, independent living facilities, or area agencies on aging. Prerequisites: Permission of instructor and extensive coursework. (Variable credit.) F S

**XGE 449, Section 2. GERONTOLOGY PRACTICUM: SURVEY OF AGING PROGRAMS AND SERVICES.** Class field trips to observe available aging programs and services. Research paper on aging programs and services required. (Variable credit.)

**XGE 449, Section 3. GERONTOLOGY PRACTICUM: SENIOR CENTER OPERATIONS.** Class field trips to observe wide range of senior centers. Research paper on senior center operations required. (Variable credit.)

The following courses are taught in other departments of the University other than Gerontology but are nonetheless Gerontology Major Electives.

**EDF 318. FOUNDATIONS OF DEATH AND DYING.** A multidisciplinary introduction to death-related topics from anthropological, psychological, philosophical, educational, literary, and musical perspectives. (3 crs.)

**ENG 223. LITERATURE AND AGING.** Positive and negative views of aging as portrayed in poetry, fiction, and drama. Students learn techniques for interpreting literature and explore criticism of the literature. (3 crs.)

**HIS 205. HISTORICAL PERSPECTIVES ON AGING.** A chronological survey of aging in historical perspective, emphasizing social, cultural, and economic conditions that have effect on the aging population. (3 crs.)



## DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND SAFETY

### HEALTH AND PHYSICAL EDUCATION (HPE) DRIVER EDUCATION (HSD)

Associate Professor Terry E. Scott, *chair*; Assistant Professors Carol A. McMahon, Floyd W. Shuler; Instructor Harry L. Ervin

The Department offers courses reflecting the wellness concept. Presently, it functions as a service oriented department. However, there is a certification program in Driver Education Certification.

### Driver Education Certification Program

The Department offers a certification program for a student seeking to become qualified as a Driver Education teacher in the secondary schools. In order to fulfill the requirements of this program, the student must complete a minimum of 12 semester hours. Six of the 12 hours are required in the program (HSD 300, Introduction to Safety, and HSD 305, Driver Education and Traffic Safety).

The same 12 hours required in the Driver Education Endorsement Program can be used as "free electives" in the 30-hour free elective block. For further information concerning the program, contact the chairperson of the Health, Physical Education and Safety Department in Hamer Hall.

### DRIVER EDUCATION COURSES (HSD)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

\*HSD 300. INTRODUCTION TO SAFETY EDUCATION. The history and development of the safety movement. Psychological variables such as attitudes, habits, emotions and values are considered in terms of their importance in the total accident picture. Home, farm, traffic, fire industrial and many other areas of safety are discussed. (3 crs.) F S

\*HSD 305. DRIVER EDUCATION AND TRAFFIC SAFETY. Designed to prepare a teacher to teach a complete thirty-and-six Driver Education class. Emphasis upon essential facts, principles, skills and psychological variables necessary for good driving and the teaching of the same to beginning drivers. Enrolled students are required to teach a beginner the behind-the-wheel driving sequence. Prerequisite: a driver's license. (3 crs.) F S

**HSD 306. MATERIALS AND METHODS IN SAFETY IN THE SECONDARY AND ELEMENTARY SCHOOLS.** The various teaching methods and materials that can be used to teach safety in the elementary or secondary schools. (3 crs.) F

**HSD 307. MOTORCYCLE SAFETY.** A comprehensive study of all aspects of motorcycle safety. Various classroom and range experiences are provided to enable each student to become a proficient cyclist. The course also prepares the student to teach others how to ride. Prerequisite: HSD 305. (3 crs.) F

**HSD 405. ORGANIZATION AND ADMINISTRATION OF SAFETY EDUCATION.** Organizing and administering Safety Education Programs ranging from the elementary school through college. School safety programs, environmental safety, and safety services are analyzed in detail. Prerequisite: HSD 330. (3 crs.) S

**HSD 408. PROBLEMS IN DRIVER AND TRAFFIC SAFETY.** Current problems in many areas of the driver and traffic safety. Federal Highway Safety Program Standards are analyzed. (3 crs.) F S

\*Required courses for Driver Education Endorsement Program.

### HEALTH AND PHYSICAL EDUCATION COURSES (HPE)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

**CPE 205. FOUNDATIONS OF ATHLETICS.** The basic theory, organization, and coaching techniques of several sports are covered. (2 crs.) F S

**HPE 100. HEALTH.** Provides the student with a critical analysis of health problems facing people today. Topics studied include communicable diseases, chronic diseases, abusive substances, mental health, sex education, nutrition, exercise, and stress management. (2 crs.) F S

**HPE 102. AIDS PREVENTION.** The course is taught by an interdisciplinary team of public health providers and university faculty. During the five-week course, the student will learn all the dimensions of AIDS. (1 cr.) F S

**HPE 202. COED AEROBIC FITNESS AND NUTRITION.** The course is designed to increase an individual's fitness through higher level exercises. The activity portion of the class will include high impact aerobics, rope jumping, swimming, etc., to improve the student's cardiopulmonary endurance, strength and flexibility. There will be lectures on nutrition and basic exercise physiology. (2 crs.) F S

**HPE 231. BEGINNING BADMINTON AND TENNIS.** Basic instruction in the rules, strategy, techniques and etiquette of both badminton and tennis. (1 cr.)

**HPE 232. INTERMEDIATE BADMINTON AND TENNIS.** An opportunity is provided for the student to advance beyond the beginner level and to acquire a greater degree of skill through advanced analysis of techniques and strategy. (1 cr.) F S

**HPE 241. BEGINNING SWIMMING.** The course places emphasis on the development of skills that will enable a student to move safely in and around the water with ease and enjoyment. Shallow water. (1 cr.) F S

**HPE 242. INTERMEDIATE SWIMMING.** Advanced beginner and intermediate swimming instruction is provided. Emphasis is placed on perfecting the nine basic strokes and on becoming more comfortable in, on, or near the water. Students should feel safe in deep water in order to enter this course. (1 cr.) F S

**HPE 250. MODERN DANCE.** Contemporary dance forms, techniques and composition are presented. The student experiences working with expressive movement problems in force, time, space, line and levels. No prerequisite. 2 hours combined lecture-laboratory. (1 cr.) F S

**HPE 252. JAZZ DANCE I.** The course is designed to stimulate personal satisfaction through the jazz dance form of movement. It is offered as an introductory course in jazz technique. (1 cr.) F S

**HPE 256. CONDITIONING AND MOVEMENT EDUCATION.** Encourages an appreciation of the ability and capacity to control and direct the movements of the body with skill and intelligence. (1 cr.) F S

**HPE 265. BADMINTON AND GOLF.** Basic instruction in the rules, strategy, techniques and courtesies of both golf and badminton. (1 cr.) F S

**HPE 266. TENNIS AND VOLLEYBALL.** Fundamentals and game techniques of tennis and volleyball. Game drills and conditioning exercises are also a part of the course. (1 cr.) F S

**HPE 267. ARCHERY, BILLIARDS, TABLE TENNIS.** Instruction in the fundamental skills of the three activities. (1 cr.)

**HPE 271. SLIMNASTICS.** The course is designed for weight management and cardiopulmonary endurance through aerobic activities. The student will learn the safe type of aerobic exercises and discuss dietary goals. (1 cr.) F S

**HPE 275. VOLLEYBALL AND BASKETBALL.** Instruction and participation in the fundamental techniques, methods, rules, and game strategy of the two sports. (1 cr.) F S

**HPE 308. KINESIOLOGY.** the biomechanics of motor performance. Prepares students to analyze movement in order to teach, correct, or improve human performance. Offered as part of the Sports Medicine Program. (3 crs.) F

**HPE 309. EXERCISE PHYSIOLOGY.** The course covers the scientific theories and principles underlying strength, muscular endurance, cardio-vascular endurance, flexibility, training and conditioning in human movement. Offered as part of the Sports Medicine Program. (3 crs.) S

**HPE 312. WATER SAFETY INSTRUCTOR.** Conducted under the auspices of the American Red Cross, the course is designed to equip the individual with the basic knowledge and skills necessary to save one's own life or the lives of others. The course provides certification in water safety instruction. Prerequisite: Current lifeguard training certificate. (3 crs.) S

**HPE 314. FIRST AID PERSONAL SAFETY.** Provides an understanding of the cause-effect, prevention and treatment of emergency situations. This course is helpful to all students, especially students in the teacher education program. No prerequisite. Three-year certification is offered by the American Red Cross. (3 crs.) F S

**HPE 315. CARDIOPULMONARY RESUSCITATION.** Includes preventive heart practices, basic concepts of heart and lung functions and skills for managing obstructed airways and cardiac arrest. Certification is by the American Heart Association. No prerequisite. Offered when there is student need and interest. (1 cr.) F S

**HPE 316. LIFEGUARD TRAINING.** Conducted under the auspices of the American Red Cross, the course gives consideration to swimming, life-saving techniques, and pool management. American Red Cross Certification issued. Prerequisite: Water Test, CPR, and First Aid. (3 crs.) F S

**HPE 338. PHYSICAL EDUCATION FOR THE EXCEPTIONAL CHILD.** An introduction to the principles, techniques, and research in the physical education training for the exceptional child. Major emphasis is on gross-motor skills and physical activities leading to lifetime recreation and sports. (3 crs.)



**HPE 347. BASKETBALL OFFICIATING.** Enables students to become qualified PIAA basketball officials. Course content includes analysis of rules, regulations and the mechanics of officiating. Students receive game officiating practice. (2 crs.) S

**HPE 400. ADVANCED FIRST AID.** Students learn advanced emergency first aid techniques such as delivering babies, extricating victims from automobiles, performing C.P.R. in transport, using Hare Traction splint for open fractures, and understanding basic ambulance equipment. Three-year certification by the American Red Cross. (3 crs.) S

**HPE 500. EMERGENCY MEDICAL TECHNICIAN (EMT).** Prepares students to become certified as Emergency Medical Technicians. Emphasis is placed upon the care and treatment of the ill or injured in a variety of emergency situations. Students are required to devote at least ten hours to actual in-hospital observation. Prerequisite: Age 16. (4 crs.) F



## DEPARTMENT OF HISTORY AND URBAN STUDIES

### HISTORY (HIS)

### URBAN STUDIES (XUA)

Associate Professor Anthony P. McGrew, *chair*. Professors John F. Bauman, Frank T. Edwards, J. K. Folmar; Associate Professors Margaret A. Spratt; Assistant Professor Sean C. Madden.

### PURPOSE

The recording and explanation of the events that constitute social, organizational or personal existence comprise the discipline of history. History, with its special concern for what is unique in human events, is an integrative discipline. Its narratives and explanations are contextual. As such, historians take cognizance of the works of artists, philosophers and social scientists. For example, social historians utilize the methods of the social scientist. This integrative aspect of historical narrative and explanation continues to make it a primary part of a Liberal Arts education. In as much as it reveals every person's past, it makes possible greater personal freedom and creativity.

### PROGRAMS

The department offers two degree programs: History and Urban Studies. The Urban Affairs major provides the student with the information and perspectives necessary to understand and analyze any complex urban system. It incorporates the principles and methods of urban planning and administration. This program provides the student the opportunity to participate in a practicum. Students interested in careers in Planning, Public Administration, Business, or Law Enforcement are encouraged to take a full semester of practicum credits in their junior or senior year.

The History major is general in nature, providing students with the opportunity to select areas of topical interest. In relation to the major, the department, in conjunction with the College of Education and Human Services, provides requisite courses for Social Science certification for teaching in Secondary Schools. Students interested in teacher certification can secure further information from the College of Education and Human Services Office.

### HONOR SOCIETY

Students who meet the academic requirements are eligible for membership in Phi Alpha Theta ( $\Phi\text{A}\Theta$ ), the International Honor Society. Information can be obtained from faculty advisors and the departmental office.

## AWARDS

The History Faculty Award for Academic Excellence is given annually to the History major who has demonstrated outstanding achievement.

The Edward McNall Burns Scholarship Award is given annually to any individual majoring in Anthropology, Sociology, Political Science, Economics, History or Urban Affairs. See the departmental office for further information.

## CAREERS

Teacher, archivist, museum curator are professions directly related to the history major. Careers in law, religion, foreign service, both corporate and governmental, and diplomacy have a great reliance on historical knowledge. The urban affairs major will find career opportunities in urban and regional planning, in public and private agencies which provide data analysis relative to housing, market, transportation, crime and traffic patterns.

### BACHELOR OF ARTS IN HISTORY

#### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** (1) Required Western History — 15 credits; History of the United States to 1877 (HIS 101); History of the United States since 1877 (HIS 102); History of Western Society to 1740 (HIS 104); History of Western Society since 1740 (HIS 106); History Seminar (HIS 495). (2) A minimum of two courses in Non-Western History — 6 credits; (3) History Electives — 24 credits: These must include at least three topical and three chronological courses listed on the History Major Distribution sheet, (4) Social Science Electives — 9 credits: These credits require one course from three of the following disciplines: Economics, Sociology; Geography, Anthropology, Political Science; (5) Related Electives — 14 credits.

### BACHELOR OF ARTS IN URBAN STUDIES

#### Curriculum:

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Science; 12 credits of Social Science; 18 credits of free electives.

(B) **Area of Concentration:** Survey of Urban Affairs (XUA 101); Municipal Government (POS 205); Urban Geography (GEO 210); Political Economy (XUA 217); Urban Sociology (SOC 235); History of Urban American (HIS 236); Urban Transportation (GEO 315); Seminar in Urban Studies (XUA 480); 18-24 credits of restricted electives, 6-12 credits of applied courses, and 11-14 credits of related electives. A 6-12 credit Practicum in Urban Studies is optional.

**HISTORY COURSES (HIS)**

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

Introductory level courses are indicated by a plus (+)

+HIS 101. HISTORY OF THE UNITED STATES TO 1877. American history from the Pilgrims to the age of modern industry: the colonial heritage, American Revolution, the emergence of a new nation, westward expansion, Civil War, and postwar Reconstruction. (3 crs.) F,S

+HIS 102. HISTORY OF THE UNITED STATES SINCE 1877. The emergence of modern America, its achievements and its problems: prosperity and depression; war and social unrest; World War I through the Vietnam era and beyond; the computer age and its challenges. (3 crs.) F, S

+HIS 104. HISTORY OF WESTERN SOCIETY TO 1740: Western society from its origins in the near East to the period of Absolutism in Europe. (3 crs.)

+HIS 106. HISTORY OF WESTERN SOCIETY SINCE 1740: Western society from the Enlightenment to the present. (3 crs.)

+HIS 111. THE DEVELOPMENT OF MAJOR WORLD CIVILIZATIONS. The process and interplay of the major world cultures in their evolution: Indian, Moslem, East Asian (China, Korea, Japan), Slavic, Western European, Latin American, and African. (3 crs.)

+HIS 112. MAJOR WORLD CIVILIZATIONS IN TRANSITION. Significant factors influencing change in these world's major cultural areas: industrialization and urban conflict; the democratic revolution and the rise of charismatic leaders from Napoleon to Hitler. (3 crs.)

+HIS 121. EUROPEAN LIFE AND SOCIETY TO 1815. The development of the social, economic, political, religious, and cultural experiences of the European people. F, S

+HIS 122. EUROPEAN LIFE AND SOCIETY SINCE 1815. The development of Europe from the Congress of Vienna to the end of the twentieth century; the social, political and economic stimulations that led to the emergence of nationalism, dictatorship, and war. (3 crs.) F,S

HIS 147. HISTORY OF THE MIDDLE EAST. A history of the region, emphasizing the twentieth century interplay of cultural changes with traditional ways: Islam and modernization; Soviet-American rivalry; the politics of oil; the Arab-Israeli conflict; and Arab nationalism: its leaders; the role of terrorism. (3 crs.)

HIS 150. HISTORY OF THE ANCIENT WORLD. A study of the origins of Western Civilization from prehistoric man to the disintegration of the Roman Empire; the cultural aspects of the Fertile Crescent and Greco-Roman civilizations. (3 crs.)

HIS 180. INTRODUCTION TO WOMEN'S HISTORY. An introductory course designed to examine a variety of women's issues using an interdisciplinary approach. (3 crs.)

HIS 187. FAMILY HISTORY. The techniques and processes used to trace, study and analyze family history, including such new developments as oral history, personal family archives, census data retrieval, quantitative methodologies that are adaptable to family history, and the uses of public documents and original sources. (3 crs.)

**HIS 188. LOCAL HISTORY.** An introduction to the location, evaluation and significance of local history by using the problem-solving and genealogical approach. Specific topics are analyzed in order to get to know at first hand the importance of local and family history at the grass roots level. (3 crs.)

**HIS 200. HISTORY OF PENNSYLVANIA.** The history of Pennsylvania from colonial times to the present; the changes involved in social, political, and economic life are treated from internal and external points of view. (3 crs.)

**HIS 201. CIVIL WAR AND RECONSTRUCTION.** The causes of the Civil War; the military, political, economic, and social developments during the war; the consequences of the postwar period from the standpoint of contemporary developments and their applications today. (3 crs.)

**HIS 203. HISTORY OF TRANSPORTATION IN PENNSYLVANIA.** The roles that Pennsylvania has played in the development of transportation systems since Colonial times, including turnpikes, canals, river transport (flatboats to steamboats), railroads, and motor transportation.

**HIS 204. HISTORICAL PERSPECTIVES ON AGING.** A chronological survey of aging in American culture from colonial times to the present. Principal subjects for examination are the emergence and development of retirement programs, and institutional and non-institutional treatment of the elderly in social, religious, political and cultural contexts. (3 crs.)

**HIS 215. THE EXPANSION OF AMERICAN FOREIGN POLICY.** The emergence of modern American foreign policy and the factors that have influenced its operation in the twentieth century: the interplay of military strategy and the conduct of foreign relations; the role of an expanding intelligence activity since World War II; global economic problems; modern revolutionary movements; the scientific revolution. (3 crs.)

**HIS 216. HISTORY OF ENGLAND.** The rise of England as a world power from the reign of Henry VII to the modern era, with particular attention to the social and economic aspects of British life, the rise and fall of the British colonial empire and its consequences on world affairs. (3 crs.)

**HIS 217. THE AFRO-AMERICAN IN UNITED STATES HISTORY.** A survey of the role of Afro-Americans in the course of American history, from the beginning to the present. (3 crs.)

**HIS 218. HISTORY OF SPORT IN AMERICA.** Sport as a pervasive facet of our popular culture, as a social institution, as an arena of human activity, and as a drama; sports and cultural values and values conflict; the relationship of sport to social change throughout American history. (3 crs.)

**HIS 220. UNITED STATES MILITARY HISTORY.** The development of America's military strategy and the growth of the United States military establishment: principal campaigns and battles; the role of the armed forces as a social and political institution from the Revolution to the post-Vietnam Era. Emphasis is given to twentieth-century strategy and related policy problems. (3 crs.)

**HIS 225. HISTORY OF CONTEMPORARY EUROPE.** Major developments in Europe within the last 45 years which have significance in challenging and transforming many of the traditional values of society. The decline in the pre-eminent position of Europe in world affairs and the rise of a global civilization. (3 crs.)

**HIS 226. HISTORY OF MEDIEVAL EUROPE.** A study of the political, social, economic, and cultural forces of the Middle Ages, with emphasis on institutional and cultural life from the fall of Rome to the Renaissance. (3 crs.)

**HIS 227. RENAISSANCE AND REFORMATION.** A study of Renaissance culture in Europe from the fourteenth to the sixteenth century, with emphasis on Italy, considering late medieval civilization, humanism, the artistic Renaissance, and the growth of the middle class, the universal church, and the appearance and character of the principal branches of Protestantism. (3 crs.)

**HIS 230. HISTORY OF EASTERN EUROPE.** The medieval origins of Poland, Czechoslovakia, Hungary, Yugoslavia, and Bulgaria; Romania through the period of national revival of the nineteenth century, independence after World War I, sovietization after World War II, and reemerging nationalism. (3 crs.)

**HIS 234. URBAN PLANNING IN HISTORICAL PERSPECTIVE.** The planning implications of urbanization; the early city planning of the pre-industrial era, and the efforts by city planners and developers to make the city more attractive and liveable in various periods of urban growth. (3 crs.)

**HIS 236. HISTORY OF URBAN AMERICA.** The urban experience in American from the seventeenth century to the present. Urban America in the context of world urbanization, demographic trends, technology, and the implications of these forces on the socio-economic scene of urban development. (3 crs.)

**HIS 237. SOCIAL HISTORY OF THE UNITED STATES.** The major groupings and ways of the United States from colonial days to the present. (3 crs.)

**HIS 238. HISTORY OF AMERICAN LABOR.** American labor from early Colonial times to the present. (3 crs.)

**HIS 240. HISTORY OF THE COLD WAR.** The origins and continuance of Soviet-American rivalry since World War II; confrontation in Europe; NATO; the Warsaw Pact; the growing nuclear arsenal; regional conflict in Africa, Latin America and Asia; the Congo, Angola, Cuba, Iran, China, Vietnam; the politics and leadership of both nations; the emergence of Russia as a global power. (3 crs.)

**HIS 245. HISTORY OF RUSSIA.** Russian history, culture, and institutions from the inception of the Kievan state to the present; the pre-Soviet periods and those aspects of development of the Russian state and people that have played a dominant role in the shaping of Russian character, temperament, and history. (3 crs.)

**HIS 247. HISTORY OF ETHNIC AMERICA.** The immigrant in United States history from the eighteenth century through the contemporary period. (3 crs.)

**HIS 250. AMERICAN CONSTITUTIONAL HISTORY.** The growth of the American constitutional system, with special emphasis on those aspects of constitutional growth that relate closely to the fundamental structure of American government and social order. (3 crs.)

**HIS 260. WOMEN IN UNITED STATES HISTORY: A study of women from the Colonial Era until the present, arranged around topics such as reform, abolition, political activism, working conditions and contemporary issues.** (3 crs.)

**HIS 265. HISTORY OF LATIN AMERICA.** The emergence of modern Latin America from the Aztecs to Castro; economic and social development of the region in the twentieth century; struggle for social justice among diverse cultures; conflicts within Latin American political life; military dictatorships; parliamentary democracy; guerrilla warfare and counterterrorism. (3 crs.)

**HIS 303. TALE OF THREE CITIES.** A comparative approach to the process of urban growth and the social, economic and political forces shaping the American city over time. Three cities, Washington, Pennsylvania, Pittsburgh and Philadelphia are examined to demonstrate how social, economic, political and technological forces shaped the urban landscape over the years 1750-1980. (3 crs.)

**HIS 304. THE GREAT DEPRESSION AND WORLD WAR II.** The stresses and strains of the 1930-1945 period of United States history, using recent trends in scholarship. (3 crs.)

**HIS 305. CONTEMPORARY HISTORY OF THE UNITED STATES.** The unprecedented changes that have occurred in the United States since the end of World War II. (3 crs.)

**HIS 320. THE ANATOMY OF DICTATORSHIP.** The basic, social, economic, psychological, and political elements that make up the modern dictatorship. (3 crs.)

**HIS 350. ADOLF HITLER.** The philosophical and psychological elements that led to the rise of National Socialism, and its impact upon the western world. (3 crs.)

**HIS 379. SPECIAL PROBLEMS IN HISTORY.** Development of individual programs by students. (Variable crs.)

**HIS 495. SEMINAR IN UNITED STATES HISTORY.** A study of American historians and their writings; the changing interpretations of major topics in American history. (3 crs.) S

### URBAN STUDIES COURSES (XUA)

Introductory level courses are indicated by a plus (+)

**+XUA 101. SURVEY OF URBAN AFFAIRS.** An introduction to the basic concepts and language used to define and understand urban life. The course seeks to familiarize students with the dynamics of urban life as well as with the issues and problems which have historically confronted the city and its people. (3 crs.)

**+XUA 173. COMMUNITY ACTION AND NEIGHBORHOOD GOVERNMENT.** An interdisciplinary analysis of the various aspects of community organization and neighborhood government of use to urban planners and managers, policy analysts, and those seeking careers in local voluntary or governmental agencies and institutions. (3 crs.)

**+XUA 217. POLITICAL ECONOMY.** The application to issues in urban affairs of the analytic methods and principles common to planning law, politics, and economics. (3 crs.)

**+XUA 254. HOUSING AND HOUSING POLICY.** Urban housing from the sociological, economic, and historical perspective: the nature of shelter, the elements of housing, and such topics as housing and transportation, housing and the private sector, public housing, housing design, housing finance and slum creators. (3 crs.)

**+XUA 264. ORGANIZATIONAL AND ADMINISTRATIVE BEHAVIOR.** Organizational and administrative behavior in the context of planning, policy development, purveyance, and implementation. In order to promote basic understanding of the various activities and processes involved, a number of concrete policy cases are used as vehicles for discussion and illumination. (3 crs.)

**XUA 328. LEISURE LEARNING.** An overview of both leisure and recreation with emphasis placed upon the history, economics, education and the role of government and the private sector as they affect both leisure and recreation in the twentieth century. (3 crs.)

**XUA 335. RECREATION LEADERSHIP.** A study of leadership theory practice and practical application as they relate to the administration, service and delivery of recreational programs. (3 crs.)

**XUA 357. RECREATION FOR THE PHYSICALLY AND EMOTIONALLY DISABLED.** Designed to assist students to develop personalized recreation programs for those individuals who are mainstreamed into both public and private recreation programs. (3 crs.)

**XUA 449. PRACTICUM IN URBAN AFFAIRS.** An internship in one of numerous planning, development or social agencies or organizations serving the Washington, Greene, Westmoreland, Fayette, and Allegheny County regions. Can be taken for 4-16 credits, and includes cooperating agency supervision as well as performance review. (Variable crs.)



## HONORS COURSES

Admission to the Honors Program is a prerequisite for all of these courses. See the description of the Honors Program earlier in this catalog (page 29).

**HON 281. KNOWLEDGE AND CULTURE: SOME EXPLORATIONS.** "To be culturally literate is to possess the basic information needed to thrive in the modern world"—E.D. Hirsch. This course explores what every student needs to know to read intelligently. Class sessions focus on skills needed to acquire cultural literacy, i.e., the grasp of a coherent community of values and recognitions. The course provides honors students with a framework of reference and bibliographic skills that they can utilize in their areas of study. (3 crs.)

**HON 285. PROTEST MOVEMENTS IN THE 1960'S.** A general and comprehensive perspective on the unique, exciting, and dangerous world of 1960s politics. Understanding the period entails the use of films, videos, and records as well as extensive reading. (3 crs.)

**HON 287. THE LITERATURE OF SOCIAL UNREST.** The relationship between literature and social change as mirrored in contemporary fiction and drama from Eastern Europe, Latin America, and South Africa. Class discussion will emphasize the historical and political significance of works by such authors as Jerzy Kosinski, Milan Kundera, Vaclav Havel, Gabriel García Márquez, Athol Fugard and Nadine Gordimer. (3 crs.)

**HON 295. LITERATURE, THE VISUAL ARTS, AND THE WORLD VIEW.** The relationships between literature and the visual arts, primarily sculpture and painting, illustrated in various periods of history and culture—Ancient Greece, the Renaissance, Mannerism, the Baroque, the Rococo, Romanticism, Realism and Naturalism, Impressionism, and Expressionism; and, by study of the historical, social, and philosophical backgrounds, an exploration of the "world view" of each period and how it is expressed in artistic movements or "schools." (3 crs.)

**HON 381. EVOLUTION OF EARTH SYSTEMS.** The evolutionary dynamics of living systems; namely, how the interrelationships between plants, animals, humans and environment shape their evolution, extinction, diversity, geographic distribution, geologic history, and, for humans, their cultural history. Specific examples of past and present biotic communities include Ice Age vertebrates, living mammals, amphibians and reptiles, continental and island faunas, and human cultures from Peru, Egypt, the Amazon Basin and the Arctic. Lectures are strongly supplemented with study of specimens, artifacts, and exhibits from The Carnegie Museum of Natural History. (3 crs.)

**HON 385. BIOLOGICAL ORIGINS OF SOCIAL BEHAVIOR.** Socio-biology and the influence of the process of natural selection on social behavior in non-human and human animals. Findings from the biological and social sciences are integrated to provide a comprehensive view of the origin and nature of various social behaviors. Field and laboratory observations of animal behavior are used to demonstrate a complex variety of social behaviors. (3 crs.)

**HON 388. PRINCES AND PAUPERS: STUDIES IN SOCIAL CLASS, WEALTH AND POVERTY IN WORLD HISTORY.** The impact of social and economic inequality on world history, using a case study approach to the existence of wealth and poverty in Ancient Rome, in Medieval and Reformation Europe, in Colonial America, in Victorian England, and in 20th Century Urban America. (3 crs.)

**HON 499. HONORS THESIS.** The thesis serves as the capstone of the university Honors Program. Under the supervision of a faculty adviser of the student's choice, the honors student seeks to make a substantive contribution to the discipline. Considerable latitude in the form of the contribution is permitted; empirical and historical research as well as creative products are all appropriate. A reader/reviewer is assigned to pass judgment independently on the student's scholastic effort. An oral defense, demonstration or display of the completed thesis is required. (3 crs.)

<b>DEPARTMENT OF INDUSTRY AND TECHNOLOGY</b>
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**Bachelor's Degree Programs:**

Electrical Engineering Technology

(1) B. S. degree, 4 years

(2) Upper level, 2 year transfer

Graphic Communications:

Options - Electrographics

- Photolithography Offset

- Screen Printing

Industrial Management:

Options - Manufacturing

- Printing

Industrial Technology

Manufacturing Technology

Technology Education (formerly Industrial Arts)

**Associate Degree Programs:**

Automation Technology:

Options - Numerical Control Machining

- Robotics

Drafting Technology

Electronics Technology

Screen Printing

*Faculty:* Professor Jay D. Helsel, *chair*. Professors Ronald G. Dreucci, Richard C. Grim, John R. Kallis, John H. Lucy, Mark L. Nowak, Joseph E. Pecosh, Charles A. Schuler, Alfred E. Simpson, Darrell L. Smith. Associate Professors Mark E. Bronakowski, Stanley A. Komacek, John W. Loney, James R. Means, Jr., Joseph A. Sanfilippo, John M. Thompson, Jaroslav V. Vaverka. Assistant Professors Larry D. Horath, René L. Horath, Steve C. Hsiung, David V. Kolick, Jeffrey S. Sumey. Instructors Joseph G. Schickel, Susan G. Urbine.

The Department of Industry and Technology offers six bachelor's and four associate degrees with various options. The Department has earned a national reputation of excellence in its many technology programs.

Technology courses are taught in the Shriver L. Coover Complex, which houses twenty-two laboratories in two buildings. All laboratories are well-equipped with state-of-the-art equipment. Some of the facilities found in the Complex are three electronics laboratories, CADD equipped drafting rooms, a numerical control machining laboratory, a robotics

laboratory, two graphics laboratories, an electronic composition laboratory, a material testing laboratory, and a machine tool laboratory. In addition, laboratories in communication, production, and transportation technology are available for use in the teacher education program (Technology Education).

*In all the curricular descriptions below, F and S indicate whether the course is usually offered in the Fall or the Spring.*

## ELECTRICAL ENGINEERING TECHNOLOGY

Electrical Engineering Technology is a branch of higher education dealing with both abstract and practical concepts from science, mathematics, engineering and technology. Considerable emphasis is placed on applications of current technology to meet the needs of everyday problems and situations. The Electrical Engineering Technology program provides students with the knowledge required to design, develop, modify, maintain and repair sophisticated electrical and electronic systems.

### Career Outlook

Opportunities for employment in the field of Electrical Engineering Technology are diverse and plentiful. Graduates will find challenging jobs in all areas of the United States. Typical positions include:

Electronic Design  
Instrumentation Design  
Systems Control  
Microprocessor/Computer Applications

Software Development  
Electronic Field Representative  
Sales Representative  
Engineering Administration

### Curriculum

The Electrical Engineering Technology program provides students with a comprehensive understanding of the current engineering technology available to solve many of the technical problems confronting business, industry and government. The necessary background in mathematics, physics and computer science is provided so that meaningful mathematical modeling can be introduced and applied. Computer/microprocessor interfacing and programming are heavily used to demonstrate flexibility and simplicity in instrumentation design, communications, signal processing, and controls. Classical linear systems are presented to provide the student with an understanding of linear active filters, transient analysis, transducer interfacing, linearization, instrumentation, communications and controls. Finally, the student has an opportunity to develop wider intellectual horizons through the university's general education program.

## Program Admission

In addition to the conventional freshman admission procedure, student admission also includes those who have successfully completed a two-year associate degree in Electrical Engineering Technology or its equivalent.

Students graduating with an Electrical Engineering Technology associate degree from institutions having an articulation agreement\* with the University will normally enter the program with junior class standing.

Students with an educational background in a field related to Electrical Engineering Technology who apply for admission to the program will be evaluated on an individual basis.

### Requirements:

*Bachelor of Science Degree — Electrical Engineering  
One hundred and thirty-two credits are required for the degree.*

#### A. General Education: 59 credits

MAT 181 College Algebra (F,S)  
MAT 191 College Trigonometry (F,S)  
MAT 281 & 282 Calculus I & II (F,S)  
CSC 12X Computer Science I (F,S)  
(Any language)  
PHY 101 (S) & 202 (F) College  
Physics I & II

ENG 101 English Composition I (F,S)  
COM 250 Oral Communication: Management (F,S)  
ENG 217 Scientific & Technical Writing (F,S)  
Humanities Electives - 6 crs.  
Social Science Elective - 9 crs.  
Natural Science Elective - 4 crs.  
Free Electives - 9 crs.

#### B. Professional Specialty: 73 credits

Electrical Engineering Technology — 65 crs.

EET 110 DC Circuits (F)  
EET 160 AC Circuits (S)  
EET 170 Digital Electronics Design (S)  
EET 210 & 260 Linear Electronics I (F) & II (S)  
EET 220 Introduction to Electric Power (F)  
EET 270 Introduction to Microprocessor Design (S)  
EET 310 Methods in Engineering Analysis (F)  
EET 320 Network Analysis (F)

EET 330 Advanced Microprocessor Design (F)  
EET 360 Microprocessor Engineering(S)  
EET 370 & 420 Instrumentation Design I(S) & II(F)  
EET 400 Senior Project Proposal (F)  
EET 410 Automatic Control Systems (F)  
EET 430 RF Communications (S)  
EET 450 Senior Project (S)  
EET 460 Digital Signal Proc. (S)

Technical Electives — 8 crs. minimum

### \*Articulation agreements:

Community College of Allegheny County - South Campus

Westmoreland County Community College

Butler County Community College

## GRAPHIC COMMUNICATIONS TECHNOLOGY

A reliable system for the transmission of ideas and messages is necessary in our fast-paced progressive world. The "printed word" or graphic communications serve as a most effective method of transferring those ideas and messages. Graphic communications involve all of the people, processes, materials, and related fields necessary to reproduce words, pictures, ideas and symbols in printed form on physical media such as paper, metal or cloth, in any quantity. The graphic communications industry is a large and diverse industry employing over one million people. Among all U. S. manufacturing industries, graphic communications ranks first in the number of establishments, sixth in total payroll and sixth in total number of employees. This large and ever changing industry is experiencing many technological changes that will create new skills, jobs and challenges for tomorrow's workers.

The Graphic Communications Technology Program at California University prepares people to enter the field by offering a curriculum of technical studies with laboratory-based experiences in the major printing processes. Students in the program study both general education, technical, and technical specialty courses. They have the opportunity to concentrate in one of three technical specialty areas: Electro-Graphics, Photo-Offset Lithography, or Screen Printing. The facilities used by the Graphic Communication Technology and Printing Management programs include three well equipped graphic communication laboratories with two photographic darkrooms, a phototypesetting laboratory, two modern electronic laboratories, and two drafting and design rooms. A wide variety of modern photo composing, cameras, film processors, printing presses and other equipment is available for instruction and student use.

### Career Outlook

The future for people involved in graphic communications is bright. Because of both the size and tremendous diversity in the graphic communications industry there is a wide variety of career opportunities for men and women of all interests, talents and educational levels. Recent estimates indicate that up to 500,000 people will be needed in the next five years in the nation's 100,000 printing plants. It would be impossible to list all of the individual job descriptions that exist, but typically Graphic Communications Technology graduates expect to fill positions in production areas, printing sales, quality control, customer service, estimating, scheduling, print buying, product design, marketing, equipment sales and technical service. Opportunities are available with advertising agencies, publishers, commercial printers, manufacturers of equipment and graphic communications suppliers, as well as graphic communications electronic equipment and control systems.

## Curriculum

The Graphic Communications Technology program provides students with a comprehensive understanding of graphic communications concepts applicable to the solution of problems encountered on the job. In addition, the program provides students with experiences in the application of principles of business management and the development of analytical, and verbal skills. Students also acquire computer programming skills to prepare them to carry out their job responsibilities more effectively. To gain a more thorough understanding of computers and other electronic systems, they also take some required course work in electronics. Finally, students develop wider intellectual horizons through their general education program.

A unique opportunity in this program is the Graphic Communications Internship whereby students may spend a junior or senior semester or a summer working in an industrial setting. This internship broadens the students' education by offering the opportunity to work in a real-world setting, experiencing the day-to-day operations in a printing plant. Students observe how different jobs are produced, problems are handled, and solutions reached. In addition, the employer has an opportunity to observe students as prospective employees.

### Requirements:

*Bachelor of Science Degree — Graphic Communications Technology  
One hundred and twenty-eight credits are required for the degree.*

#### A. General Education: 48 credits

ENG 101 English Composition I (F,S)  
ENG 217 Scientific & Technical Writing (F,S)  
MAT 182 & 192 Technical Math I&II (F,S)  
PHY 121 General Physics I (F,S)  
COM 250 Oral Communication: Mgt (F,S)

Humanities - 6 credits  
Social Sciences - 6 credits  
Natural Science - 6 credits  
Free Electives - 12 credits

#### B. Photo Offset Option: 80 credits

##### Management — 23 crs.

GCT 340 & 440 Est. & Cost Analysis I (F) & II (S)  
ITE 375 Principles of Production (F,S)  
ITE 455 Quality Control (F,S)  
MGT 201 Principles of Management (F,S)

MKT 221 Salesmanship (F,S)  
MKT 301 Principles of Marketing (F,S)  
MGT 362 Labor Relations (F,S)

##### Technical Concentration — 27 crs.

IND 140 & 240 Graphic Commns. I & II (F,S)  
GCT 225 Principles of Layout & Design (F,S)  
GCT 235 Photographic Techniques (F)

GCT 350, 351 & 352 Photolithographic Techniques  
I (F), II (S), & III (F)  
GCT 320 Electronic Composition I (F, S)  
GCT 375 Finishing and Composing

## Technical Support — 21 crs.

CSC 105 Basic Programming Language (F,S)	IND 230 Introduction to Linear Electronics (F,S)
IND 130 Introduction to Circuit Analysis (F,S)	PHS 135 Chemistry of Materials (F,S)
IND 135 Digital Electronics (F,S)	PSY 209 Industrial Psychology (F,S)
ITE 101 Industrial Safety (F,S)	
GCT 495 Graphic Communication Internship or Approved Courses - 9 crs. (F,S)	

## C. Screen Printing Option: 80 credits

## Management — 23 crs.

GCT 340 & 440 Est. & Cost Analysis I (F) & II (S)	ITE 455 Quality Control (F,S)
ECO 201 Introduction to Microeconomics (F,S)	MGT 201 Principles of Management (F,S)
ITE 375 Principles of Production (F,S)	MKT 301 Principles of Marketing (F,S)
	Electives - 2 crs.

## Technical Concentration — 27 crs.

IND 140 & 240 Graphic Communs I & II (F,S)	GCT 235 Photographic Techniques (F)
GCT 155, 255 & 355 Screen Printing I (S), II (F), & III (S)	GCT 320 Electronic Composition I (F,S)
GCT 225 Principles of Layout & Design (F,S)	IND 145 Photography (F,S)

## Technical Support — 21 crs.

CSC 105 Basic Programming Language (F,S)	IND 101 Drawing & Design (F,S)
IND 130 Introductory Circuit Analysis (F,S)	PHS 135 Chemistry of Materials (F,S)
IND 230 Introduction to Linear Electronics (F,S)	PSY 209 Industrial Psychology (F,S)
ITE 101 Industrial Safety (F,S)	
GCT 495 Graphic Communication Internship or Approved Courses - 9 crs. (F,S)	

## D. Electro-Graphics: 80 credits

## Management — 14 crs.

MGT 201 Principles of Management (F,S)	GCT 340 Estimating & Cost Analysis I (F)
MKT 301 Principles of Marketing (F,S)	Electives - 2 crs.
ITE 375 Principles of Production (F,S)	

## Technical Concentration — 39 crs.

IND 140 & 240 Graphic Commns. I & II (F,S)	IND 145 Photography (F,S)
GCT 320 & 321 Elect. Composition I & II (F,S)	IND 230 Introduction to Linear Electronics (F,S)
GCT 350 Photolithographic Techniques I (F)	IND 235 Introduction to Microprocessors (F,S)
IND 110 Technical Drawing I (F,S)	IND 335 Advanced Microprocessors (S)
IND 130 Introductory Circuit Analysis (F,S)	IND 330 Industrial Electricity/Electronics (F,S)
IND 135 Digital Electronics (F,S)	



## Technical Support — 18 crs.

CSC 121 &amp; 221 Computer Science I &amp; II (F,S)

PHS 135 Chemistry of Materials (S)

ITE 101 Industrial Safety (F,S)

PSY 209 Industrial Psychology (F,S)

IND 215 Computer Aided Drafting I (F,S)

GCT 495 Graphic Communication Internship or Approved Courses - 9 crs. (F,S)

<b>INDUSTRIAL MANAGEMENT TECHNOLOGY</b>
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The need for educated personnel to participate in the development and application of technological change is evident; trained and experienced managers of production ensure that the benefits of modern technology are realized. The complexity of modern production processes requires higher levels of sophistication for planning, organizing, operating and controlling these activities. The Industrial Management curriculum combines a core of business and management courses with a selected technical area of study to prepare graduates for managerial roles in industry. Three technical option areas are available: Computer Science, Manufacturing, and Printing Management.

The Manufacturing and Printing Management options are administered by the Department of Industry and Technology, while the Computer Science option is administered by the Mathematics and Computer Science Department (see pages 268 and following below).

**Career outlook**

The graduate of the Industrial Management Technology program is prepared for a wide variety of employment opportunities depending in part upon the chosen technical option area. Several possible career possibilities are listed below:

Industrial Engineering Technology  
 Production Planning  
 Production Supervision  
 Quality Assurance  
 Numerical Control Programming  
 Industrial Sales

Systems Analysis  
 Computer Programming  
 In-House Printing Management  
 Field or Service Representation  
 Personnel Management  
 Marketing Management & Planning

**Curriculum**

The student may select the appropriate option in order to gain the necessary skills for a career in a business or industrial-related position. In addition the program:

- provides the student with sufficient elective courses to allow for an exposure to the humanities, the natural sciences and the social sciences;

- presents the students with opportunities to develop the habits of reasoning critically and thinking clearly;
- provides the student with opportunities to develop appropriate communication and quantitative skills;
- exposes the student to an environment and activities that will provide an understanding of the field of business and management;
- provides the student with opportunities to develop competency in a technical area such as printing management, computer science or technology.

**Requirements:**

*Bachelor of Science Degree — Industrial Management  
One hundred and twenty-eight credits are required.*

**A. General Education: 48 credits**

ENG 101 English Composition I (F,S)	Humanities - 6 crs.
ENG 217 Scientific & Technical Writing (F,S)	Natural Science - 6 crs.
MAT 182 & 192 Technical Math I & II (F,S)	Social Science - 6 crs.
PHY 121 General Physics I (F,S)	Free Electives - 12 crs.
COM 250 Oral Communication: Management (F,S)	

**B. Manufacturing Option: 80 credits**

Management — 30 crs.

PSY 209 Industrial Psychology (F,S)	ECO 322 Managerial Economics (F,S)
ACC 201 & 202 Accounting I & II (F,S)	MGT 361 Labor Relations (F,S)
ACC 331 Cost Accounting I (F,S)	ENG 211 Business Writing I (F,S)
ECO 201 Introductory Microeconomics (F,S)	ITE 101 Industrial Safety (F,S)
ECO 202 Introductory Macroeconomics (F,S)	

Computer Courses — 6 crs.

CSC 218 COBOL I (F,S)	CSC 121 Computer Science I (F,S)
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Metal Machining — 18 crs.

IND 165 & 265 Machine Processes I (F,S) & II (S)
MTE 236 & 336 Numerical Control Programming I & II (F,S)
MTE 337 Computer Programming Numerically Controlled Equipment (COMPACT II) (F)
MTE 338 Computer Programming Numerically Controlled Equipment (APT) (S)

Technical Drawing — 6 crs.

IND 110 & 210 Technical Drawing I & II (F,S)

**Electro-Mechanical — 15 crs.**

IND 130 Introductory Circuit Analysis (F,S)  
 IND 230 Introduction to Linear Electronics (F,S)  
 IND 186 Hydraulic Fluid Power (F,S)

ITE 445 Quality Control (F,S)  
 ITE 181 Material Technology (F)  
 Elective Labs - 5 crs.

**C. Printing Management Option: 80 credits****Management — 29 crs.**

ECO 201 Introductory Microeconomics (F,S)  
 ACC 201 Accounting I (F,S)  
 ITE 375 Principles of Production (F,S)  
 \*ITE 455 Quality Control I (F) & II (S)

MKT 221 Salesmanship (F,S)  
 MKT 301 Principles of Marketing (F,S)  
 GCT 340 & 440 Estimating & Cost Analysis  
 MTE 201 Principles of Management (F,S)  
 Elective - 2 crs.

**Technical Concentration — 27 crs.**

GCT 225 Principles of Layout & Design (S)  
 GCT 235 Photographic Techniques  
 GCT 320 Electronic Composition I (F,S)  
 IND 140 & 240 Graphic Commns I (F,S) & II (F,S)

GCT 350, 351 & 352 Photolithographic Techniques  
 I (F), II (S) & III (F)  
 IND 145 Photography (F,S)

**Technical Support — 15 crs.**

PSY 209 Industrial Psychology (F,S)  
 ITE 101 Industrial Safety (F,S)  
 CSC 105 Basic Programming Language (F,S)

MAT 171 Mathematics of Finance (F,S)  
 PHS 135 Chemistry of Materials (S)

GCT 495 Graphic Communication Internship or Approved Courses - 9 crs. (F,S)

D. Computer Option: See Mathematics and Computer Science Department List

<b>INDUSTRIAL TECHNOLOGY</b>
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The role of technology becomes increasingly important as lagging productivity, rising prices and soaring energy costs combine to add to the economic difficulties of industries, workers, and consumers. The need for educated men and women to work in the development and application of technology has never been greater. The Industrial Technology program provides students with the knowledge and skills to become highly qualified technical middle managers who oversee and guide production and carry out the important research and development needed in a variety of industries.

## Career Outlook

Students enrolled in the Industrial Technology program are required to complete several management courses in addition to a core group of Industrial Technology courses. Typical entry level positions for graduates are:

Product Supervision  
Quality Assurance  
Production Control  
Industrial Relations  
Personnel Management  
Sales and Service

Systems Analysis  
Product Design  
Purchasing  
Safety Management  
Motion and Time Specialist  
Technical Problem Solving

Students have no difficulty in finding employment in business and industrial careers that require knowledge in science, manufacturing, and management.

## Curriculum

The Bachelor of Science Degree in Industrial Technology has been planned to prepare management-oriented technical graduates. A significant portion of the program is devoted to the study of technological concepts, principles, and their relation to automation, productivity, and manufacturing systems. Students may elect various technical options which focus on the technologies of today and tomorrow through a laboratory-based approach.

### Requirements:

*Bachelor of Science Degree — Industrial Technology  
One hundred and twenty-eight credits are required for the degree.*

#### A. General Education: 48 credits

ENG 101 English Composition I (F,S)  
ENG 217 Scientific & Technical Writing (F,S)  
MAT 182 & 192 Technical Mathematics I&II (F,S)  
COM 250 Oral Communication: Management (F,S)  
CSC XXX Computer Science - 3 crs.

Humanities - 6 crs.  
Social Science - 6 crs.  
Natural Science - 6 crs.  
Free Electives - 12 crs.

#### B. Industrial Technology: 80 credits

Physical Science — 8 crs.

PHY 121 & 122 General Physics I & II (F,S)

**Industrial Technology — 39 crs.**

IND 110 Technical Drawing I (F,S)	ITE 460 Principles of Manufacturing (S)
IND 180 Introduction to Robotics	IND 165 Machine Processes I (F,S)
IND 215 CAD I (F,S)	IND 130 Introductory Circuit Analysis(F,S) or
ITE 101 Industrial Safety (F,S)	IND 135 Digital Electronics (F,S) or
ITE 480 Problems in Industrial Technology (S)	IND 230 Introductory Linear Electronics (F,S)
ITE 181 & 182 Material Technology I (F) & II (S)	or IND 235 Introduction to Microprocessors (F,S)
	MAT 215 Statistics (F,S)

**Management — 21 crs.**

MGT 201 Principles of Management (F,S)	ECO 100 Elements of Economics (F,S)
ITE 375 Principles of Production (F,S)	MGT 362 Labor Relations (F,S)
ITE 445 Quality Control (F,S)	ITE 420 Production Analysis (F)
ITE 385 Industrial Cost Estimating (F)	

**Technical Electives — 12 crs.**

Students will select from an approved list.

**MANUFACTURING TECHNOLOGY**

One measure of humanity's growth and progress is the ability to manufacture goods effectively. It has been estimated that in the 1990's over 22 million men and women will be employed in the manufacturing industry. A sizeable portion of this growing labor force is needed to engage in the management, manufacture, sale and programming of new manufacturing and computer-aided design equipment. The Manufacturing Technology program, while placing emphasis on the principles of numerical control (N/C) technology, provides students with a broad, flexible education, enabling them to enter the manufacturing work force in a variety of professional positions.

The facilities available to majors in the manufacturing technology programs include a modern Numerical Control Machining laboratory and a well equipped Machining laboratory. A wide variety of modern equipment such as N. C. Vertical Milling Machine, a N. C. Turning Center, computers and computer terminals and other traditional machining equipment is located in the laboratories.

### Career Outlook

Opportunities for employment in the field of Manufacturing Technology are diverse and available. Graduates will find challenging job placements in all geographical areas of the United States.

Some careers in Manufacturing Technology are:

N/C Field Representative  
N/C Technician  
N/C Programmer  
N/C Coordinator  
Technician  
Manufacturing Supervisor

Production Manager  
Quality Control Technician  
Sales Representative  
Industrial Engineering

**Curriculum**

The Manufacturing Technology Program provides students with experiences in manufacturing processes that will help them understand and solve problems they may confront in the manufacturing world. The necessary background in math is provided so that meaningful machine tool programming problems can be resolved. Students will study four programming languages: BASIC, FORTRAN, COMPACT II and APT. Basic techniques are studied in technical foundations courses such as technical drawing, electronics, and machine shop. Advanced technology in CADD, Robotics, Hydraulics and Numerical Control provides a capstone of computer-assisted techniques used by modern industry to increase quality and productivity. This technical background, coupled with managerial subjects and the general education requirements, positions the manufacturing technology students for many attractive job opportunities.

A unique opportunity within this program is the Manufacturing Technology Internship whereby students may spend a semester or a summer working in an industrial setting. This internship broadens the student's education, offering the opportunity to work in a real world setting experiencing the day-to-day operations of a manufacturing facility. Students observe how different jobs are produced, problems are handled, and solutions are reached. In addition, the employer has an opportunity to observe students as prospective employees.

**Requirements:**

*Bachelor of Science Degree — Manufacturing Technology  
One hundred and twenty-eight credits are required for the degree.*

**A. General Education: 48 credits**

ENG 101 English Composition I (F,S)  
ENG 217 Scientific & Technical Writing (F,S)  
MAT 182 & 192 Technical Mathematics I&II (F,S)  
CSC 105 Basic Programming Language (F,S)

COM 250 Oral Communication: Management (F,S)  
Humanities - 6 crs.  
Social Science - 6 crs.  
Natural Science - 6 crs.  
Free Electives - 12 crs.

**B. Manufacturing Technology: 80 credits****Industrial Technology — 15 crs.**

ITE 101 Industrial Safety (F,S)  
 ITE 375 Principles of Production (F,S)  
 ITE 445 Quality Control (F,S)

PSY 209 Industrial Psychology (F,S)  
 CSC 121 Computer Science I (F,S)

**Electro-Mechanical — 8 crs.**

IND 180 Introduction to Robotics (F,S)  
 IND 130 Introductory Circuit Analysis (F,S)  
 IND 230 Introduction to Linear Electronics (F,S)

IND 330 Industrial Electricity/Electronics (F,S)  
 IND 186 Hydraulic Fluid Power (F,S)  
 ITE 181 Materials Technology I (F)

**Metal Machining — 24 crs.**

IND 165 & 265 Machine Processing I & II (F,S)  
 MTE 236 & 336 Num. Cont. Prog. I & II (F,S)  
 Approved elective labs - 6 crs.

MTE 337 COMPACT II (S)  
 MTE 338 APT (F)

**Technical Drawing — 9 crs.**

IND 110 & 210 Technical Drawing I & II (F,S)

IND 215 CAD I (F,S)

MTE 495 Manufacturing Technology Internship — 14 crs. (F,S) or Approved Courses

**TECHNOLOGY EDUCATION**  
 (formerly Industrial Arts)

The Technology Education program prepares the prospective teacher for employment in both primary and secondary schools. Graduates of this program are awarded a Bachelor of Science Degree in Education and an Instructional I certificate making them eligible for teaching Technology Education/Industrial Arts in grades K-12.

Due to our ever-expanding knowledge base in a world community, technology education majors are required to develop a strong academic background in the humanities, sciences, mathematics and personal communication skills. In addition, these undergraduates must have an understanding of how young students learn within a multicultural society.

Technology Education majors are required to complete a series of laboratory classes related to technical systems of transportation, production, and communication. These laboratory courses develop skills in the use of tools, materials and processes. Computer applications are evident as current softwares and supporting devices are developed. Students make extensive use of the universal systems model while studying production, services, and their social/cultural impacts.



## **Career Outlook**

While the reputation for our program in Technology Education at California University of Pennsylvania remains rather high, the demand for its graduates is even higher. For the most part, these teachers have been successfully employed in Pennsylvania and other states. This profession is open to both men and women. While most graduates have remained in classroom teaching, many have become certified as either a building principal, superintendent, guidance counselor or a special education instructor. Some obtain advanced degrees and are eventually employed at a college or university.

## **Annual Open House**

Prospective students are encouraged to attend the Annual Open House, which is held the last Thursday in April. This is an excellent opportunity to tour the facilities and see a variety of activities being conducted in the laboratories. Parents, teachers, administrators and guidance counselors are also welcome. For more information, please call the departmental office at (412) 938-4086.

## **Curriculum**

This curriculum includes a study of selected technologies which explore the solutions of technical problems and their associated impacts encountered by people as they transport, produce and communicate on a daily basis. More specifically, these systems are as follows.

*Communication Technology.* Communication technology is concerned with the study of the methods by which humans communicate. This system includes experiences in such areas as drafting, design, computer-aided drafting, photography, graphic arts, computer networking, video production and desktop publishing.

*Production Technology.* Production technology is concerned with the study of the methods by which humans produce goods both in-plant and on-site. This system includes courses in manufacturing and construction technologies which provide an understanding in the fabricating, forming, combining, and testing of such materials as composites, wood, plastics, ceramics and metals. In addition, these classes contain activities which include the use of computer-aided machining processes.

*Transportation Technology.* Transportation technology is concerned with the study of how people, products and materials are transported from one place to another. This system also encourages the student to complete classes in electronics, digital circuitry, microprocessors, pneumatics, hydraulics, robotics, energy/power systems and small gasoline engines.

**Requirements:**

*Bachelor of Science Degree in Education:  
Certification in Industrial Arts/Technology Education for Grades K-12*

*One hundred and thirty credits are required for the degree.*

**A. General Education: 48 credits**

CHE 101 General Chemistry I (F,S)  
ENG 102 English Composition II (F,S)  
MAT 192 Technical Mathematics II (F,S)  
PHY 121 & 202 General Physics I&II (F,S)  
COM 101 Oral Communication (F,S)

Humanities Elective - 9 crs.  
Social Science Electives - 6 crs.  
Health/Physical Activities - 3 crs.  
Electives - 7 crs.

**B. Professional Education: 15 credits**

EDF 100 Foundations of Education (F,S)  
EDU 210 Teaching in a Multicultural Society (F,S)  
EDU 340 Mainstreaming Exceptional Learners (F,S)

EDS 465 Dev. Reading Sec. School (F,S)  
PSY 208 Educational Psychology (F,S)

**C. Professional Specialty: 24 credits**

TED 280 Technology/Society/Education(F,S)  
TED 410 Teaching Communication Tech. (Rotated)  
TED 420 Teaching Production Technology  
(Rotated)

TED 430 Teaching Transportation (Rotated)  
TED 461 Student Teaching and School Law  
(12 crs.) (F,S)

**D. Curriculum Specialty: 42 credits**

Communications — 15 crs.

**Required Courses**

TED 110 Introduction to Communication (F,S)  
IND 101 Drawing and Design  
IND 110 Technical Drawing I (F,S)

Two Communication Electives (Select one course from Graphics and one course from Drafting from the courses listed below):

**Graphics Elective**

IND 140 Graphic Communications I  
IND 145 Photography  
IND 240 Graphic Communications II

**Drafting Elective**

IND 210 Technical Drawing II  
IND 215 Computer Aided Drafting I  
IND 320 Architectural Drafting and Design

*Energy/Transportation — 15 crs.*

**Required Courses**

TED 130 Introduction to Energy/Transportation (F,S)

IND 130 Introduction to Circuit Analysis (F,S)

**Power Elective (Select One Course)**

IND 180 Introduction to Robotics

IND 184 Energy and Power Systems

IND 186 Hydraulic Fluid Power

IND 188 Pneumatic Fluid Power

IND 282 Small Gasoline Engines

**Electronics Elective (Select One Course)**

IND 135 Digital Electronics

IND 230 Introduction to Linear Electronics

IND 235 Introduction to Microprocessors

**Energy/Transportation Elective**

(Select one other course from the power or electronics courses listed above.)

*Production — 12 crs.*

**Required Courses**

TED 120 Introduction to Production

**Manufacturing Elective (Select one course)**

IND 160 Material Fabricating

IND 165 Machine Processing I (Fundamentals of Machine)

IND 275 Materials Testing

IND 278 Plastics Technology

MTE 236 Numerical Control Programming I

**Construction Elective (Select one course)**

IND 250 Construction I

IND 350 Construction II

IND 355 Wood Technology

**Production Elective**

(Select one other course from the construction or manufacturing courses listed above.)

**Pennsylvania Certification requires a satisfactory score on the National Teachers' Examination (NTE).**

## Associate Degrees

The Department offers four associate degrees. The Automation Technology degree has two options: Numerical Control Machining and Robotics systems. The other two technical choices are in Screen Printing and Drafting Technology. All programs are supported by the twenty-two laboratories located in the Shriver L. Coover Complex.

The associate degree requires the completion of 66 credits. Associate degree credits can be transferred toward the completion of a Bachelor of Science degree. The associate degree is designed to provide graduates with the skills essential to enter the work force as a technical skilled worker.

*In the curricular requirements below, F and S indicate whether the course is usually offered in the Fall or the Spring.*

### ASSOCIATE DEGREE IN AUTOMATION TECHNOLOGY: NUMERICAL CONTROL OPTION

Numerical control (N/C) of machine tools is a relatively recent innovation that has provided manufacturing industries, both large and small, a means of increasing productivity. The change in this method of manufacturing requires that industries have educated personnel that can develop complex numerical control programs.

California University of Pennsylvania has an outstanding Numerical Control Machining Laboratory. It is equipped with two Bridgeport CNC vertical milling machines and CNC lathe. High speed terminals and punches are available for computer access when writing programs. Also, plotters and microcomputers are available for the preparation of programs.

#### Career Outlook

Career opportunities appear to be excellent in this area. Individuals trained in the programming of numerical control machines can expect to be employed as N/C Technicians. Personnel with N/C skills are needed in most geographic regions in the United States. Jobs are available to these graduates who excel and desire a job in N/C Programming.

#### Curriculum

Students in the Numerical Control option of the Automation Technology Program will learn to write manual programs in the format detail of the machine tool, employing linear and circular interpolation addressing three axes. In-house COMPACT II and APT are the two machine tool languages that are studied. The computer programs prepared by the students are interfaced with the machine tool with post processor software. Individual programs are

loaded into the memory of a CNC lathe or CNC mill and the part is then manufactured. Students, therefore, are experienced N/C machine operators as well as manual, APT, and COMPACT II programmers.

The principal objective of the Numerical Control Option of the Automation Technology Degree is to provide the student with sufficient skills and expertise in the programming and operation of computerized numerical control equipment to secure employment.

Upon completion of the program, the graduate is expected to be able to:

1. Program, set up, and operate CNC equipment, i.e. lathes and mills.
2. Program using manual programming and the COMPACT II and APT programming languages.
3. Prepare supporting documentation for machine setup and operation.
4. Program linear and circular moves.
5. Machine parts on a mill and a lathe using a N/C program prepared by the student.

**Requirements:**

*Associate Degree in Automation Technology -  
Numerical Control Option: 66 credits*

**A. General Studies: 27 credits**

CSC 121 Computer Science I (F,S)  
 ENG 101 English Composition I (F,S)  
 ENG 217 Scientific & Technical Writing (F,S)  
 MAT 182 Technical Mathematics I (F,S)  
 PHI 247 Science, Technology & Society (F,S)

Humanities Elective - 3 crs.  
 Social Science Elective - 3 crs.  
 Natural Science Elective - 3 crs.  
 Free Elective - 3 crs.

**B. Technical Studies: 39 credits**

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Numerical Control Machining — 24 crs.

IND 165 & 265 Machine Processing I & II (F,S)  
 MTE 236 & 336 Numerical Control Programming I (F,S) & II (S)  
 MTE 337 Computer Programming Numerically Controlled Equipment (COMPACT II) (F)  
 MTE 338 Computer Programming Numerically Controlled Equipment (APT) (S)  
 MTE 437 Advanced Computer Programming Numerically Controlled Equipment (Compact II) (S)  
 MTE 438 Advanced Computer Programming Numerically Controlled Equipment (APT) (S)

Related Electives — 15 crs.

IND 110 & 210 Technical Drawing I & II (F,S)  
 IND 135 Digital Electronics (F,S)

IND 235 Introduction to Microprocessors (F,S)  
 IND 186 Hydraulic Fluid Power (F,S)

<p style="text-align: center;"><b>ASSOCIATE DEGREE IN AUTOMATION TECHNOLOGY: ROBOTICS SYSTEMS OPTION</b></p>
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Robots are automated devices that are used in the industrial world. These robots are used individually or with other pieces of automated equipment. A variety of manufacturing industries need people skilled in automated systems and robotics in order to increase productivity and provide better quality control in the manufacturing of goods and materials.

California University of Pennsylvania has a well-equipped state-of-the-art Robotics Systems Laboratory. A variety of robotic arms, from small educational robots to large industrial robots, are used in providing instruction, along with an automatic guided vehicle (AGV), an artificial vision system, programmable controllers, and automatic identification equipment. This laboratory is an outstanding facility for the teaching of automated systems.

### **Career Outlook**

The career opportunities appear to be excellent in this area. Various sources indicate that the demand for automation technicians will increase 25-34% in the 1990's. Persons trained in this field are expected to become automated manufacturing systems technicians in a variety of settings where automated manufacturing principles are employed. The program is structured as an interdisciplinary approach where each course emphasizes the understanding of integrated systems that use automated equipment and components.

### **Curriculum**

The major purpose of this program is to train persons to become automated manufacturing technicians who will be able to program, interface, set up, and operate the various components that make up an automated system. Students will be able to understand the operational behavior of individual robots and at the same time have an awareness of robots in an automated manufacturing system. The graduate of the program will have sufficient skills and expertise in automated systems, including robotics, to secure employment.

Upon completion of the program, the graduate is expected to be able to:

1. Program, setup, maintain, and operate servo and non servo robots, artificial vision systems, and other automated equipment.
2. Interface the different components of an automated system.
3. Prepare supporting documentation that is clear, concise and accurate.
4. Select equipment and components best suited for use in automation.
5. Solve industrial problems through the application of automation technology.

**Requirements:***Associate Degree in Automation Technology:  
Robotic Systems Option: 66 credits***A. General Studies: 27 credits**

ENG 101 English Composition I (F,S)  
 ENG 217 Scientific & Technical Writing (F,S)  
 MAT 182 Technical Mathematics I (F,S)  
 PHY 121 General Physics I (F,S)

CSC 105 Basic Programming Language (F,S)  
 PHI 247 Science, Technology & Society (F,S)  
 Humanities Elective - 3 credits  
 Social Science Elective - 3 crs.  
 Free Electives - 3 credits

**B. Technical Studies: 39 credits****Robotics Systems — 15 credits**

IND 180 Introduction to Robotics (F,S)  
 MTE 270 Electro-Hydraulic Servo Systems (F)  
 MTE 280 & 281 Robotics Systems I (F) & II (S)

MTE 290 Applications of Industrial Robotics  
 Systems (S)

**Related Area — 24 credits**

IND 130 Introductory Circuit Analysis (F,S)  
 IND 135 Digital Electronics (F,S)  
 IND 186 Hydraulic Fluid Power (F,S)  
 IND 188 Pneumatic Fluid Power (F,S)

IND 230 Introduction to Linear Electron (F,S)  
 IND 235 Introduction to Microprocessors (F,S)  
 IND 330 Industrial Elec/Electron (F,S)

**Technical Elective (One of the Following)**

MTE 236 Numerical Control Programming I (F,S)  
 IND 335 Advanced Microprocessors (F)  
 or Course by advisor approval

**ASSOCIATE DEGREE IN DRAFTING TECHNOLOGY**

Drafting is generally considered to be the primary means of communicating technical ideas. It is the graphic language of industry and is essential to the process of design, manufacturing, and service.

A modern drafting laboratory and a well equipped CAD laboratory with terminals and plotters are available to support this program. The CADD systems are of industrial quality using the ANVIL 5000 language and AUTOCAD.



## Career Outlook

As we continue to grow technologically, the need for drafting technicians will continue to increase. Since technological growth is expected to continue for many years to come, the need for personnel in drafting and related fields will, presumably, also continue to grow. The placement of graduates from this program has been at nearly the 100% level and is expected to continue at that rate for many years to come.

## Curriculum

The principal objective of the Drafting Technology program is to provide students with sufficient skills and expertise to secure employment in drafting or a related field. In addition, all credits earned in this Associate Degree program are applicable to several four-year Bachelor of Science degree programs.

Upon completion of the program, the graduate is expected to be able to do at least the following:

1. Communicate technical ideas through freehand sketching.
2. Make technical drawings that fully describe a design idea.
3. Solve technical problems by using the tools and techniques of drafting.
4. Prepare pictorial presentation drawings in pencil, ink, and water color.
5. Write technical reports that are clear, concise, and accurate.
6. Prepare drawings and solve design problems using a modern CADD (computer-aided drafting and design) system.

### Requirements:

#### *Associate Degree in Drafting Technology — 66 credits*

##### *A. General Studies: 27 credits*

CSC 121 Computer Science I (F,S)	Humanities Elective - 3 crs.
ENG 101 English Composition I (F,S)	Social Science Elective - 3 crs.
ENG 217 Scientific & Technical Writing (F,S)	Natural Science Elective - 3 crs.
MAT 182 Technical Mathematics I (F,S)	Free Elective - 3 crs.
PHI 247 Science, Technology & Society (F,S)	

##### *B. Technical Studies: 39 credits*

#### Technical Drawing — 30 credits

IND 110, 210 & 310 Technical Drawing I (F,S), II (F,S), & III (S)
IND 101 Drawing and Design (F,S)
IND 215 & 315 Computer Aided Drafting I (F,S) & II (F,S)
IND 218 Descriptive Geometry and Surface Development (F)
EAS 271 Cartography (F)
IND 318 Airbrush Techniques (F,S)
IND 320 Architectural Drawing & Design (S)

Related Area — 9 credits (Select 3 of the following)

IND 140 Graphic Communications I (F,S)

ITE 101 Industrial Safety (F,S)

ITE 181 Materials Technology I (F)

IND 160 Material Fabricating (F,S)

IND 165 Machine Processes I (F,S)

## ASSOCIATE DEGREE IN ELECTRONICS TECHNOLOGY

Electronics Technology deals with devices, circuits, systems, and instrumentation. This curriculum prepares students to install, analyze, diagnose, and repair electronic equipment and systems.

The University has three outstanding laboratories for instruction in electricity and electronics. One laboratory is devoted to courses in digital and microprocessor electronics, one to circuit analysis and linear electronics, and one to advanced courses with emphasis on sophisticated instrumentation systems. All of the laboratories are equipped with microcomputers, and a complete instrumentation package is available at every student work station. Students work in teams of two, and laboratory enrollment is limited to 24 persons. In addition to the electronics center, students have access to a robotics laboratory and a numerical control machining laboratory.

### Career Outlook

Electronics is a vital and ever-expanding technology. The national job market is excellent in this area as more and more businesses, industries, and institutions turn to electronic solutions for many of their problems. The continued growth of electronics is expected to provide many new positions for skilled technicians and technologists for the foreseeable future.

### Curriculum

The Electronics Technology curriculum is designed to develop analytic skills and problem-solving abilities in students. The courses are structured as a blend of applied mathematics, theory, and laboratory practice. The content is modern with emphasis on digital techniques, microprocessors, linear electronics, system analysis, product development, and RF communications.

The principal objective of the Electronics Technology Associate degree is to provide the student with sufficient skills and expertise to secure employment.

Upon completion of the program, the graduate is expected to be able to:

1. Analyze circuits with quantitative and computer skills for problem solving purposes.
2. Understand the concepts of dc and ac circuits as applied to electrical and electronic instrumentation.
3. Program, interface, and troubleshoot microprocessor based designs.
4. Apply the theory of radio frequency devices and circuits to modern communication and telecommunication systems.
5. Work safely with electrical and electronics circuits while using electronic tools and testing equipment.
6. Understand and work with solid-state devices and their application in digital and linear electronic circuits.

**Requirements:**

*Associate Degree in Electronics Technology — 66 credits*

**A. General Studies: 27 credits**

CSC 121 Computer Science I (F,S)  
 ENG 101 English Composition I (F,S)  
 ENG 217 Scientific & Technical Writing (F,S)  
 MAT 182 Technical Mathematics (F,S)  
 PHI 247 Science, Technology & Society (F,S)

Humanities Elective - 3 crs.  
 Social Science Elective - 3 crs.  
 Natural Science Elective - 3 crs.  
 Free Elective - 3 crs.

**B. Technical Studies: 39 credits**

IND 130 Introductory Circuit Analysis (F,S)  
 IND 135 Digital Electronics (F,S)  
 IND 230 Introduction to Linear Electronics (F,S)  
 IND 235 Introduction to Microprocessors (F,S)

IND 330 Industrial EL/EL (F,S)  
 IND 332 Communication Electron (S)  
 IND 335 Advanced Microprocessors (F)  
 IND 336 Electron. Systems & Product Dvpmt. (F)

Technical Electives — 15 crs. (Advisor approval is required.)

<b>ASSOCIATE DEGREE IN SCREEN PRINTING TECHNOLOGY</b>
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Screen printing is one component of the rapidly growing graphic communications industry. This industry has been growing at an annual rate of between six and eight percent a year. Because of the increasing complexity of the communications industry, individuals trained in screen printing are needed. Four outstanding graphic laboratories are utilized in this program. Each has modern equipment related to its area of study. Modern photo-composing equipment has recently been purchased for the Electronic Composition area. Modern screening presses, dryers, computer stencil transfer equipment and other support items were recently installed in the screening laboratory for student use.

## Career Outlook

Career opportunities are outstanding. People trained in screen printing will find employment opportunities in most segments of the communications industry, small printing shops, and large corporations with communications divisions or departments.

## Curriculum

The principal objective of the Screen Printing program is to provide students with knowledge and expertise in the applications of screen printing, thus enabling them to become productive members of the graphic arts industry. This program of studies offers the flexibility of scheduling business electives for the acquisition of knowledge and skills to initiate and manage one's own screen printing business.

Upon completion of the program, the graduate will be able to:

1. Identify materials capable of being screen printed, based on a particular application.
2. Formulate a plan for the production of a screen printed product consistent with the individual's career objective.
3. Produce quality screen printing plates for given applications.
4. Screen print a quality image on a designated material, in accordance with detailed specifications.
5. Assess the quality and value of a screen printed production.
6. Recognize the importance of membership in professional associations which support individual career objectives and further professional growth.

In addition, all credits earned in this Associate (two year) program, are transferable to a four year Bachelor of Science degree program.

### Requirements:

#### *Associate Degree in Screen Printing Technology — 66 credits*

##### *A. General Studies: 27 credits*

CSC 121 Computer Science I (F,S)  
 ENG 101 English Composition I (F,S)  
 ENG 217 Scientific & Technical Writing (F,S)  
 MAT 182 Technical Mathematics I (F,S)  
 PHI 247 Science, Technology & Society (F,S)

Humanities Elective - 3 crs.  
 Social Science Elective - 3 crs.  
 Natural Science Elective - 3 crs.  
 Free Elective - 3 crs.

##### *B. Technical Studies: 39 credits*

#### Screen Printing — 30 credits

GCT 155, 255 & 355 Screen Printing I (S), II (F), & III (S)  
 IND 140 Graphic Communications I (F,S)

GCT 225 Principles of Layout & Design (S)

GCT 340 Estimating & Cost Analysis I (F)

IND 101 Drawing and Design (F,S)

IND 210 Technical Drawing II (F,S)

IND 145 Photography (F,S)

GCT 320 Electronic Composition I (F,S)

ITE 101 Industrial Safety (F,S)

**Related Area Electives — 9 credits (Select three of the following)**

GCT 235 Photographic Techniques (F)

IND 240 Graphic Communications II (F,S)

GCT 350 Photolithographic Techniques I (F)

IND 278 Plastics Technology (S)

ITE 375 Principles of Production (F,S)

PHY 135 Chemistry of Materials (S)

TED 120 Introduction to Production (F,S)

IND 130 Introductory Circuit Analysis(F,S)



**ELECTRICAL ENGINEERING TECHNOLOGY COURSES (EET)**

**EET 110. DC CIRCUITS.** An introduction to the study of electrical circuits. Topics include resistance, voltage, current, mesh analysis, and nodal analysis. Network theorems pertaining to dc sources are presented. Corequisite: MAT 181. (4 crs.)

**EET 160. AC CIRCUITS.** An introduction to the study of electrical circuits in the sinusoidal steady state. Topics include capacitors, inductors, complex numbers, ac mesh analysis, ac nodal analysis and network theorems pertaining to ac sources. Prerequisite: EET 110. Corequisite: MAT 191. (4 crs.)

**EET 170. DIGITAL ELECTRONICS DESIGN.** An introduction to the design of combination and sequential digital logic circuits. Topics include number systems, codes, gates, latches, decoders, multiplexers, flip-flops, counters, A/D and D/A concepts and memory circuits. Prerequisite: None. (3 crs.)

**EET 210. LINEAR ELECTRONICS I.** A study of solid state diodes and transistors. Methods of biasing, temperature stabilization, determining voltage gain and input resistance for small signal amplifiers. Prerequisite: EET 160. (4 crs.)

**EET 220. INTRODUCTION TO ELECTRIC POWER.** A study of the fundamentals of three-phase circuits, transformers, dc machines, polyphase ac machines, and single-phase ac machines. Prerequisite: EET 160. (4 crs.)

**EET 260. LINEAR ELECTRONICS II.** An introduction to power amplifiers, differential amplifiers, field effect transistors, operational amplifiers, frequency effects, voltage regulation, and operational amplifier applications. Prerequisites: EET 210, MAT 281. (4 crs.)

**EET 270. INTRODUCTION TO MICROPROCESSOR DESIGN.** Introduction to programming concepts includes branching, stack operations, subroutines and vector interrupts. Interfacing topics include decoding, drivers, D/A and A/D conversion. Prerequisite: EET 178. (3 crs.)

**EET 310. METHODS IN ENGINEERING ANALYSIS.** Introduction to matrix theory, classical first and second order transient analysis, active filter and oscillator design, and Fourier analysis. Computer solutions to special problems will be presented. Prerequisites: EET 260, MAT 281. Corequisites: EET 320, MAT 282. (4 crs.)

**EET 320. NETWORK ANALYSIS.** A calculus-based circuit theory course. Topics include the introduction to Laplace transforms, and the utilization of Laplace transforms in the study of circuit analysis, transfer functions and frequency response. Circuit analysis programming is used to compare computer solutions with analytic solutions. Prerequisites: EET 260, MAT 281 Corequisites: EET 310, MAT 282. (4 crs.)

**EET 330. ADVANCED MICROPROCESSOR DESIGN.** Applications of microprocessors and microcomputers to instrumentation, control, and communications. Topics include machine and assembly language programming, I/O interfacing circuits, advanced A/D and D/A conversions, handshaking, interrupts, serial and parallel communications and programmable timer algorithms. A semester project is required. Prerequisite: EET 270. (3 crs.)

**EET 360. MICROPROCESSOR ENGINEERING.** The analysis and development of MCU stand-alone controllers. The requirements for the design of industrial applications and the use of advanced software development tools and PCs as development systems will be presented. Prerequisite: EET 330. (4 crs.)

**EET 370. INSTRUMENTATION DESIGN I.** The design of electronic instruments utilizing linear and digital integrated circuits and opto-electronic devices. Topics will include dual slope digital voltmeters, electronic

thermometers, isolation amplifiers, frequency counters and function generators. Numerical linearization methods for non linear transducers are introduced. Prerequisite: EET 320. (4 crs.)

**EET 400. SENIOR PROJECT PROPOSAL.** The student will submit a written proposal for a project. After approval of the project the student will be assigned a faculty advisor. Minimum requirements for the proposal are submission of a functional specification and a time schedule for completion. Prerequisite: Senior Status. Corequisite: ENG 217. (1 cr.)

**EET 410. AUTOMATIC CONTROL SYSTEMS.** Design of feedback control systems and devices as applied to electrical machinery and transducers. Topics will include Bode plots, the root-locus method and nyquist diagrams. Prerequisite: EET 370. Corequisite: EET 420. (4 crs.)

**EET 420. INSTRUMENTATION DESIGN II.** A microprocessor-based instrumentation design course utilizing linear, digital and opto-electronic devices. Software solutions to input/output problems will be considered along with software solutions to nonlinear transducer data. Prerequisite: EET 370. Corequisite: EET 410. (4 crs.)

**EET 430. RF COMMUNICATIONS.** Communication systems principles including: AM/FM modulation, AM/FM demodulation, transmitters, receivers, antennas, transmission lines, digital techniques and protocols. Prerequisite: EET 320. (4 crs.)

**EET 450. SENIOR PROJECT.** Employs the design, construction and analysis of an electronic device or instrument. Depending on the complexity of the project, total construction may not be required. With the approval from the advisor, group projects may also be involved. Prerequisite: EET 400. (3 crs.)

**EET 460. DIGITAL SIGNAL PROCESSING.** Introduction to linear systems, digital filters and the Z-Transform, and the Fast Fourier Transform. Fundamentals of sampling concepts and the interfacing of analog and digital signal processing will also be covered. Prerequisites: EET 410, EET 360. (4 crs.)

**EET 475. BIOMEDICAL ENGINEERING TECHNOLOGY.** A study of the widely used medical devices with emphasis upon those types used for patient care in the hospital. The Physics and Engineering of various devices will be presented and their relationship to human anatomy and physiology will be emphasized. Hospital organization and the role of the Clinical Engineering department will be examined. Prerequisite: EET 420. (4 crs.)

**EET 476. BIOMEDICAL ENGINEERING TECHNOLOGY INTERNSHIP.** Upon acceptance to a hospital the student will work with a Clinical Engineer and/or a Biomedical Equipment Technician inspecting, maintaining, calibrating and modifying biomedical equipment. Programs of instruction will vary from hospital to hospital but the student will be exposed to medical devices from all special and critical care areas. Prerequisite: EET 475. (4 crs.)

### GRAPHIC COMMUNICATIONS COURSES (GCT)

Courses marked (LAB) will meet for two hours of lecture and four laboratory hours per week.

**GCT 155. SCREEN PRINTING TECHNIQUES I (LAB).** The first in a series of three courses that define and analyze the process of screen printing, this course is an introduction to the various applications of screen printing. Student-designed activities are supported by exercises that provide quality and control for the printing process. Emphasis of the course is centered on establishing repeatability of the printing process by controlling variables; photographically generated stencil systems; single and multiple color image generation, conversion, assembly and transfer; sheet-fed manual and semi-automatic presswork; flat substrate printing applications of simple and complex close register line artwork. Prerequisite: IND 140. (3 crs.)



**GCT 225. PRINCIPLES OF LAYOUT AND DESIGN.** A presentation of design elements and principles used to produce various layouts for printing production. The individual must strive to develop harmonious relationships between these design elements and principles and various printing applications through practical activity assignments. The fundamentals of producing mechanical layouts for newspaper, magazine, direct mail, poster, display and point of purchase advertising are considered to serve the individual's career direction. The explanation and use of computers for electronic/desktop publishing is emphasized for practical application. Production and practical application assignments are to be performed in conjunction with theory explanations as out of class activities. (3 crs.)

**GCT 235. PHOTOGRAPHIC TECHNIQUES (LAB).** A study of the concepts and techniques involved in producing color prints and color transparencies from color negatives. Emphasis is placed on picture composition, developing color negatives, contact printing, filter fundamentals, enlarging calibration procedures and photo finishing. Microphotography and positive print techniques are also covered. Prerequisite: IND 145. (3 crs.)

**GCT 240. ELECTRONIC DESKTOP PUBLISHING (LAB).** This course provides an in-depth study into the electronic desktop publishing systems and their concept of architecture, operation, networking, financing, and design role in the publishing industry. It covers the basic aspects of graphic designing, creating page layouts, scanning of text and continuous tone photographs, connectivity, telecommunications, image setting, and encryption of data. Each student will experience hands-on activities with microcomputers utilizing high-end design, draw, paint, scanning, and integrated layout software packages.

**GCT 255. SCREEN PRINTING TECHNIQUES II (LAB).** A study of the techniques used for image transfer of line and halftone copy on substrates commonly used by the screen printer. Each student has the opportunity to identify, calibrate and print upon selected substrates. Prerequisite: GCT 155. (3 crs.)

**GCT 320. ELECTRONIC COMPOSITION I (LAB).** An introduction to the operation of phototypesetting systems. A variety of jobs are set which represent the range of standard typesetting formats in use in the industry. Work with direct and indirect systems is carried out in the form of projects. A variety of input devices are used, including paper tape, magnetic disk, optical character recognition and visual display systems. In addition students are required to gather data about the state of the art of phototypesetting equipment presently in use. Prerequisite: IND 140. (3 crs.)

**GCT 321. ELECTRONIC COMPOSITION II (LAB).** Emphasis is placed on analysis of photocomposition systems from an understanding of basic functions and their compatibility with other components or systems. Some hands-on experience is provided to alter the compatibility for better system function. Prerequisite: GCT 320. (3 crs.)

**GCT 340. ESTIMATING AND COST ANALYSIS I.** A critical examination of the operations involved in the production of graphic materials for the purpose of determining costs of the operations to be included. The procedures necessary to assemble this information to produce estimates of typical printing matter are discussed. The identification and study of cost centers as they relate to the hour costs and ultimately to the selling price are examined. Students are required to prepare a number of cost estimates for the course. Prerequisite: GCT 255 or GCT 350. (3 crs.)

**GCT 350. PHOTOLITHOGRAPHIC TECHNIQUES I (LAB).** An in-depth study of photographic process as it relates to line and halftone reproduction of graphic materials. Projects are produced which represent the various combinations of line and halftone materials as they are used in the industrial setting. Besides the projects required of each student, the theoretical aspects of the optical system are investigated, as well as the areas of sensitive materials, light and related chemical reactions. Prerequisites: IND 140 and IND 240. (3 crs.)

**GCT 351. PHOTOLITHOGRAPHIC TECHNIQUES II (LAB).** A continuation of GCT 350 which utilizes the film elements produced in order to complete required projects for this course. This course treats the subjects of stripping, platemaking and presswork. A critical study of imposition of various type of jobs, from simple single-color to more complex multi-color jobs. The latest techniques of platemaking as well as information on types of plates presently in use are discussed. Feeder-delivery setup, press packing methods, inking/dampening systems,

control devices, rollers, blankets and other related press activities are thoroughly discussed. Also, some folding and binding techniques are included. Prerequisite: GCT 350. (3 crs.)

**GCT 352. PHOTOLITHOGRAPHIC TECHNIQUES III (LAB).** Primary emphasis is placed on developing an understanding of the nature of light, the nature of color, its relation to filters and printing inks used in the graphics industry and the problems caused by color contamination in making color separations. A presentation of direct and indirect methods of color separations as well as the various masking techniques is included. The use of various control devices is discussed and employed in the laboratory. Special techniques required to strip projects, make the plates, and produce them on the press are also covered. Prerequisites: GCT 225, GCT 235, GCT 320 and GCT 351. (3 crs.)

**GCT 355. SCREEN PRINTING TECHNIQUES III (LAB).** This course is directed study relevant to the individual's career objectives based on specific screen printing applications. The student formulates specifications, estimates and a procedural rationale for self-determined screen printed product productions. These student productions are organized as a portfolio consistent with the individual career objective that has been developed through previous screen printing coursework. Four-color process screen printing with ultraviolet curing theory and practice is analyzed for application through student independent study coursework. Prerequisite: GCT 255. (3 crs.)

**GCT 375. FINISHING AND BINDING (LAB).** This course provides an introduction to the operations performed in the finishing and binding of printed materials. Various operations such as cutting, trimming, folding, folding schemes, impositioning methods, gathering, stitching, casemaking, gluing, laminating, perforating, hot stamping, sewing, and drilling will be considered. Analysis of the various kinds of adhesives and adhesion materials available and their most effective uses will be discussed. Additionally, this course is heavily supplemented with field trips to selected printing firms for first hand observations. Prerequisite: IND 240. (3 crs.)

**GCT 440. ESTIMATING AND COST ANALYSIS II.** This second in the series of two courses dedicated to estimating and cost analysis for printing production processes analyzes current computerized programs for estimating, scheduling, determining cash flow, and inventory control. The need for computer literacy in the areas of estimating, time-reporting, comparative ratio analysis and related activities are emphasized. No previous technical knowledge about computers is required. The course is based on the student's comprehension and ability to perform the specific objectives stated in Estimating and Cost Analysis I. Students are required to prepare a number of computer assisted cost estimates for the course. Prerequisite: GCT 340. (3 crs.)

**GCT 495. GRAPHIC COMMUNICATIONS INTERNSHIP.** Student interns are placed with an organization which most nearly approximates their goals for employment. If this is not possible, students are placed in some type of graphics environment which is available at the time. The intent of the internship is to provide students with practical work experience in an environment in which they will be dealing with real problems requiring real solutions in a relatively short time frame. Advisor and Department chairperson approval is required before course enrollment.

This is a repeatable course and may be taken as follows: Students may earn up to nine credits of internship in the following curricula: Graphic Communications - Photo Offset; Graphic Communications - Electro-Graphics; Graphic Communications - Screen Printing. The student is permitted to take nine credits of internship. However, they may enroll for twelve credits for a full semester load and use three credits for free elective. Prerequisite: Upper Level Standing. (1-12 crs.)

**INDUSTRY COURSES (IND)**

IND classes meet for two lecture and four laboratory hours per week.

**IND 101. DRAWING AND DESIGN.** An introductory course for those who wish to become more skilled and confident in their ability to draw and design. Design elements, principles and practices are studied. Creativity, self-discovery, and self-expression are encouraged. The student is required to develop a disciplined approach to problem solving and a sensitivity to craftsmanship in order to create solutions to a wide variety of challenging design assignments. (3 crs.)

**IND 110. TECHNICAL DRAWING I.** A beginning course with emphasis on the graphic language, mechanical drawing, lettering, geometric construction, sketching and shape description, multi-view projection, sectional views, dimensioning, axonometric projection, and oblique projection. (3 crs.)

**IND 130. INTRODUCTORY CIRCUIT ANALYSIS.** An introduction to DC and AC circuit theory and analysis. The theory includes electrical measurement systems, Ohm's Law, Kirchoff's Laws, circuit theorems, and component characteristics. Laboratory work provides experiences with electrical components, schematics, electrical tools, and basic electrical and electronic instrumentation. (3 crs.)

**IND 135. DIGITAL ELECTRONICS.** An introduction to the theory and application of logic gates, Boolean algebra, combinational logic, sequential logic, shift registers, counters, and arithmetic circuits. Laboratory experiments provide experiences with digital integrated circuits, circuit behavior, and digital troubleshooting techniques. (3 crs.)

**IND 140. GRAPHIC COMMUNICATIONS I.** This course offers the student an opportunity for experiences of practical application in the five major printing processes. It covers image design, conversion, assembly, carrier preparation, transfer and finishing techniques related to lithographic, screen, letterpress, flexographic, and gravure printing. Related areas of studies include duplication, ink chemistry, paper use and selection, and photography. (3 crs.)

**IND 145. PHOTOGRAPHY.** This course provides the opportunity to learn the techniques involved in monochromatic still photography and introduces color photography. It covers the basic aspects of picture taking, camera operation, film processing, enlarging, print processing, finishing procedures and selecting photographic equipment and supplies. (3 crs.)

**IND 160. MATERIAL FABRICATING.** A survey course designed to acquaint students with the origin and industrial/technological uses of ferrous and non-ferrous metals. Laboratory experiences will include safety, as well as construction of metal products using a variety of fabricating processes and techniques. (3 crs.)

**IND 165. MACHINE PROCESSING I.** An introduction to basic foundry (metallcasting) and machine metalworking processes. Includes sand moldmaking and gating, layout, tool geometry, lathe work, milling, shaping, drilling, and bench work. (3 crs.)

**IND 180. INTRODUCTION TO ROBOTICS.** The course is designed to provide a variety of activities in automated manufacturing emphasizing the use of robotic equipment. Theoretical as well as practical hands-on laboratory applications in robotic components, types, systems and controllers are studied. Robotic programming includes teach pendant, off-line programming, BASIC language, and ROBOTALK. Practical applications include interfacing with other peripherals in a workcell setting. (3 crs.)

**IND 184. ENERGY AND POWER SYSTEMS.** An application of the systems approach to the study of energy sources and converters, power transmission, and controls. Instruction will focus on energy as it is applied to

propulsion systems, residential conservation, and industrial uses. Energy alternatives, system efficiency and conservation are emphasized. (3 crs.)

**IND 186. HYDRAULIC FLUID POWER.** This course studies basic hydraulic components and circuits. Topics to be included are: hydraulic fluids, filtration, power supply, actuators, controls, conditioners, and monitoring devices. Teaching and learning activities include lectures, class discussion and laboratory activities. (3 crs.)

**IND 188. PNEUMATIC FLUID POWER.** An introductory course in the study of pneumatic fluid power components and circuits that includes gas laws, compressors, air lines, air distribution, air-conditioning components, control devices, circuit diagrams, circuit design and construction, and troubleshooting of compressed air systems. Theoretical concepts are verified by corresponding practical laboratory activities. (3 crs.)

**IND 210. TECHNICAL DRAWING II.** Provides experiences in problem-solving through the use of technical working drawings. Special emphasis is placed on American National Standards drawing practices, shop processes, conventional representation, standardization of machine parts and fasteners, preparation of tracings, the reproduction of drawings, and surface development. Prerequisite: IND 110. (3 crs.)

**IND 215. COMPUTER-AIDED DRAFTING (CAD) I.** This course involves the use of computer software and hardware as applied to mechanical design and drafting. Students learn to manipulate basic geometric entities (points, lines, and arcs) to create 2-D and 3-D models. Experiences dealing with dimensioning, level/layer surfaces and planes are also explored. Prerequisite: IND 110. (3 crs.)

**IND 218. DESCRIPTIVE GEOMETRY AND SURFACE DEVELOPMENT.** Adding to the knowledge and experiences gained in Technical Drawing I, this course covers the theory of projection in detail with emphasis on the manipulation of points, lines and planes in space. In addition, surface development and design in order to serve of value in future advances such as computer-aided drafting, computer-aided instruction and computer-aided manufacturing. Prerequisite: IND 110 (3 crs.)

**IND 230. INTRODUCTION TO LINEAR ELECTRONICS.** An investigation into the fundamental concepts of analog electronics including semiconductor device theory, power supplies, amplifiers, operational amplifiers, oscillators, plate linear integrated circuits, and control circuits. Laboratory experiments provide experiences with electronic instrumentation, electronic components, and electronic circuit behavior. Prerequisite: IND 130. (3 crs.)

**IND 235. INTRODUCTION TO MICROPROCESSORS.** A presentation of number systems and codes, microprocessor architecture, computer arithmetic, machine language programming, and microprocessor interfacing. Emphasis is placed on laboratory experiments dealing with machine language program execution and microprocessor interfacing. Prerequisite: IND 135 (3 crs.)

**IND 240. GRAPHIC COMMUNICATIONS II.** The emphasis in this second course in graphic communications is on the equipment, processes, materials and supplies utilized by the industry for phototypesetting, photo-composition, darkroom techniques, image assembly, platemaking, and offset duplicator operations. The student is provided with learning experiences to develop a comprehensive understanding of the scope, structure, products and related process of the printing industry. Prerequisite: IND 140 (3 crs.)

**IND 250. CONSTRUCTION PROCESSES I.** An introductory course in construction with an emphasis on residential housing. Instruction and experiences will include aspects of construction such as planning and estimating, personnel and time management, site preparation, footings and foundations, framing, and roofing. The safe and intelligent use of tools and materials is stressed. Prerequisite: TED 120. (3 crs.)

**IND 265. MACHINE PROCESSES II.** Current foundry (metalcasting) processes are studied. Advanced machine metalworking processes, including indexing and gear cutting are emphasized. Students are responsible for determining the sequence of operations necessary to produce a product. Prerequisite: IND 165. (3 crs.)

**IND 275 MATERIALS TESTING.** A study of the theory and application of materials testing used to determine the chemical, physical, mechanical and dimensional properties of materials. Specifically, the structure and

properties of metals, polymers, ceramics and composite materials are investigated. Provisions are made for individual and class development of test specimens and their subsequent evaluation. Instruction is provided in the recording and interpretation of test data. (3 crs.)

**IND 278. PLASTICS TECHNOLOGY.** This is a survey course designed to provide the student with an opportunity to gain information about the industrial and technological uses of plastic-like materials. Laboratory experiences are required in which the student designs, constructs and uses a variety of tools, forms and molds. Depending upon the activity and the time allotted, students will be encouraged to create well-designed products for personal and/or professional use. (3 crs.)

**IND 282. SMALL GASOLINE ENGINES.** An introduction to the theory, operation and major overhaul procedures of small 2 and 4 cycle gasoline engines. Engine components, diagnosis, testing, maintenance, disassembly, reassembly, and trouble shooting are stressed in the course to afford the participants the opportunity to develop the expertise in course content skills and the background to repair small gasoline engines. Laboratory work provides for the opportunity to apply theoretical concepts in general practices. (3 crs.)

**IND 284. FUNDAMENTALS OF AUTO MECHANICS.** An introduction to automobile mechanics with theory and practical applications; limited to basic preventive and tune-up procedures in the areas of carburetion, pollution devices and controls, complete engine tune-up, diagnostic skills, use of testing equipment, ignition circuits, charging circuits, and cranking circuits. Courses are offered at General Motors Training Center by approval. Prerequisite: IND 184. (3 crs.)

**IND 310. TECHNICAL DRAWING III.** An extension of Technical Drawing I and II with continued emphasis on skill, technique, and the use of ANSI and ISO drafting standards. The course is developed around current industrial drafting practices and includes instruction in geometric tolerancing, surface texture, weldments, metrication, etc. Prerequisites: IND 101, IND 110, and IND 210. (3 crs.)

**IND 315. COMPUTER AIDED DRAFTING (CAD) II.** This course is an extension of Computer Aided Drafting (CAD) I and will include more complex problems and procedures in the development of graphic solutions. The use of extended geometry will comprise an important part of the course. Students will gain additional experiences on PC based computer drafting systems. Prerequisite: IND 215. (3 crs.)

**IND 318. AIRBRUSH TECHNIQUES.** Precise pictorial line representation as it relates to technical illustration is stressed. Mechanical and freehand techniques used in pictorial line drawing are explored in detail. Students gain experience in the theory of light and shadow. Emphasis is placed on exploring more advanced graphic media in technical illustration. Extensive experience is provided in airbrush rendering techniques. Prerequisite: IND 110 (3 crs.)

**IND 320. ARCHITECTURAL DRAFTING AND DESIGN.** Experience is provided in basic residential design. The fundamental sequences in designing and drawing are stressed as the student completes the architectural drawings necessary for the construction of a residence. Elements of the course include architectural styles, area planning, structural detailing, pictorial rendering, building specifications, and cost analysis. Prerequisite: IND 110. (3 crs.)

**IND 330. INDUSTRIAL ELECTRICITY/ELECTRONICS.** An investigation into the theory and applications of motors and motor controllers, thyristors, transducers, programmable controllers, microprocessor controllers, servomechanisms, and Robotics. Laboratory experiences include motor identification, motor disassembly and repair, motor testing, control circuitry, and servomechanisms. Prerequisites: IND 130 and IND 230. (3 crs.)

**IND 332. COMMUNICATION ELECTRONICS.** The application of devices and circuits to electronic communications. The major topics include modulation, demodulation, transmission, data transfer, optical techniques, test equipment, and system analysis. Prerequisites: IND 230 and IND 235. (3 crs.)

**IND 335. ADVANCED MICROPROCESSORS.** This course deals with advanced concepts in machine language programming. It introduces the world of editors, assemblers, and debuggers. It also covers the advanced architecture of modern microprocessors and their more sophisticated instruction sets and addressing modes. The student will learn to develop hardware and software required to apply microprocessors to real world problems. Prerequisite: IND 235. (3 crs.)

**IND 336. ELECTRONIC SYSTEMS AND PRODUCT DEVELOPMENT.** This course provides a development experience for electronic systems and/or products. The student will select a project subject to instructor approval and develop that project to the prototype stage. The student will also verify all performance specifications for their project. Prerequisites: IND 235 and IND 230. (3 crs.)

**IND 355. WOOD TECHNOLOGY.** A study of woodworking providing instruction in furniture and case work. The safe use and care of machines and hand tools is stressed. Emphasis is placed on project planning and design, cost analysis, wood technology, material selection and product development. Students design and produce a project involving operations on basic machines. (3 crs.)

**IND 365. SPECIAL MACHINE PROCESSING.** A special course designed to allow the student to investigate a specific area of interest in the metal machining field. Students interested in taking this course will complete a document identifying the scope of their interest, specifying the activities that will be pursued throughout the semester, and have it approved by the instructor six weeks before the beginning of the class. The student's background in the metal machining processes will be broadened by completing the laboratory experiences outlined in the approved proposal. Prerequisites: IND 165 and IND 265. (3 crs.)

**IND 384. ADVANCED AUTO MECHANICS.** An advanced study in auto mechanics that provides for both an in-depth understanding of basic automotive principles and a broadening in scope of other areas of preventive and tune-up procedures. Theoretical and practical activities in carburetion, ignition circuits, charging circuits, cranking circuits, and the use of testing equipment applicable to the unit of study. Courses are offered at General Motors Training Center by approval. Prerequisite: IND 284. (3 crs.)

### INDUSTRIAL TECHNOLOGY COURSES (ITE)

Courses marked (LAB) have two hours of lecture and four hours of laboratory per week.

**ITE 101. INDUSTRIAL SAFETY.** An introduction to the fundamentals of safety as well as sound management-oriented practices related to the development of a safe work place. Legal requirements of OSHA and worker's compensation laws are discussed. Students will be able to identify cause of accidents, identify safety hazards, and apply methods of accident prevention. (3 crs.)

**ITE 181. MATERIALS TECHNOLOGY I (LAB).** A study of the theory and application of materials and materials testing used in a wide variety of industrial applications. Study includes the chemical, physical, mechanical and dimensional properties of metallic materials including ceramics. Sufficient background in general chemistry is included to provide a proper foundation. (3 crs.)

**ITE 182. MATERIALS TECHNOLOGY II (LAB).** A continuation of Materials Technology I with an emphasis on non-metals including natural and man-made polymers, wood and paper and composites. Additional study of materials testing is included with provisions made for individual and class development of test specimens and their subsequent evaluation. Instruction is provided in the recording and interpretation of test data. Prerequisite: ITE 181. (3 crs.)

**ITE 205. INTRODUCTION TO INDUSTRIAL TECHNOLOGY (LAB).** A study of the theory and application of materials used in a wide variety of industrial applications. Study includes the chemical, physical, mechanical, and dimensional properties of materials. Specifically, the structure and properties of metals, polymers, ceramics,

and composite materials are investigated. Provisions are made for the testing of materials to demonstrate the various concepts being presented in class. (3 crs.)

**ITE 311. INDUSTRIAL ERGONOMICS.** An introduction to techniques and procedures for developing and applying the principles of human factors and ergonomics to system design and the systematic analysis, identification, and evaluation of human-machine systems. Current advances in practical biomechanics and ergonomics in industry in combating musculoskeletal injury and illness will be discussed. Prerequisite: ITE 101. (3 crs.)

**ITE 375. PRINCIPLES OF PRODUCTION.** An introduction to the methods used in analyzing the production flow from raw material to the finished product. Topics covered include a study of the major manufacturing processes, materials handling, plant layout, operations analysis, industrial engineering, inventory control and shipping. An overview of the role of production management as it relates to the various areas of industrial environment will be presented. (3 crs.)

**ITE 385. INDUSTRIAL COST ESTIMATING.** An introduction to the methods used to cost and budget a production organization. Topics include some accounting basics, cost accounting, the time value of money and cost estimating as related to industrial operations. (3 crs.)

**ITE 420. PRODUCTION ANALYSIS.** A continuation of the principles of production with an emphasis on the calculations associated with production management. Topics include linear programming, scheduling and project management as with pert, simulation and inventory control. Use is made of personal computers for the calculations involved. Prerequisite: ITE 375. (3 crs.)

**ITE 445. QUALITY CONTROL.** An introduction to the methods used in analyzing quality control. Topics include a study of the fundamentals of statistics and probability, the construction and use of control and attribute charts, the definition and use of acceptance criteria and the use of computers in modern quality control operations. An overview of the role of quality control department of a manufacturing facility will be presented. (3 crs.)

**ITE 460. PRINCIPLES OF MANUFACTURING.** An introduction to the methods used in manufacturing processes. Topics covered include a study of the manufacturing ability, fabricability, and marketability of manufactured products. Problems encountered by production managers in changing raw materials into a consumable product are discussed. The use of personal computers for the solution of manufacturing problems is included. Prerequisite: ITE 375 and ITE 385. (3 crs.)

**ITE 480. PROBLEMS IN INDUSTRIAL TECHNOLOGY (LAB).** This is a multidiscipline course that combines the various elements in industrial technology, giving the student the opportunity to study problems typically encountered by an industrial technologist. The exact content of the course will vary depending upon the background and experience of the instructor but it is intended to include problem solving and role playing in a wide variety of industrial settings. Industrial consultants will also be used to expose the student to modern industry. Prerequisite: Senior Standing. (3 crs.)

**ITE 495. INDUSTRIAL TECHNOLOGY INTERNSHIP.** Student interns will be placed with an industrial organization which most nearly approximates their goals for employment. The intent of the internship is to provide students with practical work experience in an environment in which they will be dealing with practical problems requiring real solutions in a relative short time frame. Advisor and Department Chairperson approval is required before course enrollment. Prerequisite: Upper Level Standing. (1-6 crs.)



**MANUFACTURING TECHNOLOGY COURSES (MTE)**

Courses marked (LAB) have two hours of lecture and four hours of laboratory per week.

**MTE 236. NUMERICAL CONTROL PROGRAMMING I (LAB).** An introduction to the procedures for manually programming numerically controlled equipment. Students write programs following a machine format detail, using cartesian coordinates for motion command and incorporating preparatory and miscellaneous commands necessary to manufacture parts on a machining and turning center. (3 crs.)

**MTE 270. ELECTROHYDRAULIC SERVO SYSTEMS (LAB).** Activities relevant to this course provide for the functional understanding and application of principles of electrohydraulic servo control robot systems. Topics include the operation and adjustment of electrohydraulic servo systems controlling, position, velocity, acceleration, pressure, force and torque on both linear and rotary applications. Other topics and activities include servo-valve applications, selection, and characteristics and the study of transducers. Prerequisites: IND 135 or IND 186. (3 crs.)

**MTE 280. ROBOTICS SYSTEMS I (LAB).** Activities in this course focus on the practical application and programming of non-servo controlled robots. Programming of the robot is accomplished through the use of programmable electronic controllers (PEC). The three general areas of study include: robot operation and programming, robot maintenance and repair, and robot application in applied problems. Servo type applications will also be contrasted. Robot operation includes site preparation, electrical and power controls, fluid power, velocity control, machine interlocks, controller and connections, emergency procedures, and safety precautions. Studies in maintenance and repair procedure include theory diagrams, preventive and diagnostic checks, and replacement procedures. Robot application involves applying non-servo robots and programmable controllers to industrial situations. Prerequisite: IND 180. (3 crs.)

**MTE 281. ROBOTICS SYSTEMS II (LAB).** Students learn to use servo robots as part of a workcell through theoretical and practical hands-on activities. Topics will include components of servo robots, controller components, configuration and operation, controller programming, program input and output, dynamic performance of servo robots, servo robot operation, and servo robot testing and troubleshooting. Prerequisites: IND 180, MTE 270, MTE 280. (3 crs.)

**MTE 290. APPLICATIONS OF INDUSTRIAL ROBOTICS SYSTEMS (LAB).** This course provides activities in the planning, preparation, installation, and operation of automated activities in integrated workcells. Topics include application planning, feed devices, development trends, end effectors, computer interfacing, automatic identification, and automation interfacing. The use and programming of an artificial vision system is introduced in this course. Prerequisites: IND 180, MTE 270, MTE 280, and MTE 281. (3 crs.)

**MTE 336. NUMERICAL CONTROL PROGRAMMING II (LAB).** The second of two courses in the manual programming of numerically controlled machines. Concentration is placed on continuous path machining of parts using the linear interpretation capability of machines to cut chords of arcs to closely approximate curves. Circular interpolation is studied with the additional word addresses that are necessary. Assignments provide experiences in three axis linear interpolation programming and two axis circular interpolated programming. Prerequisite: MTE 236. (3 crs.)

**MTE 337. COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (COMPACT II).** A study of the COMPACT computer language used to produce machine tape instructions for manufacturing parts. Students learn to access and utilize a computer to produce part geometry and direct a machine tool to accomplish a variety of metal machining operations. The graphics capability of BRAVOS software will be explored. Prerequisite: MTE 236. (3 crs.)

**MTE 338. COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (APT).** An investigation of the APT machine tool language for programming numerical controlled machine tools. Students

write APT programs and operate equipment with the produced tapes to manufacture milled and turned parts. Prerequisite: MTE 236. (3 crs.)

**MTE 437. ADVANCED COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (COMPACT II).** An investigation into the more sophisticated processes of the COMPACT II machine tool programming language. Parts are programmed and manufactured on a CNC milling machine and lathe using the COMPACT II language and the BRAVOS graphic software. Prerequisite: MTE 337. (3 crs.)

**MTE 438. ADVANCED COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (APT).** The machining of parts using matrixes, loops, pocketing, macros, and other advanced techniques. These methods are applied to the operation of a CNC vertical milling machine and a CNC lathe. Prerequisite: MTE 338. (3 crs.)

**MTE 495. MANUFACTURING TECHNOLOGY INTERNSHIP.** Student interns are placed with an industrial organization which most nearly approximates their goals for employment. The intent of the internship is to provide students with practical work experience in an environment in which they will be dealing with practical problems requiring real solutions in a relative short time frame. Advisor and Department Chairperson approval is required before course enrollment. This is a repeatable course and may be taken as follows: Students may take up to 14 credits. The extra credit may be used as a free elective or for a credit deficiency due to other program changes. Prerequisite: Upper Level Standing. (1-14 crs.)

### TECHNOLOGY EDUCATION COURSES (TED)

Courses marked (LAB) will meet for two hours of lecture and four laboratory hours per week.

**TED 110. INTRODUCTION TO COMMUNICATION (LAB).** A broad overview of communication systems, specifically, print, acoustic, light, audio-visual and electronic media as they relate to the realm of communications. Students experience individualized and group laboratory activities in the combined areas of generating, assembly, processing, disseminating and assimilating of a communicative message. (3 crs.)

**TED 120. INTRODUCTION TO PRODUCTION (LAB).** An introduction to production technology as it relates to manufacturing and construction. Activities include manufacturing processes, material testing, and a student-directed manufacturing enterprise. (3 crs.)

**TED 130. INTRODUCTION TO ENERGY/TRANSPORTATION (LAB).** An analysis of energy sources and transportation systems, their operation, efficiencies, historical and future development, and social and environmental impacts. Students design transportation systems and verify their safety, energy, and economic efficiency. (3 crs.)

**TED 280. TECHNOLOGY/EDUCATION/SOCIETY.** A class for all Technology Education majors; to be taken during the sophomore or junior year. Students study the development of general education in relationship to technology as found in a pluralistic society. Readings and discussion will focus on the taxonomies and systems for technology education, professional organizations, developmental rates of youth, laboratory safety, special need learners, teacher liability, and certification requirements. The technology education major is required to spend each Friday making visitations to industrial sites, urban schools and a regular teaching center. This class meets two lecture hours per week and all day Friday (to meet the requirements of the Early Field Experience Program). Prerequisites: TED 110, TED 120, TED 130 and 9 credits in IND courses. (3 crs.)

**TED 410. TEACHING COMMUNICATION (LAB).** Advanced studies in the areas of light, print, acoustic, audiovisual and electronic systems as they relate to communications. The student develops instructional units, laboratory applications, evaluation systems, design communications facility and prepare instructional materials for

use in teaching communications technology K thru 12. Peer teaching is utilized to determine the content validity of the developed instructional units. Prerequisites: TED 110 and TED 280. (3 crs.)

**TED 420. TEACHING PRODUCTION (LAB).** A course designed to provide technology education majors with experiences relating to the teaching of production technology in the public schools. Class participants examine methods of promoting the program, teaching special needs students, design production facilities, and develop instructional units for use in teaching manufacturing and construction on the primary and secondary level. This development includes the identification of problems, individual research, laboratory applications, and writing instructional materials. Computer applications such as CAD/CAM and a student-directed enterprise activity will be included. Prerequisites: TED 120 and TED 280. (3 crs.)

**TED 430. TEACHING ENERGY/TRANSPORTATION (LAB).** Students will draw on their technical skills and knowledge in the areas of transportation, energy, electronics, fluid power, and robotics to develop curriculum plans and instructional activities appropriate for public school teaching of transportation technology. In addition, enhancing technical skills and teaching techniques will be emphasized along with the integration of computers, mathematics, and science into transportation technology education. Prerequisites: TED 130 and TED 280. (3 crs.)

**TED 461. STUDENT TEACHING - TECHNOLOGY EDUCATION.** Student teaching is the culminating experience of teacher education majors in the Technology Education curriculum. The student teacher is assigned to and works under the supervision of two different master teachers at two different field locations during the semester. The development and refinement of contemporary pedagogical skills constitute the primary learning purpose for each student teacher. Specific teacher-learning skills which are developed are lesson planning, delivery methods, organizational procedures, class control, laboratory management, safety practices, record keeping, and educational measurement and evaluation. An integral component of the student teaching experience is a weekly practicum. The practicum serves as a means of coordinating activities and interchanging ideas and experiences of the student teachers. (12 crs.)

#### INDEPENDENT STUDY COURSES

**TED 310. STUDIES IN COMMUNICATION (1-3 crs.)**

**TED 320. STUDIES IN PRODUCTION (1-3 crs.)**

**TED 330. STUDIES IN TRANSPORTATION (1-3 crs.)**

**\*TED 460. HONORS STUDY IN COMMUNICATION (1-3 crs.)**

**\*TED 470. HONORS STUDY IN PRODUCTION (1-3 crs.)**

**\*TED 480. HONORS STUDY IN TRANSPORTATION (1-3 crs.)**

These are independent studies in which the student works in an area of interest under the guidance of an instructor with similar interests. The student prepares triplicate copies of a proposal which presents the objectives to be achieved and a procedural outline, states special conditions and expected findings, and specifies how the activity will be evaluated.

Students are entitled to a minimum of five hours of individual faculty time per credit. Proposals must receive instructor and department approval before the student registers in the course.

\*Honors courses are reserved for students with a "B" grade or better quality point average in the Technology Education curriculum specialty courses taken.

**DEPARTMENT OF LIBRARY SERVICES**

William L. Beck, *Dean of Library Services*. Associate Professor Albert R. Pokol, *Chair*. Professors Kade Kos, Albert F. Maruskin; Associate Professors Clyde Y. Kiang, Richard M. Matovich, Lola E. Maxwell; Assistant Professors Marsha L. Nolf, Betty Shaw; Instructor, Alice G. Dennison; Kathleen A. Jokl, *Systems Analyst*.

A fuller description of the services and materials available in the library may be found in the General Information section, towards the beginning of this catalog.

The members of this department are in charge of the Manderino Library. They also supply, to students, faculty, and staff, such services as instruction in the use of the VULCAT on-line catalog, the CD-ROM computerized indexes to periodicals, and other library resources. They offer assistance in reference questions, interlibrary loans, and advanced bibliographical searches in other databases. They offer instruction in the use of the library for individual classes at both beginning and advanced levels, and they are responsible for collection development and the processing of materials as they arrive at the library.



<p style="text-align: center;"><b>DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE</b></p>
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**MATHEMATICS (MAT)****COMPUTER SCIENCE (CSC)****COMPUTER ASSISTED WORKSHOPS (CAW)**

Professor Howard L. Hausher, *chair*. Associate Professor John A. Beyer, *assistant chair*. Professors Michael R. Gross, Robert T. Little, Andrew J. Machusko, Lawrence D. Romboski, Paul D. Williams; Associate Professors Robert M. Berry, William F. Blank, Antonio J. Fernandes, John S. Gibson, Jr., Judith I. Hall, George D. Novak, Anthony S. Pyzdrowski, Donald R. Sapko, Elwyn M. Schmidt, John S. Skocik, Jr., Brian E. Weinrich; Assistant Professors Jerry M. Blackmon, Anette M. DeNardo, Barbara Hess, Karla A. Hoffman, Nancy A. Skocik

The Department of Mathematics and Computer Science offers several degree programs:

The Bachelor of Science degree in Applied Computer Science is designed to provide the student with a strong computer science background supplemented with a substantial core of courses in a related academic discipline.

The Bachelor of Science degree in Mathematics and Computer Science is a careful blending of courses that offers the student both theory and applications in mathematics and computer science.

The Bachelor of Science degree in Industrial Management Technology: Management and Computer Science Option emphasizes management and business courses along with computer science courses. The program is designed to prepare the student for continued study at the graduate level or for employment in business, industry, or government.

The Bachelor of Arts degree in Mathematics is a sufficiently flexible program that permits the student to select courses that meet particular interests and needs. It allows for both depth and breadth of study in mathematics as well as study in the natural sciences. It is designed to provide the student with an excellent background for graduate studies in mathematics and for employment opportunities in business, industry, or government.

The Bachelor of Science in Education degree is a program designed for the student who wishes to pursue a career in secondary teaching of mathematics. It provides the prospective teacher the opportunity to acquire the knowledge, attitudes, skills, and understanding necessary to become an effective educator.

The Associate degree in Computer Science is a two-year program designed to provide the student with career-oriented computer science technology background. Though its emphasis is on training for job placement in the computer industry after a two-year curriculum, the program is designed to allow for transfer into the Bachelor of Science programs.

In addition to the degree programs, there is offered an 18-credit hour certificate program in personal computer applications.

Provision is made in several of the programs to accommodate student internships. The availability of these internships is dependent upon the needs of various governmental agencies and private employers, and they are not a guaranteed part of the program. If selected, the student may earn a salary as well as college credit and invaluable experience.

Faculty advisors work carefully with the student to select the courses best suited to the student's interests and goals. An open-door policy prevails in the Department of Mathematics and Computer Science so that students may discuss problems freely with their advisors or members of the department.

Student work-study assignments are available for those who desire and qualify for employment. Students may assist in the Mathematics Department, the Computer Center, the Computer Laboratory, or the Mathematics Laboratory. Hence, students learn while they earn.

In order to encourage and recognize academic achievement, the Department of Mathematics and Computer Science makes the following awards:

*Computer Science Award:* The computer science award is presented annually to the graduating student of the Mathematics and Computer Science Department who has achieved a high level of academic excellence in computer science courses.

*Frederick E. Atkins Memorial Award:* In honor of the contributions made by Frederick E. Atkins to the Mathematics Department and to the many students he taught, an award established in his name is presented to the graduating student of the Mathematics and Computer Science Department who has achieved a high level of academic excellence in Mathematics courses, in either the Mathematics and Computer Science program or the Bachelor of Arts in Mathematics program.



**BACHELOR OF SCIENCE IN APPLIED COMPUTER SCIENCE**

This program is a careful blending of courses designed to provide the student sufficient specificity to achieve a solid computer science background as well as sufficient flexibility to allow for the development of an interest in another academic area. It is for students who do not require the mathematics-oriented or business-oriented approach provided by the department's other programs.

**Curriculum:**

(A) **General Education:** English Composition I & II (ENG 101 & 102); Scientific and Technical Writing (ENG 217); Oral Communications-Management (COM 103); Basic Programming (CSC 105) or Computer Science I (CSC 121); Technical Mathematics I (MAT 182); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of Free Electives.

(B) **Area of Concentration:** Statistics (MAT 215); Discrete Mathematics (MAT 272); Basic Calculus (MAT 273); Linear Algebra I (MAT 341); Micros and Application Software (CSC 101), Computer Science with C (CSC 223); Pascal Programming (CSC 123); Cobol I (CSC 218); Logic & Switching Theory (CSC 316); Assembler Language (CSC 323); Information Structures (CSC 377); Computer Architecture (CSC 378); Operating Systems (CSC 400); Data Communications (CSC 405); Lisp Programming (CSC 410); Structure of Programming Languages (CSC 455); Language Translation (CSC 460). 9 credits of Computer Science Electives selected from the following: Computer Science II (CSC 221); Computer Operations (CSC 300); Operations Research (CSC 309); Cobol II (CSC 318); Computer Graphics (CSC 324); Systems Analysis (CSC 375); Artificial Intelligence (CSC 420); Numerical Analysis (CSC 424); Data Base Management Systems (CSC 456); Theory of Languages (CSC 475); Computer Science Internship (CSC 419). 20 credits of related electives must be taken in a single discipline selected by the student and approved by the faculty advisor and the department chairperson (at least 14 credits must be 200 level or higher).

**BACHELOR OF SCIENCE IN MATHEMATICS AND COMPUTER SCIENCE**

The program leading to the Bachelor of Science degree in Mathematics and Computer Science is a careful blending of courses which offers students the theory and application of problems in mathematics and computer science. A demanding but versatile program, it permits students with a deficiency in mathematics to take introductory courses to provide them sufficient background to effectively take courses in their area of concentration. Although the introductory courses do not count in the area of concentration, they do count as free electives in the program.

This program is designed to prepare the student for continued study at the graduate level or for employment in business, industry, and government in computer operations, computer programming, systems analysis, or computer equipment analysis, or as a computer specialist in research, analysis, information storage and retrieval, or computer sales.

**Curriculum:**

(A) **General Education:** English Composition I & II (ENG 101 & 102); Scientific and Technical Writing (ENG 217); Formal Logic I (PHI 211); Mathematics of Finance II (MAT 271); Basic Programming Language (CSC



105) or Computer Science I (CSC 121); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

**(B) Area of Concentration:** Calculus I, II, III & IV (MAT 281, 282, 381, 382); Discrete Mathematics (MAT 272); Abstract Algebra I (MAT 351); Statistical Analysis I (MAT 461); Linear Algebra I (MAT 341); Differential Equations (MAT 406); Computer Science with Pascal (CSC 123); Computer Science with C (CSC 223); Assembler Language (CSC 323); Cobol I (CSC 218); Information Structures (CSC 377); Structure of Programming Languages (CSC 455); Numerical Analysis (CSC 424); Logic and Switching Theory (CSC 316); Computer Architecture (CSC 378); Theory of Languages (CSC 475); 6 credits from Mathematics Courses; Linear Algebra II (MAT 441); Abstract Algebra II (MAT 451); Statistical Analysis II (MAT 462); Honors (MAT 469); Advanced Calculus I & II (MAT 481 & 482); Topology (MAT 490); Seminar in Mathematics (MAT 495). 17 credits from Computer Science Courses: Computer Science II (CSC 221); Computer Operations (CSC 300); Survey of Operations Research (CSC 309); Cobol II (CSC 318); Computer Graphics (CSC 324); Systems Analysis (CSC 375); Operating Systems (CSC 400); Data Communications (CSC 405); Artificial Intelligence (CSC 420); Lisp Programming (CSC 410); Data Base Management (CSC 456); Language Translation (CSC 460); Internship (maximum 12 crs. allowed) (CSC 419).

## BACHELOR OF ARTS IN MATHEMATICS

### Curriculum:

**(A) General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

**(B) Area of Concentration:** Calculus I, II, III, & IV (MAT 281, 282, 381, & 382); Geometry (MAT 203); Abstract Algebra I (MAT 351); Linear Algebra I (MAT 341); Statistical Analysis I (MAT 461); Differential Equations (MAT 406); Advanced Calculus I (MAT 481) and II (MAT 482); Topology (MAT 490); 12 credits in Physics and/or Chemistry; 20 credits in Natural Science Electives.

## BACHELOR OF SCIENCE IN EDUCATION: CERTIFICATION IN MATHEMATICS FOR SECONDARY SCHOOLS

### Curriculum:

**(A) General Education:** 15 credits in Humanities, including Composition I - II (ENG 101, 102); 9 credits in Natural Sciences; 9 credits in Social Science; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100); 9 credits of free electives.

**(B) Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Computers for Teachers (EDF 301); Teaching in a Multicultural Society (EDU 210); Mainstreaming Exceptional Child (EDU 340); Teaching of Mathematics in Secondary Schools (EDS 460) or Modern Methods (EDS 455); Student Teaching and School Law (EDS 461).

**(C) Professional Specialization:** Required: Calculus I, II, III, (MAT 281, 282, 381); Discrete Mathematics (MAT 272); Geometry (MAT 203); Abstract Algebra I (MAT 351); Statistical Analysis I (MAT 461); Linear Algebra I (MAT 341); History of Mathematics (MAT 304); Basic Programming Language (CSC 105) or Introduction to Computer Science with Pascal (CSC 123).

**Restricted Electives:** Choose one from Group I and one from Group II.

**Group I:** Calculus IV (MAT 382); Differential Equations (MAT 406); Abstract Algebra II (MAT 451); Statistical Analysis II (MAT 462); Linear Algebra II (MAT 441); Honors Course in Mathematics (MAT 469); Theory of Equations (MAT 305); Seminar in Mathematics (MAT 495).

**Group II:** Basic Program Language (CSC 105); Introduction to Computer Science with Pascal (CSC 123); Introduction to Computer Science with C (CSC 223); Assembler Language (CSC 323); Information Structures (CSC 377); Systems Analysis (CSC 375).

Students must also achieve a satisfactory score on the NTE in order to acquire Pennsylvania certification.

<p><b>BACHELOR OF SCIENCE IN INDUSTRIAL MANAGEMENT TECHNOLOGY: MANAGEMENT AND COMPUTER SCIENCE OPTION</b></p>
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**Curriculum:**

**(A) General Education:** English Composition I (ENG 101); Business Writing I (ENG 211); Scientific and Technical Writing (ENG 217); Technical Mathematics I (MAT 182) or College Algebra (MAT 181); Mathematics of Finance I (MAT 171); Basic Calculus (MAT 273); 6 credit in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

**(B) Area of Concentration:** Mathematics of Finance II (MAT 271); Statistics (MAT 215) or Business Statistics (MAT 225); Discrete Mathematics (MAT 272); Oral Communication Management (COM 103); General Psychology (PSY 100); Industrial Psychology (PSY 209); Introduction to Microprocessors and Application Software (CSC 101); Basic Programming Language (CSC 105) or Computer Science I (CSC 121); Computer Science with Pascal (CSC 123); Computer Science with C (CSC 223); Cobol I & II (CSC 218 & 318); Information Structures (CSC 377); Data Base Management (CSC 456); Systems Analysis (CSC 375); Survey of Operations Research (CSC 309); 5 credits of 200 level or above computer science electives. Accounting I & II (ACC 201 & 202); Managerial Accounting (ACC 321) or Cost Accounting (ACC 331); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Principles of Management (MGT 201); Financial Management (FIN 301); Labor Relations (MGT 362); 3 credits of 300 level or above in Accounting, Business, Economics, Management, Marketing or Finance.

<p><b>ASSOCIATE OF SCIENCE DEGREE IN COMPUTER SCIENCE TECHNOLOGY</b></p>
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This two-year associate degree program provides students with training in computer science technology. This high-quality program is career-oriented. All credits earned in this program are directly transferable to the four-year Bachelor's degree in Industrial Management Technology—Management and Computer Science Option.

**Curriculum:**

**(A) General Education:** English Composition I (ENG 101); Business Writing I (ENG 211); College Algebra (MAT 181) or Technical Mathematics I (MAT 182); Basic Programming Language (CSC 105) or Computer Science I (CSC 121); Science, Technology, and Society (PHI 247); 3 credits in Humanities; 3 credits in Social Sciences; 3 credits in Natural Sciences; 3 credits in Free Electives.

**(B) Area of Concentration:** Mathematics of Finance I (MAT 171); Statistics (MAT 215) or Business Statistics (MAT 225); Discrete Mathematics (MAT 272); Introduction to Microprocessors and Applications Software (CSC 101); Computer Science with Pascal (CSC 123); Cobol I (CSC 218); Computer Operations (CSC 300); Systems Analysis (CSC 375); Information Structures (CSC 377); 12 credits Mathematics and/or Computer Science electives 200 level or above.

**CERTIFICATE IN PERSONAL COMPUTER APPLICATIONS**

This eighteen-credit certificate program is designed for both undergraduates interested in concentrating their elective course work in the area of micro-computer applications and non-degree seeking students interested in learning how to use microcomputers in their daily lives. The course requirements are divided into three areas: Programming (6 credits), Application Software (9 credits), and Field Experience (3 credits). The Systems Analysis course may be substituted for the field experience.

**Curriculum:**

Basic Programming Language (CSC 105); Introduction to Computer Science with Pascal (CSC 123); Micros and Application Software (CSC 101); PC Applications Programming (CAW 105); Word Processing (ENG 151); Lotus 1-2-3 (CAW 102); Advanced Lotus Workshop (CAW 103); Field Experience in Computer Science (CSC 199) or Systems Analysis (CSC 375).

**MATHEMATICS COURSES (MAT)**

F and S indicate whether the course is usually offered in the Fall or the Spring.

Introductory level courses are indicated by a plus (+)

**+MAT 098. BASIC MATHEMATICS.** A review of the fundamentals of arithmetic computations to include: whole number, fractions and decimals, percents, ratio and proportion. Basic geometric measures and formulas. Some elementary algebra. (3 crs.) *This course does not earn credit toward graduation.* This course may not be used as a Natural Science elective.

**+MAT 099. INTRODUCTORY ALGEBRA.** Designed to aid the student in the transition from arithmetic to algebra. It may be a terminal course for some or may be a preparation for a traditional College Algebra course and topics will include: Operations on integers and polynomials, factoring and linear equations. (3 crs.) This course may not be used as a Natural Science elective. *This course does not earn credit toward graduation.*

**+MAT 100. FUNDAMENTALS OF MATHEMATICS.** Sets and their language; numeration systems; properties of natural numbers, whole numbers, integers, rational and real numbers; elementary number theory; modular arithmetic; mathematical systems; logic. No prerequisites. (3 crs.)

**MAT 155. METRIC WORKSHOP.** For one who wishes to improve one's use of the metric system in all aspects of daily life. Activities applicable to teachers, parents, and persons in business and industry. Teaching strategies, games, and sources of materials for teachers. (1 cr.)

+**MAT 161. DIAGNOSTIC AND REMEDIAL TECHNIQUES IN MATHEMATICS.** For Elementary Education majors. Various approaches and methods designed to engage the student in a critical analysis of strengths and weaknesses in approaches to teaching mathematics. Materials and games to remedy deficiencies of the child. Teaching techniques such as flexible grouping patterns and individual instruction. Prerequisite: Two years of high school mathematics. (3 crs.)

**MAT 163. INTUITIVE GEOMETRY.** To develop basic concepts of geometry: congruence, similarity, measure, symmetry, etc. Lectures, group and individual projects. Geometry for the elementary grades is emphasized. (3 crs.)

+**MAT 171. MATHEMATICS OF FINANCE I.** Simple interest, compound interest, value of money relative to time and interest, discounting, accumulation, mortgage points, annuities, amortization schedules, and equations of value. Prerequisite: MAT 181 or MAT 182 (3 crs.)

+**MAT 181. COLLEGE ALGEBRA.** Fundamental operations; factoring and fractions, exponents and radicals; functions and graphs; equations and inequalities; systems of equations. Prerequisite: MAT 099 or high school algebra. (3 crs.)

+**MAT 182. TECHNICAL MATHEMATICS I.** An introduction to algebraic topics usually covered in a high-school algebra course, such as functions, graphs, exponents and radicals, and linear and quadratic equations. Emphasis on technology applications. (3 crs.)

+**MAT 191. COLLEGE TRIGONOMETRY.** Polar coordinates; identities; solving trigonometric equations; functions and inverse functions, complex numbers and logarithms. Prerequisite: The student should have an adequate background in algebra, and some plane geometry is desirable. (3 crs.)

+**MAT 192. TECHNICAL MATHEMATICS II.** An emphasis on trigonometry: trigonometric functions, vectors, graphs of trigonometric functions, exponents and logarithms, and additional topics in trigonometry. Emphasis on technology applications. Prerequisite: MAT 181 or MAT 182. (3 crs.)

+**MAT 199. PRE-CALCULUS.** Fundamental notions (functions, lines, segments, slopes, angle between lines, graphs and equations), conics, algebraic and transcendental curves. (3 crs.)

**MAT 203. GEOMETRY.** Analysis of axiomatic systems, axiomatic development of elementary Euclidean geometry and non-Euclidean geometry. Prerequisites: MAT 181 and MAT 191, or three years of high-school mathematics. (3 crs.)

**MAT 215. STATISTICS.** For non-mathematics majors; not counted toward a mathematics major. Frequency distribution, percentiles, measures of central tendency and variability, normal distribution and curve, populations, samples, sampling distribution of means, sampling distribution of proportion, null and alternative hypotheses, type I and type II errors, tests of means, confidence intervals, decision procedures, correlation, chi-square, simple analysis of variance and design of experiments. Prerequisite: MAT 181. (3 crs.)

**MAT 225. BUSINESS STATISTICS.** Statistical techniques relevant to business applications. Primary emphasis is placed upon identification of appropriate statistical methods to use, proper interpretation and appropriate presentation of results. Topics include descriptive statistics, probability concepts, the normal probability distribution, estimation techniques, tests of hypotheses, simple and multiple linear regression. Statistical software is used to implement many of the statistical methods. Prerequisite: MAT 181 or MAT 182. (3 crs.)

**MAT 271. MATHEMATICS OF FINANCE II.** Generalized annuities; bonds, amortization of premiums and accumulation of discount; cash flows; depreciation schedules; comparison of depreciation; net cash flow; rate of return; capitalized cost and annual return; life annuities; life insurance. Prerequisite: MAT 171 (3 crs.)

**MAT 272. DISCRETE MATHEMATICS.** An introduction to theories and methods of mathematics that are relative to computer science. topics include: logic, sets, elementary number theory, mathematical induction, combinatorics, relations, digraphs, Boolean matrices, trees. (3 crs.)

**MAT 273. BASIC CALCULUS.** The techniques of differentiation and integration are covered without the theory of limits and continuity. Applications in business and biological science are considered. Prerequisites: MAT 181 or MAT 182, MAT 191 or MAT 192. (3 crs.)

**MAT 281. CALCULUS I.** A review of absolute value and inequalities; an introduction to analytic geometry; functions, limits, and continuity; the derivative; applications of the derivative. Prerequisite: MAT 181 or MAT 199 or four years of high-school mathematics. (3 crs.)

**MAT 282. CALCULUS II.** The integral; fundamental theorem of integral calculus; applications of the integral; inverse functions; logarithmic functions; exponential functions; trigonometric functions; hyperbolic functions; techniques of integration. Prerequisite: MAT 281. (3 crs.)

**MAT 300. MATHEMATICAL INSIGHTS.** A gradual introduction to the basic concepts of logic, set theory, and abstract algebra. The axiomatic structure is emphasized. (3 crs.)

**MAT 304. HISTORY OF MATHEMATICS.** This course is a historical summary of the development of mathematics. Emphasis will be relating mathematics to the development of world culture and its relationship with all aspects of our culture. The lives and discoveries of many mathematicians are discussed. Methods of incorporating the history of mathematics into high school mathematics courses are a major focus of the course. Prerequisites: MAT 203 and MAT 282. (3 crs.) S

**MAT 305. THEORY OF EQUATIONS.** Complex numbers; theorems involving polynomials in one variable; cubic and biquadratic equations; separation of roots, Sturm's theorem, and approximate evaluation of roots. Prerequisite: Junior or Senior standing. (3 crs.) S

**MAT 341. LINEAR ALGEBRA I.** Systems of linear equations and matrices; determinants; vectors in 2-space and 3-space; vector spaces; linear transformations (3 crs.)

**MAT 351. ABSTRACT ALGEBRA I.** Fundamental concepts of logic; natural numbers, well-ordering property, induction, elementary concepts of number theory; groups, cosets, Lagrange's theorem, normal sub-groups, factor groups; homomorphism, isomorphism, and related topics including Cayley's theorem, natural homomorphism, and the three fundamental homomorphism theorems. (3 crs.)

**MAT 381. CALCULUS III.** Indeterminate forms and improper integrals, polar coordinates and conic sections, infinite series, and the theory of infinite series. Prerequisite: MAT 282. (3 crs.)

**MAT 382. CALCULUS IV.** Vectors in the plane; vectors in three space; theory of curves and surfaces; the differential calculus and the integral calculus of functions of several variables. Prerequisite: MAT 381. (3 crs.)

**MAT 406. DIFFERENTIAL EQUATIONS.** Ordinary differential equations and their solutions. The existence and uniqueness of solutions. Various types of differential equations and the techniques for obtaining their solution. Some basic applications, including numerical techniques. Computer solution techniques are discussed. Prerequisite: MAT 282 and MAT 381. (3 crs.)

**MAT 441. LINEAR ALGEBRA II.** Extends the concepts learned in Linear Algebra I. The content is not fixed, but usually includes the following topics: linear transformations, change-of-bases matrices, representation matrices; inner-product spaces, eigenvalues and eigenvectors, diagonalization. Prerequisite: MAT 341 (3 crs.) F

**MAT 451. ABSTRACT ALGEBRA II.** Study of rings, ideals, quotient rings, integral domains, and fields; ring homomorphisms; polynomial rings, division algorithms, factorization of polynomials, unique factorization, extensions, fundamental theorem; finite fields. Prerequisite: MAT 351. (3 crs.)

**MAT 461. STATISTICAL ANALYSIS I.** Basic concepts of both discrete and continuous probability theory. The study of random variables, probability distributions, mathematical expectation and a number of significant probability models. Introduction to statistical estimation and hypothesis testing. Prerequisites: MAT 282 (3 crs.)

**MAT 462. STATISTICAL ANALYSIS II.** Statistical theory and application of statistical estimation techniques and hypothesis testing methods. Simple linear and multiple linear regression models. Statistical techniques are implemented with microcomputer statistical software. Prerequisites: MAT 461 (3 crs.) S

**MAT 469. HONORS COURSE IN MATHEMATICS.** Mathematics majors must, as a prerequisite for this course, have completed 64 credits with a QPA of 3.25 in all work and the permission of the department chair or non-repeatable. (3 crs.)

**MAT 481. ADVANCED CALCULUS I.** Logic and techniques of proof; relations, functions, cardinality, and naive set theory; development of real numbers from natural numbers through topology of the line; convergence and related ideas dealing with functions (sequences and series) including continuity.

**MAT 482. ADVANCED CALCULUS II.** Further development of the limit concept pertaining to functions including differentiation and integration along with appropriate theorems and properties; continuation of development of sequences and series including functions. Prerequisite: MAT 481. (3 crs.)

**MAT 490. TOPOLOGY.** Set theory as applied to topological spaces including the real line; metric spaces. Prerequisite: MAT 351 or MAT 481. (3 crs.)

**MAT 490. SEMINAR IN MATHEMATICS.** Topics in this course are chosen jointly by the instructor and the student or students involved. Prerequisite: Permission of instructor and chairman of department. Repeatable for a maximum of 3 credits. (1 to 3 crs.)

### COMPUTER SCIENCE COURSES (CSC)

F and S indicate whether the course is usually offered in the Fall or the Spring.

Introductory level courses are indicated by a plus (+).

**+CSC 101. INTRODUCTION TO MICROCOMPUTER AND APPLICATION SOFTWARE.** An introductory study of the IBM-PC microcomputer, its operating system, and its most popular applications. Major topics: Computer hardware, MS-DOS, word processing, spread sheets, graphics, data bases. (3 crs.)

**+CSC 105. BASIC PROGRAMMING LANGUAGE.** The nature and structure of computers, the history and development of computers, flow charting and elements of the BASIC language involved in reading and printing, transfer statements, looping, subroutines, conversational programming, etc. The computer language taught is BASIC. (3 crs.)

**+CSC 121. COMPUTER SCIENCE.** This course is an introduction to computer science using a recent version of the FORTRAN programming language. The concept of structured programming, input and output techniques,

expression evaluation, the assignment statement, decision statements, looping techniques, and arrays are among the topics covered in this course. Prerequisite: MAT 181. (3 crs.)

**CSC 123. INTRODUCTION TO COMPUTER SCIENCE WITH PASCAL.** This course introduces the student to computers, algorithms, and programs. Emphasis is on efficient program design using structured programming techniques. Students are required to run PASCAL programs on the University's computer system and/or on personal computers. (3 crs.)

**CSC 199. FIELD EXPERIENCE IN COMPUTER SCIENCE.** This course is designed for the Associate Degree in Computer Science program. It affords "hands-on" job-related experience in computer science. Availability of this course is dependent upon finding a host organization. Not repeatable. (3 crs.)

**CSC 218. COBOL I.** Introductory concepts of data processing through the basic components of COBOL programming. Includes structured programming, input/output computational, conditionals, and table handling facilities. Prerequisite: An introductory course in computer science is recommended. (3 crs.)

**CSC 221. COMPUTER SCIENCE II.** This course involves advanced programming techniques using the most recent version of the FORTRAN programming language. Among the topics covered in this course are advanced array techniques, character manipulation, subroutines and function subprograms, the internal representation of character and numeric values, and file processing. Prerequisite: CSC 121. (3 crs.)

**CSC 223. INTRODUCTION TO COMPUTER SCIENCE WITH C.** This course introduces the student to the C environment. Emphasis is on efficient software development using structured programming techniques. Students are required to run C programs on the University's computer system and/or on personal computers. Prerequisite: CSC 123 or equivalent. (3 crs.)

**CSC 256. COMPUTER-AIDED INSTRUCTION (CAI).** The course is taught on a lecture-laboratory basis. Students are expected to be able to use the Math and Computer Science department's personal computers and should be familiar with at least one conversational computer language, preferably BASIC. In the laboratory session, students are exposed to various types of CAI programming materials and instructed in the development of their own CAI "package" using appropriate software. Prerequisite: CSC 105 or CSC 121 or CSC 123. (3 crs.) F

**CSC 300. COMPUTER OPERATIONS.** Introduction to the hardware of the computer and the usage and operation of the Central Processing Unit and its peripheral equipment. Prerequisites: CSC 221 or CSC 123. (3 crs.)

**CSC 309. SURVEY OF OPERATIONS RESEARCH.** Lecture and laboratory sessions utilizing the computer in the performance of quantitative methods of decision-making. Survey of present operations research tools available to the administrator and manager is an integral part of the course. Prerequisites: Junior or Senior standing, MAT 215 or MAT 225, along with MAT 341 are desirable. (3 crs.)

**CSC 316. LOGIC AND SWITCHING THEORY OF THE COMPUTER.** This course is designed to provide an in-depth study of Boolean algebra and its application to switching and gating networks. Prerequisites: CSC 105 or CSC 121 or CSC 123 or MAT 272. Recommended courses are MAT 273 or MAT 281 and CSC 323. (3 crs.)

**CSC 318. COBOL II.** A continuation of COBOL I emphasizing sequential and indexed files, disk storage, table handling, subprograms, library copy facilities, interactive processing, sorting, character manipulation and debugging. Top-down design and principles of structured programming permeate the course. File editing, file updating and file maintenance programs are covered in detail. Prerequisite: CSC 218 (3 crs.)

**CSC 323. ASSEMBLER LANGUAGE PROGRAMMING.** Computer organization, representation of numbers and characters, instruction codes, machine language, macros, and subroutines. Prerequisite: CSC 123 or CSC 221 (3 crs.)



**CSC 324. COMPUTER GRAPHICS.** Lecture and laboratory sessions utilizing the computer via inter-active graphics terminals, and study of the theory and hardware of graphics devices. Development and utilization of graphics software is the major goal of this course. Prerequisites: CSC 123 or CSC 221. (3 crs.)

**CSC 375. SYSTEMS ANALYSIS.** An introduction to the basic concepts and tools of systems analysis within the context of real life problem situations. Prerequisite: CSC 101 and CSC 123 or permission of instructor. (3 crs.) S

**CSC 377. INFORMATION STRUCTURES.** Data structures, concepts and algorithms used in solution of non-numerical problems. Topics include stacks, queues, linked lists and binary trees, sorting and searching methods, and some analysis of algorithms. Prerequisites: MAT 272 and CSC 123. (3 crs.)

**CSC 378. COMPUTER ARCHITECTURE.** Central processor organization, instruction formats, addressing schemes, hierarchies of storage, executive, and priority processing, as well as input and output. Prerequisite: CSC 123 or CSC 221 and CSC 316 and CSC 323. (3 crs.) F

**CSC 400. OPERATING SYSTEMS.** An introduction to the function, purpose, characteristics, and design objectives of computer operating systems. Prerequisites: CSC 323 and CSC 377. (3 crs.) F

**CSC 405. DATA COMMUNICATIONS.** A study of the theory, implementation procedures, and problems associated with data communications. Prerequisite: CSC 378, MAT 272, CSC 377 and MAT 341. (3 crs.) S

**CSC 410. LISP PROGRAMMING.** An introduction to LISP (List Processing) as a vehicle for encoding intelligence-exhibiting processes. Topics include a survey of lambda calculus and recursive function theory. Prerequisites: CSC 377 (3 crs.) F

**CSC 419. MATHEMATICS AND COMPUTER SCIENCE INTERNSHIP.** Focuses on job related experience in Computer Science and Mathematics. Opportunities may be available to students off and on campus. (1-15 crs.)

**CSC 420. ARTIFICIAL INTELLIGENCE.** To survey the software packages needed for artificial intelligence and to use these as tools in a representative sample of AI topics. Prerequisites: CSC 377 and CSC 410. (3 crs.) S

**CSC 424. NUMERICAL ANALYSIS.** Round-off errors and computer arithmetic; numerical instability; error analysis and estimation; cubic spline interpolation; condition number of a matrix; Gaussian elimination and pivoting strategies for linear systems; numerical integration and solution of differential equations. Prerequisites: CSC 123 or CSC 221 and MAT 382. (3 crs.) F

**CSC 455. STRUCTURE OF PROGRAMMING LANGUAGES.** The power and limitations of algebraic languages, string manipulation languages and interactive languages are studied together with compiler structure and techniques. Prerequisite: CSC 223. (3 crs.) F

**CSC 456. DATA BASE MANAGEMENT SYSTEMS.** Design, implementation and application of data base management systems. Prerequisite: CSC 218. (3 crs.)

**CSC 460. LANGUAGE TRANSLATION.** Theory and design of assemblers, interpreters, and compilers for digital computers. Topics include analysis of source language, generation of efficient-object code, and optimization techniques. Prerequisites: CSC 323 and CSC 377. (3 crs.) S

**CSC 475. THEORY OF LANGUAGES.** An introduction to abstract machine theory, combinatorial systems, computable functions, and formal linguistics. Topics include finite-state machines, regular sets, Turing machines, Chomsky hierarchy grammars and languages. Emphasis is on surveying basic topics and developing an intuitive understanding in the theory of languages. Prerequisites: CSC 377, MAT 272 or MAT 351. (3 crs.) S

**CSC 485. SPECIAL TOPICS IN COMPUTER SCIENCE.** Individual study or research on topics and materials not ordinarily covered by other courses. Repeatable for a maximum of three credits. Prerequisite: Permission of instructor. (3 crs.)

**CSC 496. SEMINAR IN COMPUTER SCIENCE.** Topics to be chosen jointly by the instructor and the student or students involved. Prerequisite: Approval of instructor. (1 to 3 crs.)

### COMPUTER ASSISTED WORKSHOPS (CAW)

F and S indicate whether the course is usually offered in the Fall or the Spring.

**CAW 102. LOTUS WORKSHOP.** An introductory study of the LOTUS 1-2-3 Worksheet Program. Worksheet entries and LOTUS 1-2-3 commands and graphs. (1 cr.)

**CAW 103. ADVANCED LOTUS WORKSHOP.** A study of the LOTUS 1-2-3 macro command language, data base commands, and worksheet consolidation. Prerequisite: CAW 102. (1 cr.)

**CAW 105. PC APPLICATIONS PROGRAMMING WORKSHOP.** An introductory study of the personal computer operating system including batch files, configuration files and communications. (3 crs.) S



## DEPARTMENT OF MILITARY SCIENCE (ARMY ROTC)

Major Rand C. Lewis, Professor of Military Science; Captain Steven Roberts, Assistant Professor, *officer in charge*; Captain John Haselrig, Assistant Professor; Captain Andrew E. Kwortek, Assistant Professor

The Army Reserve Officers Training Corps (Army ROTC) is a national program that provides college-trained officers for the U.S. Army, the Army National Guard and the U.S. Army Reserve. Army ROTC enhances students' education by providing unique leadership and management experience and helps develop self-discipline, physical stamina and poise. This education experience is further enhanced through the Professional Military Education program. This program encourages students to take additional courses in military history, written communication, human behavior, management, and national security studies. Participation in field training/trips may be required during each semester. For additional information not covered below, please call the Military Science department (938-4074) or visit the ROTC building on the University campus.

### THE BASIC PROGRAM

Army ROTC is traditionally a four-year program consisting of a Basic and Advanced Program. The Basic Program is usually taken in the freshman and sophomore years. The student incurs no military obligation. Students may discontinue the Basic Program at any time. It consists of four semesters of training and instruction on areas of national defense, land navigation, small unit leadership, military history and leadership development. Uniform, necessary textbooks, and equipment are furnished without cost to the student.

To be eligible for the Basic Program, a student must be enrolled as a full-time student at California University and not be a conscientious objector. Students who have taken Junior ROTC or have military experience (active duty or reserves) may receive advanced placement credit for the Basic Program.

### THE ADVANCED PROGRAM

The Advanced Program is normally taken in the final two years of college. Instruction includes further leadership development and evaluation, organizational and management techniques, tactics and administration. Training is directed towards preparing the student to be commissioned and assume responsibilities as a Second Lieutenant upon completion of all program requirements.

A paid Advanced Camp is held during the summer between the junior and senior year and is required of all advanced course students. This camp permits the cadet to put into practice the principles and theories acquired in classroom instruction. In addition to being paid approximately \$600 (for six weeks of leadership training), the cadet is paid travel

expenses, room and board, medical and dental care, and other benefits while attending Advanced Camp.

To be eligible for the Advanced Program, a student must (1) fulfill the requirements for the Basic Program, (2) successfully complete the Professor of Military Science's (PMS) interview and selection process, (3) meet Army medical standards, (4) pass an Officer Selection Battery (OSB), (5) have a Grade Point Average of 2.0 or better (2.2 or better preferred), and (6) meet Army physical fitness standards.

### **Two-Year Program**

The two-year program enables students who did not enroll in the Basic Program to become eligible for entry into the Advanced Program through one of three methods: (1) Armed Forces veterans and Junior ROTC graduates may qualify for entry into the Advanced Program. (2) Students may elect to attend the ROTC Basic Camp (a six-week program completed during the summer) before entering the Advanced Program. (3) Students may attend Basic Training as members of an Army Reserve or National Guard unit. To be eligible for the two-year program one must be a full-time student in good standing with the university and must have at least junior status, be pursuing a four-year degree, and satisfy all the entry requirements outlined above for the Advanced Program.

#### **Army ROTC Stipend**

All students that are enrolled and contracted into the Advanced Program receive a stipend of \$100 per month for ten months of each school year during the last two years of the ROTC program. This stipend is non-taxable.

#### **Army ROTC Scholarships**

Advanced freshmen may compete for three-year merit scholarships whether or not they are enrolled in Military Science courses. These scholarships pay for tuition, fees, a flat book rate, and a \$100 per month ROTC stipend during the school year for the length of the scholarship. Applications for these scholarships are accepted from the end of the fall semester through the beginning of the spring semester.

#### **Simultaneous Membership Program (SMP)**

This program provides membership in ROTC and an Army Reserve or Army National Guard unit at the same time. While enrolled in ROTC, the student is also filling a leadership position such as platoon leader in a Reserve or National Guard unit. This affords the student the opportunity gain valuable leadership and management experience while attending California. The student receives the ROTC stipend (\$100/month) and drill pay from the Reserves (approximately \$120/month). Students who qualify and take advantage of all the benefits that are available through this program may receive benefits of as much as \$10,000.

**Military Science Student Activities**

Military Science students are encouraged to participate in university and civic activities as much as their course load will allow. The Military Science Department and the Vulcan Cadet Corps sponsor numerous activities such as serving as color guard for all home football and basketball games and university functions, Red Cross blood drives, marching in parades, and formal and semi-formal social activities.

**Military Adventure Training**

In addition to all the training and activities offered by the Department of Military Science, a selected number of highly motivated cadets are afforded the opportunity to attend some of the U.S. Army's most prestigious and challenging military schools. Limited numbers of positions are available for California cadets to attend the U.S. Army Airborne School (at Fort Benning, Georgia), the U.S. Army Air Assault School (at Fort Campbell, Kentucky), and the U.S. Army Northern Warfare School (at Fort Greenly, Alaska). School allocations are awarded on a competitive basis.

**A Suggested Military Science Curriculum**

	Fall Semester	Spring Semester
	<i>Basic Course</i>	
Freshman	GMS 111	GMS 112
Sophomore	GMS 213	GMS 214
	<i>Advanced Course</i>	
Junior	GMS 315	GMS 316
Senior	GMS 417	GMS 418

**MILITARY SCIENCE BASIC PROGRAM: GMS COURSES**

The first four semesters of Military Science (100 and 200 series courses) constitute the Basic Program, allowing the college student to gain insight into the military as a profession without incurring any military obligation. The student learns about the role of the US Army in providing for national security, basic leadership and management skills, as well as basic military skills. The student is afforded the opportunity to partake in outdoor activities such as rappelling, swim survival and white water rafting besides participating in the various social activities sponsored by the Cadet Corps.

F and S indicate whether the course is usually offered in the Fall or the Spring.

**GMS 111. LEADERSHIP CONCEPTS AND COMMUNICATIONS SKILL.** Develops the student's leadership and management skills through a series of case studies and role-playing models. Students learn communication skills, interpersonal skills and personnel conflict resolution. One hour lecture and one hour leadership laboratory per week. (2 crs.) F

**GMS 112. ROLE OF THE U.S. ARMY IN NATIONAL SECURITY.** Familiarizes the student with the organization of the Department of Defense, focusing on the U.S. Army, Reserve components, the North Atlantic Treaty Organization (NATO), Soviet Army doctrine, and basic soldering skills. One hour lecture and one hour leadership laboratory per week. (2 crs.) S

**GMS 213. FUNDAMENTALS OF MILITARY SKILLS AND SMALL UNIT LEADERSHIP.** Students learn basic land navigational skills by using the military topographical map and the lensatic compass. Additionally, the student is taught basics in small unit leadership and tactics of squad-sized units. Two hours lecture and one hour leadership laboratory per week. (2 crs.) F

**GMS 214. MILITARY HISTORY: LEADERS AND BATTLES.** An analytical study of the principles of war and their applications in U.S. military history from the American Revolution through the Vietnam conflict. The student will study the commander's perspective and how it affected the outcome of the battle. Three hours lecture per week. (3 crs.) S

**LEADERSHIP LABORATORY: (Basic Program cadets/students)**In laboratory the cadet learns basic military skills, such as first aid, swim survival, and mountaineering skills and is afforded the opportunity to rappel. Cadets are also afforded the opportunity to gain leadership experience through various challenging squad or platoon positions. Leadership laboratory must be scheduled as part of each basic Military Science course (GMS 111 thru GMS 214).

### MILITARY SCIENCE ADVANCED PROGRAM: GMS COURSES

The 300 and 400 series courses constitute the advanced courses of military instruction for men and women who desire a commission as Second Lieutenant in the active Army, the Army Reserve, or the National Guard. This phase is composed of studies in advanced leadership and management, tactics, military law, modern instructional and training techniques and ethics and professionalism. Students are evaluated on their leadership skills in various leadership positions. Acceptance by the Professor of Military Science is a prerequisite for enrollment in the Advanced Program.

F and S indicate whether the course is usually offered in the Fall or the Spring.

**GMS 315. ADVANCED MILITARY SKILLS AND LEADERSHIP DEVELOPMENT.** Extensive study and experience in military leadership and military combat skills, such as drill and ceremony, land navigation, communications, and physical fitness. Two hours lecture and one hour leadership laboratory per week. Prerequisite: Acceptance into the Advanced Program. (2 crs.) F

**GMS 316. ADVANCED MILITARY TACTICS AND COMBAT OPERATIONS.** Extensive study and hands-on experience in small unit tactics and leadership skills, including operations orders, offensive and defensive combat operations and leadership development. Two hours lecture and one hour leadership laboratory per week. (2 crs.) S



**GMS 417. DYNAMICS OF MILITARY LEADERSHIP AND ARMY FUNCTIONS.** A study of the U.S. Army's command and staff functions, military justice system, and the Army Training Management System. In-depth discussions of ethics and professionalism required of the Officer Corps. Two hours lecture and one hour leadership laboratory per week. (2 crs.) F

**GMS 418. THE MILITARY MANAGEMENT SYSTEM AND OFFICER TRANSITION.** An introduction to the U.S. Army's personnel and logistical management system and personnel evaluation system. The course concludes with a workshop to assist the cadet to make the transition into the military profession. Two hours lecture and one hour leadership laboratory per week. (2 crs.) S

**LEADERSHIP LABORATORY.** (Advanced Program cadets) During leadership laboratory cadets are evaluated in various leadership positions at the battalion and company level. Leadership laboratory is designed to prepare cadets for advanced camp and future appointments as Second Lieutenants. Senior level cadets conduct the training and administration of the Cadet Corps. Leadership laboratory must be scheduled in conjunction with the advanced Military Science courses (GMS 315 through GMS 418).





**DEPARTMENT OF MUSIC****MUSIC (MUS)  
HUMANITIES AREA**

Associate Professor Gene G. Suskalo, *chair*. Associate Professors Paul P. Dolinar, Max A. Gonano, Shirley J. Sutton, Albert Tiberio

**PURPOSE**

People, regardless of time and place, are expressive about the circumstances of their lives, as well as about their hopes and dreams. One form of that expression is music. To comprehend its meaning and importance necessitates relating it to an historical context and to understanding the science of sound production behind this art form. Music is not simply an end in itself. Music is also a means by which the values and interests of a society are revealed.

The music curriculum is designed to give a general introduction to the appreciation of modern and classical music as well as to provide interested students with the opportunity to participate in the university's band, choirs, and instrumental ensembles.

**PROGRAM**

The university has no major in music. The curriculum serves the General Studies Program of the university and the Co-Curricular Program sponsored by Student Affairs, Inc. Located in the Music Department is the Humanities Area Major. It provides students with the opportunity and flexibility to structure a course of study from across disciplines in the humanities — Music, Art, Theater, Philosophy, Communication Studies, English, and the Foreign Languages and Cultures.

**MUSIC COURSES (MUS)**

F and S indicate whether the course is usually offered in the Fall or the Spring.  
Introductory level courses are indicated by a plus (+).

+MUS 100. INTRODUCTION TO MUSIC. Exposes the student to the various historical, analytical and aesthetic elements of music, thereby providing an opportunity to broaden and enrich personal enjoyment. This exposure to music is made through the use of visual aids, audio recordings, radio, television, films, and concerts. (3 crs.) F-S

**MUS 104. VOICE CLASS I.** This course is designed for students who want to improve their singing voice as a musically expressive instrument. Breathing, vocal placement, and diction will be emphasized. Attention will also be given to improving sight-singing ability. (3 crs.)

+**MUS 105. SURVEY OF JAZZ.** Covers the historical background of jazz from 1900 to the present, the important artists and ensembles and their contributions to the art form, and analyzes of jazz styles and forms via guided listenings to recordings, videos, and attendance at live performances. (3 crs.) F-S

+**MUS 106. SURVEY OF TWENTIETH-CENTURY MUSIC.** Assists in a realization and understanding of the impact of modern twentieth-century compositional and performance techniques upon the traditional musical heritage. The student will emerge with a theoretical knowledge of numerous twentieth-century musical concepts and techniques, as well as an appropriate vocabulary. Important composers and a descriptive analysis of their works will play a dominant role throughout the course. (3 crs.) F-S

+**MUS 107. AMERICAN MUSIC.** Presents a panoramic view of the musical activities which have occurred in America from Colonial times through the present. Included in this study of American folk, popular and art music are the various aspects of primitive music, psalmody, early opera, and concert life, African and European folk music's influence in America, the singing school, the musical effect of European immigrants, and the roots of jazz and its ramifications. (3 crs.) F-S

**MUS 114. VOICE CLASS II.** This course continues the objectives of Voice I (MUS 104). A more demanding level of vocal literature, commensurate with the student's singing ability will be performed.

+**MUS 115. FUNDAMENTALS OF MUSIC.** Provides a knowledge of the fundamentals of music and an ability to execute basic skills, including the study of note values, meter signatures, scales, key signatures, and the use of syllables in reading music. A basic introduction to the piano keyboard is also included. Strongly recommended for Elementary Education students and any others interested in strengthening their knowledge of music fundamentals. (3 crs.) F-S

**MUS 196. JAZZ ENSEMBLE.** Entrance by interview with Jazz Ensemble Director. Required attendance at rehearsals and all public performances. Membership granted only by audition. (1 cr.) F-S

**MUS 197. CALIFORNIA CHORALE.** A group of approximately 25 mixed voices. Members are chosen from the student body, faculty, and members of surrounding communities. Membership is granted only by audition. (1 cr.) F-S

**MUS 203. SURVEY OF THE AMERICAN MUSICAL.** This course will present the various historical, cultural and social elements of the American Musical. This will be accomplished through the use of visual aids, audio recordings, television, video tapes, films, and whenever possible, attendance at live performances. Experts in the field will be utilized as guest lecturers. (3 crs.)

**MUS 211. KEYBOARD I.** For the beginning students interested in achieving facility at the piano. Includes playing of major and minor scales, patterns and fingerings. Chords (I, IV, V) in both major and minor keys followed by their inversions and the common tone chord sequence pattern. A student completing the course should be able to play simple songs by combining melody with chord accompaniment. It is expected that students will be at an entry level in keyboard experience. (3 crs.) F-S

**MUS 212. KEYBOARD II.** A continuation of Keyboard I for the more advanced student. Review of scales, chords, inversions, and sight readings followed by the improvisation of simple accompaniments from chord symbols. Modulation study is begun with the study of the circle of fifths; further methods of modulation are introduced as time permits. Transposition at both the second and third is introduced. A thorough study of dominant seventh chords relating the simple improvisation within any given key. (3 crs.) S

**CCU 187. PEP BAND.** The Pep Band is composed of brass, woodwind and percussionists from the University Band. This ensemble performs at selected basketball games. (1 cr. spring semester) S

**CCU 188. WOODWIND ENSEMBLE.** The Woodwind Ensemble is composed of woodwind players from the University Band. It explores all phases of literature composed for this type of ensemble. The group rehearses one hour a week and performs both on and off campus. (1 cr. per semester) F-S

**CCU 189. BRASS ENSEMBLE.** The Brass Ensemble is composed of brass players from the University Band. It explores all phases of literature composed for this type of ensemble. The group rehearses one hour a week and performs both on and off campus. (1 cr. per semester) F-S

**CCU 197. UNIVERSITY BAND.** The University Band follows two curricula determined by the semester. During the fall semester, the University Band performs at football games and parades and is the featured exhibition band at numerous marching band festivals. Membership in this ensemble is open to any interested instrumentalist. Membership is also open to those wishing to audition for feature twirler or for a position on the Silk, Squad, Dance Line, or Rifle Line. During the Spring Semester, the University Band performs literature which encompasses all facets of the idiom. This ensemble performs at convocations and concerts, both on and off campus. (1 cr. per semester)

**CCU 198. CALIFORNIA UNIVERSITY CHOIR.** The California University Choir provides an opportunity for students to sing a wide variety of music from the contemporary as well as the traditional repertoire. They perform frequently on campus and throughout the area. Membership in the Choir is elective; auditions are not required. (1 cr.) F-S

**CCU 199. CALIFORNIA SINGERS.** The California Singers is a small performing ensemble. Membership in the group is determined by audition. There are an equal number of men and women. The basic performance style is that of a pop/show/swing choir, although other styles of music are performed when appropriate for the season or the audience. Smaller groups, such as a women's trio or a men's barberhop quartet, are formed within this group. Choreography is a regular part of the performances presented by this group. (1 cr.)F-S

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**ECE 217. MUSIC IN EARLY CHILDHOOD.** A creative approach to the music interests and needs of the very young child, designed to acquaint the prospective teacher with current music education practices in pre-school and the primary grades. Experiences are provided in singing, listening, playing instruments, rhythmic movement, and creative music activities. (3 crs.) F-S

**EDE 207. TEACHING OF MUSIC IN ELEMENTARY GRADES K-8.** This course teaches the proper techniques of teaching music to children and includes the study of much source material and its proper application in the classroom. Students develop techniques and procedures through actual teaching experience in a classroom setting. Although not required, Fundamentals of Music (115) is strongly advised. (3 crs.) F-S

**DEPARTMENT OF NURSING**

Professor Margaret A. Marcinek, *chair*. Associate Professor Jacqueline Stefanik; Assistant Professors Suzanne M. Palko, Debra A. Shelapinsky.

**BACHELOR OF SCIENCE IN NURSING**

The Department of Nursing, an upper-division nursing program for registered nurses who have graduated from associate degree and diploma programs, is accredited by the National League for Nursing. The Bachelor of Science in Nursing program is designed to build upon the prior knowledge and experience of registered nurses. It prepares the graduate to practice as a generalist in a variety of health settings through the internalization of concepts relevant to professional nursing. The course of study combines general education in the humanities as well as the biophysical and psychosocial sciences with comprehensive theory and practice in nursing.

All of the academic requirements of the University apply to the Nursing Program. In addition, a minimum grade of "C" is required in each upper-division nursing course.

All RN students are admitted into the Pre-BSN Program and must complete all Pre-BSN requirements before being admitted to the upper-division BSN nursing courses. An overall QPA of 2.0 is required for entrance into upper-division nursing courses, and a subsequent QPA of 2.0 in nursing courses must be met for graduation requirements.

Lower-division courses may be accepted as transfer credits from accredited institutions, or they may be completed at California University of Pennsylvania. Selected courses may be challenged by examination. Specific information on challenge examinations for General Education courses may be obtained from the Department of Nursing.

Knowledge from previously completed nursing courses must be validated in order to grant lower-division credit in nursing. Validation examinations are administered in the department and are composed of the NLN Mobility Profile II Examinations and the Clinical Performance Examination. In addition, participation in the optional Portfolio Review process may permit students to waive selected clinical requirements. Further information on validation examinations and Portfolio Review may be obtained from the department.

Specified General Education and support courses must be completed at California University of Pennsylvania. All exceptions to this policy must be approved by the chairperson of the department and the Dean of the College of Science and Technology.

Students enrolled in upper-division nursing courses must meet the annual health requirements. In addition, students must provide evidence of professional and personal liability insurance coverage, evidence of current RN licensure, and current CPR certification.

Scholarship opportunities for the RN student entering this program are available through various local, state and national nursing organizations. Additionally, the Department of Nursing maintains a Nursing Honor Society and a Nursing Alumni Society which presents a yearly award to the outstanding graduating senior.

**Curriculum:**

(A) **General Education:** Composition I-II (ENG 101 and 102); College Algebra (MAT 181); Statistics (MAT 215 or 225); General Psychology (PSY 100); Principles of Sociology (SOC 100); Developmental Psychology (PSY 207); Social Psychology (PSY 211); Perspectives in Philosophy (PHI 100) or Ethics (PHI 220); 3 crs. Humanities elective; Human Anatomy and Physiology I and II (BIO 230, 260); Chemistry for Health Professionals (CHE 150); Microbiology (BIO 226); 7 crs. of free electives.

(B) **Support Courses:** Principles of Management (MGT 201); Introduction to Microcomputers (CSC 101) total of 6 crs. from any 2 areas in Computer Science, Gerontology, Business Writing, Public School Nursing, Nutrition (BIO 228), or Nursing elective (NUR 200).

(C) **Area of Concentration:** Nursing Placement Examinations: NLN Mobility Profile II Examinations and Clinical Performance Examination (30 crs.); Philosophy of Professional Nursing (NUR 330); Health Assessment (NUR 350); Trends and Issues in Nursing (NUR 360); Professional Nursing in Health Promotion (NUR 390); Methods of Nursing Research (NUR 430); Professional Nursing in Health Restoration (NUR 440); Professional Nursing; Social Implications (NUR 460); Leadership and Change in Nursing (NUR 490).

## NURSING COURSES (NUR)

F and S indicate whether the course is usually offered in the Fall or the Spring.

**NUR 101. WOMEN'S HEALTH ISSUES.** This course is designed to address the various health care issues, needs and concerns of women in today's society. Emphasis is on the biological, developmental, psychological and social concepts related to women's health care. **FREE ELECTIVE. OPEN TO ALL STUDENTS. (3 crs.) S**

**NUR 105: PARENTING; INSIGHTS AND ISSUES.** This course examines the challenge of parenthood and effective parenting in today's world. Explication of the functions, process and problems of parenting serves as a foundation for discussion of effective parenting skills and behaviors. **FREE ELECTIVE. OPEN TO ALL STUDENTS. (3 crs.) S**

**NUR 200. TRANSITIONS IN NURSING.** This RN/BSN transition course is designed to assist the registered nurse student in developing and achieving professional goals. Emphasis is on educational trends in nursing, concepts of professionalism, theories of role transition, and culture shock. **(3 crs.) F**

**NUR 330. PHILOSOPHY OF PROFESSIONAL NURSING.** Focuses on theoretical frameworks for professional nursing practice, including an introduction to the nursing process. Assignments assist students to develop and apply a personal philosophy of professional nursing, and to independently plan appropriate interventions for multicultural clients of all ages. **Prerequisite: BSN Status. (3 crs.) F**

**NUR 350. HEALTH ASSESSMENT.** Concepts and skills of history-taking and physical assessment are emphasized, focusing on the variations in approach as well as in findings at different stages of human development. **Prerequisite: BSN Status. (3 crs.) F**

**NUR 360. TRENDS AND ISSUES IN NURSING.** Analysis of professional nursing as well as bio-ethical issues from historical and contemporary viewpoints with implications for professional nursing practice in the health care delivery system. **Prerequisite: BSN Status. (3 crs.) S**

**NUR 390. PROFESSIONAL NURSING IN HEALTH PROMOTION.** Reviews concepts and principles of professional nursing practice related to health promotion and maintenance for individuals and families across the life span. Emphasis is on enhancement of health assessment skills and utilization of the nursing process to manage health promotion activities. **Prerequisites: NUR 330, NUR 350. (6 crs.) S**

**NUR 430. METHODS OF NURSING RESEARCH.** Basic concepts and methods related to the research process. Opportunity is provided for the development of critical thinking and decision-making skills needed by the professional nurse to analyze and evaluate research findings for application to practice. Prerequisite: BSN Status. (3 crs.) F

**NUR 440. PROFESSIONAL NURSING IN HEALTH RESTORATION.** Focuses on health restoration and rehabilitation of individuals across the life span. Practicums provide the opportunity for direct client care in a variety of settings. Emphasis is on the development of a theoretical base for nursing practice and scientific analysis of nursing care. Prerequisite: NUR 390 (6 crs.) F

**NUR 460. PROFESSIONAL NURSING: SOCIETAL IMPLICATIONS.** Societal influences on the health care delivery system and professional nursing practice are examined. Clinical experiences focus on application of advanced decision-making skills utilizing the nursing process to meet health care needs of an identified population. Prerequisite: NUR 440. (3 crs.) S

**NUR 490. LEADERSHIP AND CHANGE IN NURSING.** Enhances leadership skills through analysis of theories/concepts and experiential exercises. Practicums provide for application of theory in critical analysis of situations and decision-making within the practice of nursing to meet emerging health needs of consumers. Prerequisites: NUR 440 and MGT 201. (6 crs.) S



<b>DEPARTMENT OF PHILOSOPHY</b>
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Professor Ronald C. Hoy, *Chair*. Professors John J. Burns, Vincent F. Lackner, Barbara Ann Demartino Swyhart, John J. Walsh; Assistant Professor Gary A. Smith.

The word philosophy comes from two Greek words that mean love (*φιλέω, phileo*) and knowledge (*σοφία, sophia*), and throughout much of history anyone who sought wisdom was called a philosopher. Socrates was esteemed to be wise because he was aware of how little he knew. In knowing this, however, he was wiser than the “authorities” and “experts” whose unreflective confidence in their beliefs was mistaken. With time, philosophy as an academic discipline became the critical study of the justification of beliefs and the attempt to put together different kinds of beliefs to form a workable view of reality as a whole. In brief, philosophy is the critical study of beliefs about truth, knowledge, reality, and values. Aristotle thought the study of philosophy was intrinsically rewarding because it fulfilled a distinctively human potential—the ability to reason and to know. But if minimizing one’s mistaken or dogmatic beliefs has practical value, then philosophy also can serve pragmatic purposes.

Philosophy students study the historical development of theories about the nature of knowledge, reality, and values, and they learn how to assess the correctness of such theories. Students develop their abilities to think logically, to explore ethical issues from different perspectives, and to present their ideas effectively in writing.

### PROGRAMS

The Department of Philosophy has two majors. The first is a traditional, general, course of study which includes the historical, normative (e.g., ethics and aesthetics) and methodological (e.g., logic) professional areas. The second, in addition to traditional course work, focuses on topics and issues pertinent to graduate study, particularly those related to the legal profession, such as the philosophy of law, ethics, social and political philosophy.

### ACTIVITIES

The Philosophy Department sponsors a student Philosophy Club which gives students informal social opportunities for discussions, debates, and lectures. The Philosophy faculty also present or host topical lectures and forums.



## CAREERS

Philosophy majors can go on to a variety of careers: law, ministry, teaching, civil service, management, to name a few. Indeed, a philosophy major is well suited for any career that values critical reasoning, logical problem solving, and an ability to look at issues from many perspectives. Increasingly, for example, the business world is looking for liberally educated employees who have learned how to go on learning. Philosophy majors should work closely with their advisor to choose major and non-major courses that will help them achieve their individual career goals. The Philosophy program at California University is designed to be flexible so that it can be tailored to the diverse needs and interests of philosophy majors.

### BACHELOR OF ARTS IN PHILOSOPHY

#### Curriculum:

**(A) General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of Free Electives.

**(B) Philosophy Concentration:** Logic and Language (PHI 115); History of Ancient Philosophy (PHI 201); Sixteenth to Eighteenth Century Philosophy (PHI 206).

**Restricted Electives:** twenty-one credits: two courses in each of the following areas of philosophy: Historical, Normative, and Methodological. One additional course from one of the above mentioned areas.

**Related Electives:** thirty-eight credits.

**(C) Philosophy/Pre-Law Concentration:** Logic and Language (PHI 115); History of Ancient Philosophy (PHI 201); 16th-18th Century Philosophy (PHI 206); Social and Political Philosophy (PHI 225); Ethical Theory (PHI 320); Philosophy of Law (PHI 370); four additional advanced Philosophy courses.

**Related Electives:** 12 credits of advanced Philosophy courses. Electives: 14 credits

### PHILOSOPHY COURSES (PHI)

Introductory courses are indicated by a plus (+).

F and S indicate whether the course is usually offered in the Fall or the Spring.

+PHI 100. **PERSPECTIVES IN PHILOSOPHY.** Analysis of such major philosophical issues as the nature of knowledge, reality, religion and morals. (3 crs.) F S

+PHI 115. **LOGIC AND LANGUAGE.** An introduction to basic principles and techniques for distinguishing correct from incorrect reasoning. (3 crs.) F S

+PHI 200. **WORLD RELIGIONS.** The study of the seven world religions, including their origins and doctrines. (3 crs.)

+PHI 201. **HISTORY OF ANCIENT PHILOSOPHY.** Analysis of the texts of the pre-Socratic philosophers, Plato, Aristotle, the Stoics, Epicureans, and the Skeptics. (3 crs.) F

+PHI 206. **SIXTEENTH TO EIGHTEENTH CENTURY PHILOSOPHY.** Introduction to such influential thinkers as Francis Bacon, Descartes, Hobbes, Spinoza, Leibniz, Locke, Berkeley, Hume and Kant. (3 crs.) S

**PHI 211. FORMAL LOGIC I.** Introduction to the syntax and semantics of truth-functional and first-order languages, and also to proof theories for such languages. (3 crs.)

+ **PHI 220. ETHICS.** An examination of selected ethical systems and their philosophical foundations. Lays special emphasis on understanding such basic moral concepts as good, right and duty. (3 crs.)

+ **PHI 225. SOCIAL AND POLITICAL PHILOSOPHY.** An examination of selected social or political systems and their philosophical foundations. Lays special emphasis on such basic concepts as natural rights, equality, justice, individual freedom and political authority. (3 crs.)

**PHI 231. PHILOSOPHY OF RELIGION.** A consideration of the nature of religion, speculations and arguments of the nature and existence of God, the possibility of religious knowledge, claims to religious experience and revelation, the problem of evil, the belief in immortality and the meaningfulness of religious language. (3 crs.)

+ **PHI 247. SCIENCE, TECHNOLOGY, AND SOCIETY.** Examines the philosophical issues that stem from the impact that evolving science and technology have on people's beliefs, values, and behavior. (3 crs.) F S

+ **PHI 266. PHILOSOPHY OF PLAY.** Seeks to clarify human play and/or leisure activities. Special attention is given to the problem of constructive and destructive forms of play and their relationship to human freedom and anxiety. (3 crs.)

+ **PHI 270. PHILOSOPHY OF MARXISM.** An examination of the basic texts of Marx and Engels and the subsequent development of Marxist philosophy. Attempts a critical evaluation in light of contemporary political philosophy. (3 crs.)

**PHI 305. MEDIEVAL PHILOSOPHY.** Begins with Neo-Platonism and proceeds with such thinkers as Augustine, Erigena, Anselm, Thomas Aquinas, Roger Bacon, Duns Scotus and William of Ockham. (3 crs.)

**PHI 310. NINETEENTH CENTURY PHILOSOPHY.** A survey of the development of German idealism after Kant and the voluntaristic reactions to it. Also considers British Empiricism and French Positivism. (3 crs.)

**PHI 312. FORMAL LOGIC II.** A continuation of Formal Logic I, with emphasis on the meta-theory of truth-functional and first-order languages. It also considers selected topics in the philosophy of logic and the philosophy of mathematics. Prerequisite: PHI 211. (3 crs.)

**PHI 320. ETHICAL THEORY.** An examination of the possibility and nature of ethical knowledge and the meaning of moral discourse. Special consideration is given to contemporary discussions. (3 crs.)

**PHI 325. PHILOSOPHY OF SCIENCE.** A study of the methods, concepts and presuppositions of scientific inquiry. An attempt is made to understand the historical development of science in the context of various theories of knowledge and reality. (3 crs.)

**PHI 335. AESTHETIC THEORY.** An examination of the nature and basis of criticism in the fine arts and literature - the nature and function of art, aesthetic standards, the concept of beauty, artistic creativity and the meaning and truth in literature and the arts. (3 crs.)

**PHI 370. THE PHILOSOPHY OF LAW.** A survey of the debate about the concept of law in the history of philosophy and an examination of the recent revival of the debate in greater detail. Specific topics include the nature of legal reasoning, the legal enforcement of morality, the problem of responsibility, and the concept of justice.

**PHI 405. EPISTEMOLOGY.** An examination of selected theories of knowledge with special emphasis on contemporary discussions. (3 crs.)

**PHI 410. METAPHYSICS M.** An inquiry into the nature of reality and the meaning of existence. (3 crs.)

**PHI 415. PHILOSOPHY OF MIND.** An examination of important stages in the philosophical development of the notion of mind. Discusses such contemporary problems as the relation of mind and body and the nature of consciousness, and analyzes such notions as will, emotion, action and memory. (3 crs.)

**PHI 420. PHILOSOPHY OF LANGUAGE.** An exploration of the relations between the various dimensions of traditional philosophical problems. Examines theories of meaning, kinds of meaning, and uses of languages. (3 crs.)

**PHI 426. PHENOMENOLOGY AND EXISTENTIALISM.** A study of the historical background and development of twentieth century European philosophy, with particular emphasis on such major philosophers as Husserl, Heidegger, Sartre and Merleau-Ponty. (3 crs.)

**PHI 431. ANALYTICAL PHILOSOPHY.** An exploration of selected philosophical issues (e.g., knowledge, truth and meaning), utilizing recent work in conceptual and methodological analysis. Though the course is usually problem-oriented, a good deal of the history of recent Anglo-American philosophy is covered. Recommended prerequisites: PHI 206 and PHI 211. (3 crs.)

**PHI 459. TUTORIAL IN PHILOSOPHY.** (Variable credits)

**PHI 470. SPECIAL PROBLEMS IN PHILOSOPHY.** A discussion of some special problem or issue in philosophy. (3 crs.)

**PHI 490. SEMINAR IN PHILOSOPHY.** A discussion of either one prominent philosopher or a movement in philosophy. (3 crs.)



**DEPARTMENT OF PHYSICAL SCIENCE****CHEMISTRY (CHE)****PHYSICS (PHY)****PRE-ENGINEERING****PHYSICAL SCIENCE (PHS)****NATURAL SCIENCE****GENERAL SCIENCE TEACHER CERTIFICATION**

Associate Professor Clyde W. Clendaniel, *chair*. Professors Theodore L. Dominick, Gabriel C. Fusco, David L. Johnson, Anthony Lazzaro, David W. Pajerski; Associate Professors Gregg Gould, Michael Hackett, Michael Walt Robin, Robert L. Zopetti; Instructor Elaine S. Costello

The Physical Science Department is a unique department in that it houses both the Chemistry and Physics programs at the University. Both of these programs are located in the New Science building which was renovated in 1984. Along with the building renovation the department acquired state-of-the art chemical instrumentation, and more recently has acquired a number of computers for use in both the physics and chemistry programs.

**BACHELOR OF SCIENCE IN CHEMISTRY**

This program focuses upon studies of the nature and structure of matter and provides a strong foundation in the fundamentals of chemistry, physics and mathematics. Upon successful completion of this program, the graduate is qualified to assume a position as a chemist in either the private or public sector. Program graduates should also be well prepared to undertake graduate studies leading to the M.A., M.S., or Ph.D. in Chemistry.

Through consultation with an advisor, students obtain information that will guide them toward a proper selection of electives in General Education. Such a judicious selection of electives based upon the student's objectives may help to promote additional career opportunities upon graduation and also satisfy the admissions standards of various professional and graduate schools. Some graduates have thus chosen to continue their education or to pursue careers in medicine, dentistry, pharmacy, management, college and university teaching, and research.

Career opportunities include positions as an analytical chemist, a quality control specialist, an industrial management trainee, a technical writer, a chemical purchasing agent and a sales person with the chemistry industry. The program also provides preprofessional training in medicine, dentistry, and law, as well as preparation for graduate school.

**Curriculum:**

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** General Chemistry I-II-III (CHE 101, 102 and 203); Analytical Chemistry I (CHE 261); Organic Chemistry I-II (CHE 331 and 332); Physical Chemistry I-II (CHE 451 and 452); 4 credits of Chemistry electives; Calculus I-II (MAT 281 and 282); College Physics I-II (PHY 101 and 202); 18 other credits of related electives.

**BACHELOR OF ARTS IN PHYSICS**

The program leading to the Bachelor of Arts degree in Physics offers the student a variety of choices which may be tailored to one's needs. From the Physics curriculum the student may choose between a diversity of courses in classical and contemporary physics, including such courses in applied physics as Plasma Physics, Quantum Mechanics, Special and General Relativity, and Astrophysics. Advanced laboratories include facilities for studies in photometry, holography, X-ray diffraction, and digital electronics.

The flexibility of the program allows the graduate to prepare for many occupations, including admission to an advanced degree program in Physics or Engineering, and technical or research positions with industry or government. The programs also serve as excellent training for entrance to professional schools.

**Curriculum:**

(A) **General Education:** 9 credits in Humanities; 9 credits in Natural Sciences; 9 credits in Social Science; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100); Computers for Teachers (EDF 301); 15 credits of free electives including Composition I-II (ENG 101, 102).

(B) **Area of Concentration:** College Physics I-II-III (PHY 101, 202, and 203); Intermediate Mechanics (PHY 221); Intermediate Electricity and Magnetism (PHY 301); Modern Physics I (PHY 331); Calculus I-II-III (MAT 281, 282, and 381); Differential Equations (MAT 406); General Chemistry I-II (CHE 101 and 102); 6 credits of Physics Electives; 19 credits of Advanced Related Electives.

**BACHELOR OF SCIENCE IN EDUCATION:  
CERTIFICATION IN CHEMISTRY FOR SECONDARY SCHOOLS**
**Curriculum:**

(A) **General Education:** 15 credits in Humanities, including Composition I-II (ENG 101-102); 11 credits in Natural Sciences, including Principles of Biology (BIO 115), Organic Chemistry (CHE 322), and an approved Earth Science elective; 9 credits in Social Science; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100); 6 credits of free electives, including a science elective.

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Computers for Teachers (EDF 301); Teaching in a Multicultural Society (EDU 210); Mainstreaming Exceptional Learners (EDU 340); Teaching of Science in Secondary Schools (EDS 467) or Modern Methods (EDS 455); Student Teaching and School Law (EDS 461).

**(C) Professional Specialization:** General Chemistry I-II (CHE 101, 102); Geochemistry (CHE 255); Analytical Chemistry I (CHE 261); Organic Chemistry I (CHE 331); Organic Chemistry II (CHE 332); Biochemistry (CHE 441); Physical Chemistry I (CHE 451); Individual Work I (CHE 368); Calculus I (MAT 281); Calculus II (MAT 282); Principles of Biology (BIO 115); College Physics I (PHY 101).

Pennsylvania certification requires a satisfactory score on the NTE.

### BACHELOR OF SCIENCE IN EDUCATION: CERTIFICATION IN PHYSICS FOR SECONDARY SCHOOLS

**Curriculum:**

**(A) General Education:** 15 credits in Humanities, including Composition I - II (ENG 101, 102); 11 credits in Natural Sciences, including Principles of Biology (BIO 115), General Chemistry (CHE 102), and an Earth Science elective; 9 credits in Social Science; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100); 1 credit of free electives.

**(B) Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Computers for Teachers (EDF 301); Teaching in a Multicultural Society (EDU 210); Mainstreaming Exceptional Learners (EDU 340); Teaching of Science in Secondary Schools (EDS 467) or Modern Methods (EDS 455); Student Teaching and School Law (EDS 461).

**(C) Professional Specialization:** College Physics I-II-III (PHY 101, 202 and 203); Intermediate Mechanics (PHY 221); Intermediate Electricity and Magnetism (PHY 301); Modern Physics (PHY 331); Mathematical Methods of Physics I (PHY 341); Physics Seminar (PHY 495); Calculus I-II-III (MAT 281, 282 and 381); General Chemistry I (CHE 101).

Pennsylvania certification requires a satisfactory score on the NTE.

### COOPERATIVE ENGINEERING PROGRAM

California University of Pennsylvania participates in cooperative liberal arts engineering programs with both the Pennsylvania State University and the University of Pittsburgh. The student undertakes a three-year curriculum at California University of Pennsylvania concentrating on studies in liberal arts and pre-engineering courses in natural sciences. Upon successful completion of that curriculum and the recommendation of faculty, the student spends two years at the Pennsylvania State University or the University of Pittsburgh, at which time the student will complete the engineering course requirements as specified by the institution.

Some advantages of such cooperative programs include the following:

1. For students who have yet to choose between engineering or another discipline as a field endeavor, the programs provide initial studies in both the arts and sciences at California University of Pennsylvania, during which time they may ascertain whether their abilities and interests lie in the field of engineering or another discipline.

2. The program permits qualified students to receive both a liberal and technical education at relatively low cost.

**Curriculum:**

(A) **General Education:** 9 credits in Humanities including Perspectives in Philosophy (PHI 100); 6 credits in Natural Sciences; 12 credits in Social Sciences, including Elements of Economics (ECO 100); Composition I-II (ENG 101 and 102); Oral Communication (COM 101).

(B) **Area of Concentration:** Technical Drawing I (IND 110); Engineering Seminar; General Chemistry I-II (CHE 101 and 102); College Physics I-II-III (PHY 101, 202 and 203); Calculus I-II-III-IV (MAT 281, 282, 381 and 382); Linear Algebra I (MAT 341); Computer Science I (CSC 121); Differential Equations (MAT 406); 16 credits of Engineering Discipline Courses.

## BACHELOR OF ARTS IN NATURAL SCIENCE

This extremely flexible program provides the student with an opportunity to structure a course of study that encompasses the broad areas of science and mathematics. Students enrolling in this program are expected to work carefully and regularly with their academic advisor to develop a program that meets their individual needs. Course distribution sheets outlining the curricular structure of the program are available in both the Physical Science Department office and the office of the College of Science and Technology.

## GENERAL SCIENCE CERTIFICATION

The College of Education and Human Services offers a program for a student who has already received certification but seeks also to be qualified as a teacher of General Science in secondary schools. In order to fulfill the requirements of this program the student must complete twenty-seven semester hours. The courses required are: General Zoology (BIO 120); General Botany (BIO 125); General Chemistry I-II (CHE 101 and 102); General Physics I-II (PHY 121 and 122); Geology (EAS 150); Introduction to Oceanography (EAS 163). Further information may be obtained at the Office of Education and Human Services in the Keystone Education Building.

## CHEMISTRY COURSES (CHE)

Introductory level courses are indicated by a plus (+)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

+CHE 100. INTRODUCTION TO CHEMISTRY. A preparatory course emphasizing the mathematical and reasoning skills needed to be successful in General Chemistry. There are no prerequisites, and the course satisfies requirements in the Natural Science area for non-science majors. This course is not an elective for Chemistry majors. Three class hours each week. (3 crs.)



**+CHE 101. GENERAL CHEMISTRY I.** An introductory course for majors and non-majors. Topics covered include atomic structure, bonding, stoichiometry, chemical reactions (including redox reactions), solutions, and the liquid state. Three class hours and three laboratory hours each week. (4 crs.)

**+CHE 102. GENERAL CHEMISTRY II.** A continuation of General Chemistry I. The gaseous state, solutions, thermodynamics, kinetics, acids and bases, gaseous and ionic equilibria. Prerequisite: CHE 101. Three class and three laboratory hours each week. (4 crs.)

**CHE 150. CHEMISTRY FOR THE HEALTH PROFESSIONS.** The basic principles of general chemistry, organic chemistry, and biochemistry needed for the health sciences (specifically nursing chemistry). Three lecture hours and three laboratory hours each week. (4 crs.) F

**CHE 203. GENERAL CHEMISTRY III.** A continuation of General Chemistry II. Descriptive chemistry of metals and nonmetals, electrochemistry, nuclear chemistry, solid state molecular orbitals, coordination chemistry. Laboratory: Equilibrium and qualitative chemistry of the elements. Three class and three laboratory hours each week. Prerequisite: CHE 102. (4 crs.) S

**CHE 255. GEOCHEMISTRY.** Basic chemical principles employed in the solution of some geologic problems. Geologic dating, sedimentary geochemistry, chemical weathering, colloids and structural aspects of clay minerals and soils. Three class hours each week. (3 crs.) F

**CHE 261. ANALYTICAL CHEMISTRY I.** An introduction to quantitative analytical techniques and procedure including volumetric, gravimetric, and spectroscopic methods. Prerequisites: CHE 101 and 102. Three lecture hours and three laboratory hours each week. (4 crs.) F

**CHE 262. INSTRUMENTAL ANALYSIS I.** An introduction to various instrumental and separation techniques including such topics as chromatography, electrochemistry, and atomic absorption spectroscopy. Prerequisite: CHE 261. Three lecture hours and three laboratory hours each week. (4 crs.) S

**CHE 331. ORGANIC CHEMISTRY I.** An introduction to the basic principles which govern the reactions of carbon compounds. Particular emphasis is placed on the structure and stereochemistry of organic molecules, acid-base theory, reaction mechanisms, and an introduction to the reactions and synthesis of alkanes, alkenes, alkynes, alicyclics, alkyl halides and aromatic compounds. Three hours lecture and three hours laboratory. Prerequisites: CHE 101 and 102. (4 crs.) F

**CHE 332. ORGANIC CHEMISTRY II.** A continuation of the study of organic compounds. The student is introduced to the important functional groups present in such families as alcohols, ethers, carboxylic acids, esters, amides, aldehydes, ketones, amines, phenols, aryl halides, and reactions, and synthetic interconversion of these compounds. Three hours lecture and three hours laboratory. Prerequisites: CHE 331. (4 crs.) S

**CHE 340. ORGANIC SPECTROSCOPIC INTERPRETATION.** Introductory theory and interpretation of infrared spectroscopy, ultraviolet spectroscopy, nuclear magnetic resonance spectroscopy, and mass spectrometry. Prerequisites: CHE 101 and CHE 331. Three class hours each week. (3 crs.) S

**CHE 345. MEDICINAL CHEMISTRY.** A comprehensive survey of the major classes of organic pharmaceutical agents, with particular emphasis on the structures, synthesis and pharmacological properties, as well as the structure-activity relationships of the important classes of drugs used in medicine. Prerequisites: CHE 331 and CHE 332. Three class hours each week. (3 crs.) S

**CHE 350. COMPUTER APPLICATIONS IN CHEMISTRY.** This course engages the student in activities which focus on computer solution of chemical problems. Both software coding and usage, as well as interfacing of microcomputers to chemical instruments, are covered. Prerequisites: CHE 101; CHE 102 and BASIC Programming Language. Three class hours each week. (3 crs.) S

**CHE 368. INDIVIDUAL WORK I.** An opportunity for students specializing in chemistry to organize, investigate, and report on a specific problem of their own selection. (1 cr.)

**CHE 410. CHEMISTRY INTERNSHIP.** The student is provided an opportunity to work in an industrial or non-profit research laboratory. This practical training is intended to supplement the academic program. Prerequisite: Junior or Senior standing and permission of the department. (Variable: 1-12 crs.)

**CHE 411. BIOCHEMISTRY I.** A comprehensive survey of the properties, reactions, and structure of amino acids, proteins, enzymes, carbohydrates, fats and lipids, and nucleic acids. Prerequisites: CHE 331 and CHE 332. Three class hours each week. (3 crs.) F

**CHE 412. BIOCHEMISTRY II.** A comprehensive survey of metabolic processes, including carbohydrate metabolism, the Krebs cycle, photosynthesis, fatty acid and protein metabolism, as well as protein biosynthesis, fatty acid biosynthesis and DNA replication. Prerequisite: CHE 411. Three class hours each week. (3 crs.) S

**CHE 421. ADVANCED INORGANIC CHEMISTRY I.** Modern treatment of principles of inorganic chemistry, emphasizing chemical bonding and stereochemistry, with emphasis on periodic properties, acids and bases, and non-aqueous solvents. Coordination compounds; nomenclature stereochemistry, and kinetics of coordination compounds of the short and long transition metals. Three class hours each week. Prerequisite: CHE 451. (3 crs.) F

**CHE 422. ADVANCED INORGANIC CHEMISTRY II.** A study of the chemistry of metal coordination compounds. The historical development of coordination theory is presented as well as the modern concepts of valence bond, crystal field and molecular orbital theories as they apply to coordination compounds. Prerequisite:

**CHE 425. ORGANIC PREPARATIONS.** An advanced course in synthetic organic chemistry with emphasis on the most recently discovered methods of synthesis of organic compounds. Prerequisites: CHE 331 and CHE 332. Three class hours each week. (3 crs.) F

**CHE 426. QUALITATIVE ORGANIC CHEMISTRY.** A laboratory course in which the identifications of organic compounds are determined by experimental analysis. A basic aim is to develop in the student a more active acquaintance with the concepts and facts introduced in elementary organic chemistry. This implies recourse to chemical reactions rather than reliance on instrumental analysis. Nevertheless, the use of infrared and nuclear magnetic resonance instrumentation will also form an integral part of the course. Prerequisites: CHE 331 and 332. (3 crs.) S

**CHE 433. ADVANCED ORGANIC CHEMISTRY I.** A detailed study of the mechanisms of the main types of organic chemical reactions, and the methods — both kinetic and non-kinetic — used to study reaction mechanisms. Prerequisites: CHE 331, CHE 332, CHE 451 and CHE 452. Three class hours each week. (3 crs.) F

**CHE 434. ADVANCED ORGANIC CHEMISTRY II.** A continuation of the material presented in Advanced Organic Chemistry I (CHE 433) with particular emphasis on photochemistry, pericyclic and aromatic rearrangements, and the chemistry of radicals and carbenes. Prerequisites: CHE 433. Three class hours each week. (3 crs.) S

**CHE 445. MATHEMATICS FOR CHEMISTS.** Mathematical techniques including differential and integral calculus, ordinary and partial differential equations, graphical methods, approximation methods, complex numbers, Fourier series expansions, determinants coordinate systems, vector analysis, vector and matrix algebra with emphasis on application to chemical systems. Prerequisites: Differential and Integral Calculus. Three class hours each week. (3 crs.) F S

**CHE 451. PHYSICAL CHEMISTRY I.** Properties of gases, kinetic-molecular theory, molecular energies, classical and statistical development of thermodynamics, with applications to thermochemistry and chemical equilibria. Prerequisites: CHE 261 and mathematics through Integral Calculus. Three lecture hours and three laboratory hours each week. (4 crs.) F

**CHE 452. PHYSICAL CHEMISTRY II.** Kinetics of chemical reactions, properties of liquids, phase equilibria, solutions, thermodynamics, properties of electrolytes in solution; and electrochemistry. Three lecture hours and three laboratory hours each week. Prerequisite: CHE 451. (4 crs.) S

**CHE 495. CHEMISTRY SEMINAR.** Students may choose a particular topic in chemistry and, under the supervision of a faculty member, prepare and present a seminar report on it. The topics are to be on material not covered in the undergraduate courses, or may be extensions of some particular aspect of chemistry included in less detail in an undergraduate course. (1 cr.) F S

### PHYSICS COURSES (PHY)

Introductory level courses are indicated by a plus (+)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

+PHY 101. COLLEGE PHYSICS I. Introductory Physics. Vectors, mechanics, energy, momentum, conservation principles and oscillatory motion. Three class hours and three laboratory hours each week. Corequisite: MAT 281 (4 crs.) S

PHY 121. GENERAL PHYSICS I. An introductory non-calculus course dealing with mechanics and heat. A functional knowledge of algebra and elementary trigonometry is assumed. Three class hours and three laboratory hours each week. (4 crs.)

PHY 122. GENERAL PHYSICS II. An introductory non-calculus course addressing the areas of sound, light and electricity and magnetism. Three class hours and three laboratory hours each week. Prerequisite: PHY 121. (4 crs.)

+PHY 202. COLLEGE PHYSICS II. A continuation of College Physics 101. Heat and thermodynamics, hydrostatics, waves and acoustics, electricity, magnetism and AC circuits. Three class hours and three laboratory hours each week. Prerequisite: PHY 101 Corequisite: MAT 282. (4 crs.) F

PHY 203. COLLEGE PHYSICS III. A continuation of College Physics 202. Maxwell's equation and electromagnetic waves, light, atomic and nuclear physics, and special relativity. Some time is also spent reviewing material from College Physics 101 and 202. Three class hours and three laboratory hours each week. Prerequisite: PHY 202. Corequisite: MAT 381. (4 crs.) S

PHY 221. INTERMEDIATE MECHANICS. Vector calculus, Newtonian kinematics, and dynamics of many particle systems with emphasis on integral relations, motion in a central potential, scattering theory, systems with constraints, variational principles in mechanics, small oscillations, wave equation, and special relativity. Three class hours and three laboratory hours each week. Prerequisite: PHY 202. Corequisite: MAT 381. (4 crs.) S

PHY 235. GEOPHYSICS. Primary emphasis is on geophysical prospecting for oil. Particularly focuses on the following prospecting methods: seismic refraction and reflection, gravitational, magnetic, and electrical. Three class hours each week. (3 crs.) F S

PHY 301. INTERMEDIATE ELECTRICITY AND MAGNETISM. Electric and magnetic fields and energy, the effects of matter on them, circuits, Maxwell's equations, electromagnetic waves. Vector calculus and differential equations used. Prerequisites: PHY 203 and MAT 381. Recommended: PHY 221, MAT 382 and MAT 341. Three lecture hours and three laboratory hours each week. (4 crs.) F

PHY 331. MODERN PHYSICS I. Relativistic kinematics and dynamics, particle and wave aspects of radiation and particles, the structure of the hydrogen atom, and the many-electron atoms. Quantum mechanics introduced for the first time here. Prerequisites: PHY 203 and MAT 381. Three class hours each week. (3 crs.) F

**PHY 341. MATHEMATICAL METHODS OF PHYSICS I.** Vector calculus, Fourier series and integrals, ordinary differential equations, partial differential equation, general series representations of functions and special functions. Prerequisites: PHY 203 and MAT 381. Three class hours each week. (3 crs.) S

**PHY 451. ADVANCED LABORATORY I.** Experiments selected from topics discussed in Modern Physics I. The lecture time is used to discuss error analysis, curve fitting, and points of interest to the laboratory reports. Prerequisite: 12 Physics credits. One class hour each week and three laboratory hours each week. (1 cr.) F S

**PHY 495. PHYSICS SEMINAR.** An introduction to literature, history, teaching, and research methods in the physical sciences. Prerequisites: Junior standing and at least 19 hours of physics (including College Physics I-II) (1 cr.) F S

### PHYSICAL SCIENCE COURSES (PHS)

Introductory level courses are indicated by a plus (+)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

**+PHS 117. BASIC PHYSICAL SCIENCE.** An elementary, non-laboratory approach to the physical world. Topics may be selected jointly by the students and the instructor. Three class hours each week. (3 crs.)

**PHS 125. OBSERVATIONAL ASTRONOMY.** This course is designed to present an opportunity to acquire a general understanding of the Night-Time sky as it relates to Astronomy as well as experiences and opportunities for observation. Two class hours each week. (2 crs.)

**PHS 135. CHEMISTRY OF MATERIALS.** An introduction to the science of chemistry, in which the principles are shown in a nonmathematical manner. This course attempts to show how chemistry is an integral part of our lives and how it has both solved and created many problems in a modern technological society. Three class hours each week. (3 crs.) S

**PHS 145. ASTRONOMY.** A presentation of methods of investigation and results of astronomical discoveries. Survey of facts and important astronomical theories. Solar system, what is a star, multiple star systems, variable stars and stellar evolution will be discussed. Instruments of the astronomer — telescopes, spectrometers, etc. — will be used. Three class hours each week. (3 crs.)



<b>DEPARTMENT OF PSYCHOLOGY</b>
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**GENERAL PSYCHOLOGY****INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY**

Associate Professor Stephen Levandos, *chair*. Professors Gail Ditkoff, Ira London, Richard Scott, M. Eugene Wilson; Associate Professors Kirk John, Dennis C. Sweeney, Sylvia Williams; Assistant Professor Elizabeth Mason; Instructor Sammy Lonich.

**PURPOSE**

Psychology is one of the social science disciplines engaged in the systematic study of human behavior. Psychology focuses on the study and explanation of patterns of individual behavior. The latter rests not only on mental processes but on social and physiological ones. The field of psychology seeks to understand individual behavior as an end in itself as well as use that information to assist persons to live more productive and fulfilling lives.

**PROGRAMS**

The department offers two majors: General Psychology and Industrial/ Organizational Psychology. Industrial/Organizational Psychology is the research and applied specialty which is concerned with the impact of organizational dynamics upon individual decision-making. It is the major for students interested in human resource management careers. Within the General Psychology major there are options for students interested in counseling and mental health care careers, educational, child, or developmental psychology. The department makes available to its majors a publication entitled "The Survival Manual," which states policies, procedures, course requirements, and other information of interest to majors.

**AWARDS**

The David W. Hambacher Memorial Fund Scholarship Award is given annually. Applicants must be Psychology majors with a 3.5 grade point average. Information about the award is available in the departmental office.

An Outstanding Senior Award is given annually at the spring Psychology Club banquet.

**HONOR AND PROFESSIONAL SOCIETIES**

Qualified majors can join Psi Chi ( $\Psi\chi$ ), the national honor society. The department also sponsors a Psychology Club which hosts guest speakers, organizes trips to conferences of professional interest, and provides career and employment information.

## CAREERS

With a bachelor's degree in Psychology, a graduate can secure a variety of entry-level positions at mental health centers and clinics. A Bachelor of Psychology in the Industrial/Organizational area can find employment in personnel resource management. Students will be prepared to do personnel recruitment, training, testing, and supervision. Most career opportunities in psychology, however, require an advanced degree.

### BACHELOR OF ARTS IN PSYCHOLOGY

**Curriculum:**

**(A) General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Science; 18 credits of free electives.

**(B) Area of Concentration:**

**Required:** General Psychology (PSY 100); Psychological Statistics (PSY 225); Psychology of Learning (PSY 235); History and Systems of Psychology (PSY 345); Experimental Psychology (PSY 360).

**One of the following:** Child Psychology (PSY 205) or Adolescent Psychology (PSY 206) or Developmental Psychology (PSY 207).

**Two of the following:** Educational Psychology (PSY 208) or Industrial Psychology (PSY 209) or Social Psychology (PSY 211) or Psychological Testing (PSY 340).

**One of the following:** Psychology of Personality (PSY 305) or Abnormal Psychology (PSY 400).

Nine to 24 credits of additional Psychology courses.

Seventeen to 35 credits in related electives, including courses in at least three of the following areas: Anthropology, Biology, Chemistry, Education, Gerontology, Political Science, Philosophy, Physics, Social Work, Sociology, and Special Education.

### BACHELOR OF ARTS IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY

**Curriculum:**

**(A) General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

**(B) Area of Concentration:** General Psychology (PSY 100); Advanced Industrial Psychology (PSY 428); Psychology of Gender Roles (PSY 311); Social Psychology (PSY 211); Psychological Statistics (PSY 225); Industrial Psychology (PSY 209); Psychology of Learning (PSY 235); Psychology of Testing (PSY 340); History and Systems (PSY 345); Interviewing Skills (PSY 370); Principles of Management (MGT 201); Organizational Behavior (MGT 301); Human Resource Management (MGT 352); Compensation Management (MGT 353); Labor Relations (MGT 362). 8 credits of psychology electives. 15 credits of Restricted Electives from Communication Studies, Business, Accounting, Economics, Industrial Technology Education, Computer Assisted Workshops, and English.

**PSYCHOLOGY COURSES (PSY)**

Introductory level courses are indicated by a plus (+)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

+PSY 100. **GENERAL PSYCHOLOGY.** A general introduction to the scientific study of the principles of behavior with emphasis on such topics as methods of research, development of the individual, learning, motivation, emotions, cognitive processes, sensation, perception, testing, personality, behavior disorders, and individual differences. Experimental research as well as practical application is stressed. (3 crs.) F S

+PSY 205. **CHILD PSYCHOLOGY.** Age-related changes in social, cognitive, emotional, and physical characteristics. Development from prenatal stages through later childhood is included. Socialization of the child is examined. Prerequisite: PSY 100. (3 crs.) F S

+PSY 206. **ADOLESCENT PSYCHOLOGY.** Factors that influence the growth and development of adolescents. Emphasis on the relationship among physiological, psychological and sociological factors and theoretical systems used to describe, explain, predict, and work with adolescents. Prerequisite: PSY 100 (3 crs.) F S

+PSY 207. **DEVELOPMENTAL PSYCHOLOGY.** The patterns of physical, mental, social and emotional development throughout the life span. Prerequisite: PSY 100. (3 crs.) F S

+PSY 208. **EDUCATIONAL PSYCHOLOGY.** The learning process, with emphasis on learning in school settings, is examined. The application of current theories and research findings to school settings is considered. The application of current theories and research findings to classroom situations is stressed. This course examines cognitive development, intelligence, motivation, discipline, behavioral objectives, and measurement and evaluation. Prerequisite: PSY 100 (3 crs.) F S

PSY 209. **INDUSTRIAL PSYCHOLOGY.** The application of psychological principles of behavior to people and work conditions. An examination of business and industrial activities and the role of the psychologist plays in such activities. A strong emphasis on the practical and everyday problems that confront people in the world of work. Prerequisite: PSY 100 (3 crs.) F S

PSY 211. **SOCIAL PSYCHOLOGY.** The interaction between the individual and social groups within a cultural context: the individual in a social role, social groups, and social institutions. Prerequisite: PSY 100 (3 crs.) F S

PSY 215. **PSYCHOLOGY OF EXCEPTIONAL CHILDREN.** The psychological problems of children who have hearing, speech, mental and behavioral deficits, as well as culturally disadvantaged and gifted children are explored. A major objective is to gain a functional understanding of these problems and of modern intervention techniques. The student is given the opportunity to gain firsthand experience with exceptional children in an observation of a special class in the public schools. Prerequisites: PSY 100 and 205 for Psychology Majors; PSY 100 and 205 or 207 for non-Psychology Majors. (3 crs.) F S

PSY 222. **PSYCHOLOGY OF STRESS MANAGEMENT.** Source of stress, effects of stress, mediation of stress and methods of coping with stress will be examined with the focus being on practical application. (3 crs.)

PSY 225. **PSYCHOLOGICAL STATISTICS.** This course provides the student with a working knowledge of statistical procedures and their application to psychological measurement and research in the social and behavioral sciences. A variety of statistical methods, including measures of central tendency, variability, and correlation coefficients, are presented. Hypothesis testing and prediction are also included. The student uses the computer to analyze data and interprets the results generated. The application of statistical procedures to research questions in the field of behavioral and social science is emphasized. Prerequisite: PSY 100 (3 crs.) F S



**PSY 235. PSYCHOLOGY OF LEARNING.** The nature and conditions of learning, the types of learning and the experimental procedures used in the study of learning problems. The various interpretations of the process are examined and evaluated. Prerequisite: PSY 100 (3 crs.) F

**PSY 305. PSYCHOLOGY OF PERSONALITY.** The essential factors that result in creating individual differences of human behavior. Current theories used to explain the development and structure of personality are presented. The characteristics of the normal and the maladjusted personality are identified, with special concern for developmental patterns. Prerequisite: PSY 100 (3 crs.) S

**PSY 310. MENTAL HEALTH/PSYCHOLOGY OF ADJUSTMENT.** Problems of personality and mechanisms of adjustment, including a study of the origin and resolution of conflicts, and the role of emotion in the patterns of behavior. Prerequisite: PSY 100. (3 crs.) F

**PSY 311. PSYCHOLOGY OF GENDER ROLES.** How gender roles develop, the factors that sustain these roles, and how gender roles influence the daily lives of men and women. Sex differences are viewed from historical, biological, psychological, sociological, and anthropological perspectives. Prerequisite PSY 100 (3 crs.) S

**PSY 340. PSYCHOLOGICAL TESTING.** The nature and function of measurement in psychology with concentration on test construction problems and procedures and an examination of some typical tests in the fields of intelligence, personality, aptitudes, abilities, and interests. Prerequisites: PSY 100 and 225. (3 crs.) F S

**PSY 345. HISTORY AND SYSTEMS OF PSYCHOLOGY.** A detailed look at the evolution of psychological thought. The early problems and methods of psychology are examined in some detail as are the various schools of psychological thought. Emphasis is directed toward the effect of the discoveries and thinking of the times on the course of the development of psychology as a science. Prerequisite: PSY 100 (3 crs.) S

**PSY 350. PRINCIPLES OF BEHAVIOR MODIFICATION.** A consideration of the application of the principles of contemporary behaviorism to the problem of behavior modification in educational and clinical settings. Major emphasis is placed on the remediation of problems of academic, emotional, and social adjustment in the classroom context. Prerequisites: PSY 100 (3 crs.)

**PSY 360. EXPERIMENTAL PSYCHOLOGY.** Emphasizes the design of research strategies for evaluating hypotheses about behavior and the quantitative analysis of research results. These principles of research are presented in the context of, and are applied to the content of experimental inquiry such as sensation and perception, conditioning and learning, memory, thinking and problem-solving, social influence processes, and psychological testing. Prerequisite: PSY 225 (3 crs.) F

**PSY 365. METHODS OF RESEARCH.** Hands-on laboratory experiences in the application of experimental procedures to the scientific study of behavior. Students apply a variety of methods to research problems in a number of content areas and are exposed to the research literature in these areas. Also included is instruction in the preparation of a formal research report. Prerequisite: PSY 225 and 360 (3 crs.) S

**PSY 370. INTERVIEWING SKILLS.** For senior students who will soon be seeking employment in an organizational setting, providing knowledge and practical experience in several different and specific types of interviews, especially the selection interview for employment, the career planning interview, exit interview and the performance evaluation interview. Prerequisite: Junior or senior standing. (3 crs.) S

**PSY 375. PSYCHOPATHOLOGICAL DISORDERS OF CHILDHOOD.** This course explores the various psychopathological disorders of childhood. The particular manifestation in children will be discussed for each disorder, with emphasis on the quantitative nature of clinical symptom characteristics as illustrated by case studies. The differentiation between similar diagnoses and symptoms, as well as the relationships between each disorder and other emotional familial problems, will be discussed. Prerequisites: PSY 100 and 205.

**PSY 400. ABNORMAL PSYCHOLOGY.** A survey of behavioral pathology — including psychoses, neuroses, character disorders including drug addiction and psychophysiological disorder — together with a general

consideration of etiology, treatment, and prognosis. Prerequisite: PSY 100 and 12 credits in Psychology. (3 crs.) F S

**PSY 410. CLINICAL CHILD PSYCHOLOGY.** This course is a comprehensive introduction to the field of Clinical Child Psychology. It will explore the major concepts, research findings, and professional issues influencing the practice of Clinical Child Psychology. Prerequisites: PSY 100, 205 and 375. (3 crs.)

**PSY 411. CLINICAL PSYCHOLOGY I.** Designed to aid students to think creatively about the kinds of information and data to be obtained in studying individuals. Seeks to point out some of the problems and procedures which constitute types of clinical procedures. Not designed to train the student to become a clinical psychologist, but rather an introduction to the applied areas of clinical psychology. Prerequisites: PSY 305, 340, 400, and Senior standing. (3 crs.) F

**PSY 412. CLINICAL PSYCHOLOGY II.** The projective techniques used to assess individual personality. The construction and methods of interpretation of these techniques. An introduction to some of the tools of the clinical psychologist and counselor. Prerequisites: PSY 350, 340, 400, and Senior standing. (3 crs.) S

**PSY 428. ADVANCED INDUSTRIAL PSYCHOLOGY.** A survey of several important issues not considered in PSY 209, including organizational dynamics, psychological evaluations, employee rights laws, wage and salary psychologies, and the understanding of employee motivations. Prerequisite: PSY 209 (3 crs.) S

**PSY 430. PHYSIOLOGICAL PSYCHOLOGY.** The relationships between bodily processes and behavior. The relationship between psychological phenomena and the physiological functioning of the organism. Sensation and perception, reflexive behavior, motivation, emotional behavior, and critical functioning. Some laboratory experience is included. Prerequisite: PSY 100. (3 crs.) F

**PSY 452. CLINICAL PRACTICUM IN PSYCHOLOGY I.** Special study in case study methods, psychological testing, and psychopathology. Prerequisites: PSY 340, 400, 411, and permission of the chairperson of the department. (3 crs.) F

**PSY 453. CLINICAL PRACTICUM IN PSYCHOLOGY II.** A continuation of Clinical Practicum I, but with greater emphasis on psychotherapy, use of clinical instruments, diagnostic cases, and visits to hospitals and clinics. Prerequisites: PSY 452 and permission of the chairperson of the department. (3 crs.) S

**PSY 455. PSYCHOLOGY OF SOCIAL CONTROL.** Analyses of fictionalized descriptions of attempts to control human behavior from the viewpoint of contemporary behavioral science. Such analyses reveal the degree to which the procedures and outcomes described in fictional accounts are consistent with what is known or assumed to be true about behavior and its causes. Fictionalized accounts of such techniques as physical punishments, threats, indoctrination and brainwashing, drugs, and hypnosis applied to both individuals and groups are considered. The moral and ethical issues involved in social control versus individual freedom are examined in the light of a rapidly developing behavioral technology and an increasing real-life incidence of misapplications and abuses. Prerequisite: PSY 100. (3 crs.) S

**PSY 469. PSYCHOLOGY INTERNSHIPS.** Students will be placed with professional psychological agencies off campus. They will integrate, under supervision, what they have academically been studying — the duties and responsibilities assigned to them by practicing psychologists in the field. Eligibility requirements and procedures for application are available at the departmental office. (VA credit 3-16)

## PUBLIC SCHOOL NURSING (PSN)

### BACHELOR OF SCIENCE IN EDUCATION: PUBLIC SCHOOL NURSING

The Public School Nursing Program provides an academic background and the field experience required to function effectively as a nurse in a school setting from kindergarten through grade twelve. The program is specifically designed to prepare students for a dual role as school nurse and health educator.

Applicants to the program must have completed an approved nursing program and be registered nurses. Upon completion of the program, the Bachelor of Science in Education degree with a major in Public School Nursing will be awarded.

The Office of Placement and Career Services at California University of Pennsylvania is active in assisting graduates seeking employment as public school nurses.

The State Department of Education mandates that school nurses be hired according to a student ratio of 1:1,500. Therefore, it is expected that the need for highly qualified school nurses will continue.

Additionally, the demand for competent school nurses can be expected to increase because of the expanding number of handicapped students mainstreamed into the regular classroom. Increased emphasis on health education and health counseling should have a significant effect on the demand.

The general objectives of the Public School Nursing Program are to enable the student to:

- Acquire the knowledge, attitudes, and skills essential for professional school nursing;
- Apply theories and concepts pertaining to the role of a school nurse during a supervised practicum;
- Comprehend the nature of an educational setting and serve as an active participant in curriculum design, faculty affairs, and professional activities;
- Function as an integral part of the school health team;
- Foster an appreciation of the existing community services for children and youth;
- Develop competencies in group dynamics and public relations;
- Appreciate the professional organizations of the school nurse that focus on continuing education and maintaining high-quality standards of performance.

The Public School Nursing Program is designed for applicants who have completed an approved nursing program and are registered nurses. California University of Pennsylvania grants up to a total of 68 credits for completion of the R.N. from a hospital program.

Students receiving the R.N. from an associate degree program will have their credits evaluated according to the credits taken at the college granting the degree. The University will transfer no more than 90 credits per student from any two-year Community or Junior College.

Usually, at least sixty additional credits are required in order to earn a Bachelor of Science degree in Education and certification as a Public School Nurse.

The applicant must possess current licensure as a professional registered nurse in Pennsylvania.

The applicant must give evidence of one year's supervised experience as a graduate nurse.

Thirty credits must be earned at California University of Pennsylvania in fulfillment of the residency requirements.

**Curriculum:**

Public School Nursing (PSN 306); Public Health Nursing I & II (PSN 301 & 302); Nutrition and Community Health (PSN 305); Prevention and Control of Communicable Disease (PSN 405); Foundations of Education (EDF 100); Educational Psychology (PSY 208); Developmental Psychology (PSY 207); Introduction to Guidance (EDS 420); one Sociology course; Introduction to Exceptionality (ESP 501); 9 credits in Humanities; 9 credits in Social Sciences; 8 credits of free electives. A minimum of fifteen hours of practicum in the public school is required in addition to the regular classroom work.

**PUBLIC SCHOOL NURSING COURSES (PSN)**

**PSN 301. PUBLIC HEALTH NURSING I.** A study of the American health care delivery system in terms of an historical, philosophical, and sociological perspective. Areas of emphasis include current trends in health care, utilization of health services, resources, government participation in health promotion, research, and innovations in the health field. (3 crs.)

**PSN 302. PUBLIC HEALTH NURSING II.** The need for health education as it relates to the taxonomy of lifestyle; the concept of wellness is examined. Contemporary issues and trends are analyzed in depth in terms of promotion of personal and community health, current legislation, and the role of the school nurse as a health educator. (3 crs.)

**PSN 305. NUTRITION AND COMMUNITY HEALTH.** A review of the basic concepts and principles in nutrition; the assessment of nutritional needs at different stages of growth and development. Focuses upon cultural differences in food habits, selection of food, importance of diet in health and disease, quackery, budgeting, special nutrition problems of the school age child, nutrition education, and role of the school nurse. (3 crs.)

**PSN 306. PUBLIC SCHOOL NURSING.** A comprehensive study of the physical, social, and emotional development of children with assessment procedures for identification of deviations from normal. Basic principles and concepts relating to the organization of the school health program, school health services, health instruction, and healthful school living. Practicum in a public school setting provides opportunity for application of concepts developed in theory. Prerequisite: Students must submit evidence of current CPR certification prior to entering this practicum. (4 crs.)

**PSN 405. PREVENTION AND CONTROL OF COMMUNICABLE DISEASE.** A conceptual approach to the study of communicable diseases with recognition of significant historical events, as well as identification of the social, psychological and economic factors involved. Explores current control measures, roles of administrative agencies, methods of epidemiological investigation, and the role of the school nurse. (3 crs.)

**R. N. ANESTHETIST PROGRAM****BACHELOR OF SCIENCE IN EDUCATION FOR C.R.N.A.**

This program for Certified Registered Nurse Anesthetists is designed for persons who have completed an approved anesthetist program and are currently licensed CRNA's. The program provides the academic background and field experience necessary for the student to develop skill in functioning more effectively in an instructional and administrative capacity.

The CRNA Program is offered by the College of Education and Human Services. The College of Education and Human Services meets all standards of accrediting agencies. California University of Pennsylvania is accredited by the Middle States Association of Colleges and Universities. The College of Education and Human Services has national accreditation from the National Association of Colleges of Teacher Education.

Studies have indicated a strong demand for nurse anesthetists. Certainly, unlimited opportunities are available to the Certified Nurse Anesthetist who has additional preparation in the area of instruction.

The general objectives of the program are to enable the student to:

- Develop the competencies required for effective media utilization practice;
- Develop competencies in group dynamics and public relations;
- Develop competencies relating to the administrative aspects of anesthesia as a result of planned field experience;
- Design a conceptual framework for curriculum planning;
- Develop a theory of learning which lends support and evidence of applicability to an effective instructional process;
- Understand the principles underlying the construction of tests and the statistical measures of evaluation.

California University of Pennsylvania will grant up to a total of 68 credits for completion of the R.N. and an additional 26 credits for completion of the anesthetist program.

All R. N.'s graduating from an Associate Degree Program must have their transcripts evaluated to determine the number of credits to be granted. The University will transfer no more than 75 credits per student from any two-year Community or Junior College.

To complete the requirements for a Bachelor of Science in Education, students must complete 34 additional credits of approved undergraduate work. Thirty credits must be earned at California University of Pennsylvania.

**Curriculum:**

Foundations of Education (EDF 100); Learning Resources and Instructional Technology (EDF 308); Introduction to Guidance (EDS 420); The Secondary School Curriculum (EDS 456); Introduction to Instruction (EDS 425); Educational Tests and Measurements (EDS 430); Administration and Field Experience (EDS 411); 12 credits in Humanities and Social Sciences.

**REGISTERED NURSE ANESTHETIST COURSES (RNA)**

**RNA 411. ADMINISTRATION AND FIELD EXPERIENCE FOR NURSE ANESTHETIST.** The principles and practice of administration of nurse anaesthetist and policies concerning planning, human relations, and personnel as well as the administration of business affairs, legal liability and organizational problems. In addition to the regular classroom work, a 15-hour field experience affords students opportunities for practical experiences in administrative functions through observation and participation in the programs of nearby hospitals. (4 crs.)



<b>DEPARTMENT OF SOCIAL SCIENCE</b>
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**ANTHROPOLOGY (ANT)****POLITICAL SCIENCE (POS)**

- GENERAL

- INTERNATIONAL STUDIES: POLITICAL SCIENCE

- PRE-LAW

- PUBLIC ADMINISTRATION

**SOCIAL SCIENCE (SOS)**

- SOCIAL SCIENCE AREA MAJOR

**SOCIOLOGY (SOC)**

Associate Professor James Wood, *chair*. Professors Rollin M. Barber, Ronald L. Michael, William F. Schweiker; Associate Professors William D. Hepner; Assistant Professors Joseph C. Heim, John P. Nass, Willie H. Pigg.

**PURPOSE**

Common to the degree programs offered by the Department of Social Science is the study of people interacting with one another. Their common approach is scientific; that is, they study patterns of human behavior by objective, measurable methodologies.

Anthropology is the most comprehensive since there is no aspect of human development or behavior that it does not study, although it traditionally has focused on pre-industrial societies. Anthropology includes such diverse subject areas as ethnology, medical and psychological anthropology, archaeology, and human evolution.

Political Science is the most prescribed of the above disciplines. It limits its interests to the political aspects of human behavior, both national and international, including the study of power and public organizations. For this reason Pre-law and Public Administration are two areas closely related to Political Science.

Sociology, which is closely aligned with anthropology, is less comprehensive. It concentrates on the nature, structure and interactional processes in large and small groups, institutions and societies, usually found in modern industrial societies. It can focus, for example, on political institutions and behavior, but it usually does this in relation to other institutions, such as the economic, educational, familial and religious ones.

The Social Science Area major is general and interdisciplinary in nature. It presents an overview and the interrelationship of all the social science disciplines, not simply those stated above. For more information about this program, please inquire at the departmental office. Courses in this area contribute to a historical perspective within the social sciences.



## PROGRAMS

Anthropology, Social Science and Sociology are majors without optional specializations. Political Science is a major with three options: General Political Science, Public Administration, and Pre-law. The Public Administration option is an interdisciplinary field of study with courses offered through the programs in Business and Economics and Urban Affairs, as well as Political Science. Under the International Studies Program, Political Science advises the International Studies: Political Science option. This course of study also is interdisciplinary in its coursework. Finally, the department, in conjunction with the College of Education and Human Services, provides a teacher certification program for those interested in teaching the social sciences in secondary schools.

Field experiences are available in archaeology and political science. An archaeology field school runs during the summer school session. Students participate in the excavation of an archaeological site whereby they apply what was learned in class to an actual dig.

An internship in Political Science is a form of field experience. Students are placed in governmental agencies and the offices of public administrators and elected officials where they can observe and practice what they have learned in the classroom.

## HONOR SOCIETIES

Anthropology majors are eligible for membership in the Gamma Chapter of Lambda Alpha ( $\Lambda\Lambda$ ), the national honor society. Requirements are the completion of twelve credits of Anthropology course work and a 3.0 grade point average or higher in the major, as well as an overall 2.7 GPA.

Students in the social sciences are eligible for membership in Pi Gamma Mu ( $\Pi\Gamma\mu$ ), the social science honor society. Students must have completed sixty-four university credits, including a minimum of twenty credits in social science course work, and have a 3.0 or higher grade point average.

## AWARDS

The Joseph Lynn Marino Memorial Award is presented annually. For consideration an applicant must have a minimum grade point average of 3.5, be enrolled in the College of Liberal Arts and have successfully completed two courses in Anthropology. Persons interested in applying can secure further information from the departmental office.

The Edward McNall Burns Scholarship Award is given annually to any individual majoring in Anthropology, Sociology, Political Science, Economics, History, or Urban Affairs. See the departmental office for further information.

## CAREERS

Students with an undergraduate degree can secure work in entry level social service and personnel resource areas. Career opportunities, however, increase with the attainment of

graduate course work and degrees. The social sciences as a whole prepare students to enter careers in law, public administration, the ministry, personnel resource management, education, social service professions and law enforcement.

### BACHELOR OF ARTS IN ANTHROPOLOGY

**Curriculum:**

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Introduction to Anthropology (ANT 100); History of Anthropology (ANT 420); World Ethnology (ANT 255); Field School (ANT 100) or Prehistoric American Indians (ANT 355); 21 credits of electives in Anthropology; Principles of Sociology; plus 32 credits of related electives.

### BACHELOR OF ARTS IN POLITICAL SCIENCE

**Curriculum:**

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits in Humanities; 12 credits in Natural Sciences; 12 credits in Social Sciences; 18 credits of free electives.

(B) **Area of Concentration (68 credits):** Introduction to Political Science (POS 100); American National Government (POS 105); Seminar in American Politics (POS 450). One course each in American Politics, Political Theory, International Relations/Comparative Politics, and Public Administration/Public Policy. 15 credits of Political Science electives. At least nine credits must be at the 300 level or above. Related courses (32 credits): History of the United States to 1877 (HIS 101); History of the United States since 1877 (HIS 102); European Life and Society to 1815 (HIS 121); European Life and Society since 1815 (HIS 122); 20 credits in related courses, 15 credits of which must be at the 200 level or above.

### BACHELOR OF ARTS IN POLITICAL SCIENCE — PUBLIC ADMINISTRATION TRACK

**Curriculum:**

(A) **General Education:** Composition I-II (ENG 101, 102); 12 credits in Humanities; 12 credits in Natural Sciences; 12 credits in Social Sciences; 18 credits of free electives.

(B) **Area of Concentration (68 credits):** **Political Science:** Introduction to Political Science (POS 100); American National Government (POS 105); Introduction to Public Administration (POS 220); Introduction to Public Policy (POS 300); Seminar in American Politics (POS 450). **Management:** Introduction to Microeconomics (ECO 201); Introduction to Macroeconomics (ECO 202); State and Local Finance (ECO 307); Financial Management of Non-Profit Organizations (FIN 307); Principles of Management (MGT 201); Marketing for Non-Profit Organizations (MKT 341). **Urban Studies:** Survey of Urban Affairs (XUA 101). **Electives:** 18 credits from approved list. With the recommendation of the Political Science faculty members, students may earn up to 6 hours credit through an internship program. **Related Courses:** Computer Science (specific course selected with advisor's approval); Statistics (MAT 215); Group Discussion Management (COM 102); Oral Communication: Management (COM 250); 2 credits of related electives selected with advisor's approval.

## BACHELOR OF ARTS IN SOCIOLOGY

**Curriculum:**

(A) **General Education.** Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Principles of Sociology (SOC 100); Research Methods (SOC 200); History of Social Thought (SOC 375); 27 credits of major electives. **Related Courses:** Introduction to Anthropology (ANT 100); Introduction to Political Science (POS 100); American National Government (POS 105); Statistics (MAT 215); Elements of Economics (ECO 100); General Psychology (PSY 100); Social Psychology (PSY 211); 3 credits in Philosophy; 8 credits of electives.

## BACHELOR OF SCIENCE IN EDUCATION: CERTIFICATION IN SOCIAL STUDIES FOR SECONDARY SCHOOLS

**Curriculum:**

(A) **General Education:** 15 credits in Humanities, including Composition I - II (ENG 101, 102); 9 credits in Natural Sciences; 9 credits in Social Sciences; 3 credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100); 9 credits of free electives.

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Computers for Teachers (EDF 301); Teaching in a Multicultural Society (EDU 210); Mainstreaming Exceptional Learners (EDU 340); Teaching of Social Science in Secondary Schools (EDS 445) or Modern Methods (EDS 455); Student Teaching and School Law (EDS 461).

(C) **Professional Specialization:** Introduction to Anthropology (ANT 100) and one additional Anthropology course; Introduction to Geography (GEO 100) and one additional Geography course; History of the United States to 1877 (HIS 101); History of the United States since 1877 (HIS 102); Elements of Economics (ECO 100); Introductory Microeconomics (ECO 201) or Introductory Macroeconomics (ECO 202); Introduction to Political Science (POS 100); American Government (POS 105); Educational Psychology (PSY 110); Adolescent Psychology (PSY 206); Principles of Sociology (SOC 100) and one additional Sociology course.

(1) *For concentration in Anthropology:* Origins of Man (ANT 285). 9 credits from the following: Culture Block (choose 3 or 6 credits): Primitive Institutions (ANT 210); Enculturation (ANT 235); Peasant and Folk Culture (ANT 240); Culture Change and Culture Shock (ANT 250); World Ethnology (ANT 255); Southwest Ethnology (ANT 270); Indians of North American (ANT 280). Archaeology Block (choose 3 or 6 credits): Archaeology Field School I (ANT 101 - maximum of 3 credits); Old World Prehistory (ANT 200); classical Archaeology (ANT 260); Archaeology (ANT 260); Archaeology & Culture History (ANT 287); Prehistoric American Indians (ANT 355).

(2) *For concentration in Economics:* Intermediate Microeconomics (ECO 301); Intermediate Macroeconomics (ECO 302); 6 credits from Economics courses 200 level or above.

(3) *For concentration in Geography:* Physical Geography (EAS 160); Human Geography (GEO 105); Economic Geography (GEO 200); Cartography (EAS 171 or Map and Aerial Photography (EAS 272).

(4) *For concentration in History:* European Life and Society to 1815 (HIS 121); European Life and Society since 1815 (HIS 122); Seminar in United States History (HIS 495); any History elective.

(5) *For concentration in Political Science:* 6 credits from the following: Municipal Government (POS 205); Political Parties (POS 218); Introduction to Public Administration (POS 220); Constitutional Law (POS 250); Civil Liberties (POS 215). also 6 credits from the following: Comparative Politics (POS 215); Development of Political Thought (POS 225); International Relations (POS 236); Politics and Government in the Soviet Union (POS 280); foreign Policy: A Comparative Approach (POS 320).

(6) *For concentration in Psychology:* Child Psychology (PSY 205); Mental Hygiene (PSY 310); Social Psychology (PSY 211); Abnormal Psychology (PSY 400).

(7) *For concentration in Sociology:* Contemporary Social Problems (SOC 205); Minority Group Relations (SOW 218); The Family (SOC 220); Urban Sociology (SOC 235); Social Institutions (SOC 240).

Students must also achieve a satisfactory score on the NTE in order to acquire Pennsylvania certification.

### ANTHROPOLOGY COURSES (ANT)

Introductory level courses are indicated by a plus (+)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

+ANT 100. INTRODUCTION TO ANTHROPOLOGY. An introduction to biological anthropology (primatology, hominid evolution, variation in modern man); archaeology (methods, evidences of the evolution and diffusion of culture); anthropological linguistics; and cultural anthropology (methods of participant observation, comparative data from non-Western societies, diversity and unity of culture). F, S

+ANT 101. ARCHAEOLOGY FIELD SCHOOL. An introduction to archaeological procedures by participation in the excavation of a site. Students will be involved in all phases of an archaeological excavation, from initial preparation of the site for excavation through the processing of artifacts at the campus archaeological laboratory. (3-6 credits)

ANT 200. OLD WORLD PREHISTORY. A middle-level survey of the main archaeological focal points of the Old World, requiring a basic understanding of archaeological concepts, goals and techniques. (3 crs.)

ANT 205. CULTURAL RESOURCE MANAGEMENT: HISTORICAL PRESERVATION. The course acquaints the student with the need for preservation of cultural resources (historic preservation), the legislation supporting such work, and the way the work is performed. Students learn what is meant by historic preservation and cultural resource study, what types of questions preservationists must seek answers to, how significant resources (historic and archaeological) are identified, how it is determined whether a resource is considered significant, how to do architectural descriptions of historic structures, and how to complete the National Register of Historic Places nomination forms. Part of the course involves on-site study of resources. Prerequisite: ANT 100. (3 crs.)

ANT 210. PRIMITIVE INSTITUTIONS. Analysis and comparison of the social, political, and religious institutions of pre-literate and pre-industrial peoples. (3 crs.)

ANT 220. AZTECS, MAYAS, AND INCAS. An introduction to and survey of the ethnology and pre-conquest archaeology of the advanced American Indian cultures of Meso-America and the Andean Culture area. Inquiry into the problems of cultural precocity. Prerequisite: ANT 100. (3 crs.)

ANT 225. EIGHTEENTH AND NINETEENTH CENTURY FOLK CRAFTS AND TRADITIONS. Students learn how to place American folk crafts and traditions in cultural perspective by learning how to identify such crafts and traditions, determining how they have evolved through time, and identifying the role such practices held in the American family. They learn the rudiments of a number of the crafts and traditions by observing them being performed and by doing them. They learn how to gather material folk cultural data by collecting data on a craft or folk tradition in Southwestern Pennsylvania. (3 crs.)

ANT 226. HISTORIC SITES ARCHAEOLOGY. The course acquaints students with techniques, philosophy, work, and aims of that branch of history and anthropology that studies the American past from a cultural-archaeological point of view. The course includes study of military and community restorations based on historical archaeology,

such as Colonial Williamsburg, Plymouth Plantation, Independence Square, Fort Michilimackinac, Fort Ligonier, and Fort Necessity. Some laboratory and field experiences included. Prerequisite: ANT 100. (3 crs.)

**ANT 231. MEDICAL ANTHROPOLOGY.** An introductory course that emphasizes the contributions from biological anthropology, archaeology, and cultural anthropology to the study of human sickness and health. Prerequisite: ANT 100. (3 crs.)

**ANT 235. ENCULTURATION.** A cross-cultural examination of the universal human problem of transforming a neonate into a functioning adult in a particular culture. (3 crs.)

**ANT 250. CULTURE CHANGE AND CULTURE SHOCK.** Conditions and factors which stimulate or retard cultural change are considered with reference to specific historical, ethnological and sociological data and theories. Emphasizes the impact of Western technology upon non-Western cultures while also treating of the "primitivization" of the Western world. Prerequisite: ANT 100. (3 crs.)

**ANT 255. WORLD ETHNOLOGY.** An advanced course in cultural anthropology, in which comparative data from text and films about non-Western cultures are used to reveal cultural differences and similarities and the nature of the ethnographic enterprise. (3 crs.)

**ANT 260. CLASSICAL ARCHAEOLOGY.** The basic concept of Western man as revealed in the archaeological record from Crete through the Hellenistic period. (3 crs.)

**ANT 270. SOUTHWEST ETHNOLOGY.** An examination of the constantly changing cultural life styles that have existed in the Southwest Cultural Area of North American. (3 crs.)

**ANT 280. INDIANS OF NORTH AMERICA.** Social anthropology and cultural ecology of American Indian cultures. (3 crs.)

**ANT 281. SUB-SAHARAN AFRICA.** The cultural anthropology of selected African groups, past and contemporary. (3 crs.)

**ANT 285. ORIGINS OF MAN.** Contemporary biological anthropology, emphasizing the evolution of human beings as part of the evolution of the primates. (3 crs.)

**ANT 287. ARCHAEOLOGY AND CULTURE HISTORY.** A comprehensive survey of archaeology: history, theory and techniques. (3 crs.)

**ANT 329. ANTHROPOLOGY INTERNSHIP.** Application of theoretical knowledge to practical situations, to meet career and program needs by means of supervision and training, to enhance a student's professional viability. (VA credit)

**ANT 355. PREHISTORIC AMERICAN INDIANS.** The archaeology and reconstructed culture of Indians of the eastern United States. (3 crs.)

**ANT 385. PRIMATE SOCIETIES AND BEHAVIOR.** Advanced study of the non-human primates, including classification to the generic level. Prerequisite: ANT 285 or permission of the instructor. (3 crs.)

**ANT 420. HISTORY OF ANTHROPOLOGY.** (3 crs.)

**ANT 495. SEMINAR IN ANTHROPOLOGY.** (3 crs.)

<b>POLITICAL SCIENCE COURSES (POS)</b>
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Introductory level courses are indicated by a plus (+)

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

**+POS 100. INTRODUCTION TO POLITICAL SCIENCE.** This course is designed to introduce students to key ideas, institutions, processes, and actors in the political world. It is intended to be a general, not detailed, examination, and attempts to encourage understanding, reflection and critical thinking. (3 crs.) F,S

**+POS 105. AMERICAN GOVERNMENT.** This is an introductory course in American government, focusing on the major institutions and processes in the American political system. Topics discussed in the course include separation of powers, checks and balances, civil liberties, political parties, the Congress, the President, the Supreme Court, federalism, and policy-making processes. (3 crs.) F, S

**POS 205. MUNICIPAL GOVERNMENT.** The organizational forms of municipalities, the process of decision-making and implementation, and proposed solutions to problems of an urban society. (3 crs.)

**POS 210. POLITICS OF WESTERN EUROPE.** A comparative analysis of the institutions, processes, and policies of the nations of Great Britain, France, and West Germany, and how these nations relate to the United States system. Prerequisites: POS 100 and POS 105. (3 crs.) S

**POS 218. POLITICAL PARTIES, CAMPAIGNS, AND ELECTIONS.** The organization and operations of political parties in the United States. Careful attention is given to the methods used by parties in nominating candidates in conducting campaigns and to the significance of pressure groups, public opinion, and the electorate in our political life. Prerequisite: POS 105. (3 crs.)

**POS 219. THE MASS MEDIA AND AMERICAN POLITICS.** The interaction of politics and the mass media within American society. Topics include media effects on political socialization, techniques of opinion manipulation, propaganda, press responsibility, public opinion polling, and government control of the media. Special attention is devoted to the use of television as an instrument of communication. Prerequisites: POS 105. (3 crs.)

**POS 220. INTRODUCTION TO PUBLIC ADMINISTRATION.** Primarily an introduction to the study of American public administration, this course seeks to achieve several broad objectives. First, it attempts to convey an understanding of the significant role played by administration in present-day American government and of the implications of that role for a democratic society. It has the further purpose of providing insight into the specific relationships between administration and the broad political environment from which it arises and in which it operates. Finally, and mainly, the course offers opportunity for consideration of those more specialized and technical factors, such as public organization, public personnel, budgeting, and executive leadership, that are involved in the formulation and administration of public policy. Prerequisites: POS 100 and POS 105. (3 crs.)

**POS 222. THE ADMINISTRATION OF CRIMINAL JUSTICE IN THE UNITED STATES.** The operations of the criminal justice system in the United States. Topics include crime in American, the rule of law, the role of the police, the function of the prosecuting and defense attorney, criminal courts and trial processes, sentencing, corrections, incarceration, probation and parole. Prerequisite: POS 105. (3 crs.)

**POS 228. DEVELOPMENT OF POLITICAL THOUGHT: CLASSICAL AND MEDIEVAL.** The basic ideas, values, and methods of the profound political thinkers and philosophers from Classical Greece, Rome, and the Christian Church. Prerequisites: POS 100 and POS 105. (3 crs.)



**POS 229. DEVELOPMENT OF POLITICAL THOUGHT: MODERN.** A sequel to the questions and approaches raised in POS 228. The major political philosophers from the Renaissance to the beginning of the twentieth century. Prerequisites: POS 100 and POS 105. (3 crs.)

**POS 235. STATE AND LOCAL GOVERNMENT.** A treatment of the organization, powers, functions, and problem of state and local governmental units. Emphasis is placed on the growing complexity of relationships among the various levels of government as a result of technological developments and the growth of metropolitan areas. (3 crs.)

**POS 236. INTRODUCTION TO INTERNATIONAL RELATIONS.** A practical and theoretical introduction to a study of systematic patterns in international relations. Includes analysis of rules, instruments, processes, decision-making factors, and conflict resolution. (3 crs.)

**POS 237. INTERNATIONAL ORGANIZATIONS.** An analysis and evaluation of the United Nations and other international organizations, and of some of the theoretical concepts and practical problems involved. Prerequisite: POS 100 or permission of instructor. (3 crs.)

**POS 270. POLITICS OF THE DEVELOPING AREAS.** A comparative analysis of the problems faced by recently independent nations of the Third World and the ideas and institutions they have developed in an attempt to address the difficulties of political, economic, and social change. Prerequisites: POS 100 and POS 105. (3 crs.)

**POS 280. POLITICS IN THE SOVIET UNION.** Basic components of Soviet politics: background history, Marxist ideology, and the historical development of Russian political institutions and practices from the Revolution to the present. Prerequisites: POS 100 and POS 105. (3 crs.) F

**POS 300. INTRODUCTION TO PUBLIC POLICY.** Primarily in seminar fashion. Students present and discuss major ideas from assigned readings. Formal lectures are also scheduled when needed to present basic ideas and information. Prerequisite: Any Political Science course or permission of the instructor. (3 crs.)

**POS 306. CONGRESS.** An intensive examination of the legislative problems and procedures of Congress. Students are introduced to such topics as the representational functions of Congress, the role of parties and leaders in Congress, the importance of the committee system, and the forces affecting congressional decision-making. Prerequisites: POS 105 or permission of the instructor. (3 crs.)

**POS 307. REVOLUTION.** A comparative study of the phenomenon of revolution, encompassing the causes, events, and principal actors in those periods that culminate in the outbreak of violent political change. Prerequisites: POS 100 and POS 105. (3 crs.) F

**POS 310. THE PRESIDENCY.** Intensive study of the American presidency, focusing on personality, organization of the office, use and misuse of power, and policy making. Prerequisites: POS 105 or permission of instructor. (3 crs.)

**POS 314. CONSTITUTIONAL LAW: GOVERNMENTAL POWERS.** A study of the major provisions of the American Constitution and the growth of American constitutional law based on analysis and discussion of leading judicial decisions. Prerequisites: POS 105 or permission of instructor. (3 crs.)

**POS 315. CONSTITUTIONAL LAW: CIVIL LIBERTIES.** A study of the development and meaning of the rights and liberties guaranteed to persons under the Constitution of the United States. Special emphasis is placed on the antecedents of and the adoption of the Bill of Rights and a description of the court structure through which the meaning of civil liberties is determined in specific situations. Prerequisites: POS 105 or permission of the instructor. (3 crs.)



**POS 316. JUDICIAL PROCESS.** Intensive study of the judicial process in the United States and the relationship between the judicial system and the larger American social system. Prerequisite: POS 105 or permission of the instructor. (3 crs.)

**POS 320. U. S. FOREIGN POLICY:** Policy objectives, patterns of decision-making, and U.S. foreign policy actions. The roles of interest groups, public opinion, Congress, and other external influences in U. S. foreign policy are also examined. Prerequisite: POS 105. (3 crs.)

**POS 322. POLITICS OF THE MIDDLE EAST.** A comparative analysis of the institutions, processes, and politics of Middle Eastern governments and how these have been shaped by the international relations of the region. Prerequisite: POS 100. (3 crs.)

**POS 323. POLITICS OF LATIN AMERICA.** A comparative analysis of the institutions, processes, and politics of Latin American countries and how these have been shaped by the international relations of the region. Prerequisite: POS 100. (3 crs.)

**POS 325. POLITICS OF ASIA.** A comparative analysis of the institutions, processes, and policies of China, Japan, and India and how these nations relate to the system in the United States. Prerequisites: POS 100 and POS 105. (3 crs.)

**POS 327. CONTEMPORARY POLITICAL THOUGHT.** A general survey of the major political ideas and thinkers of the twentieth century, drawing connections between these ideas and contemporary developments in philosophy, psychology, economics, and sociology. Prerequisites: POS 100 and POS 105. (3 crs.)

**POS 329. INTERNSHIP IN POLITICAL SCIENCE.** Practical field experience to supplement academic work, developing professional competencies in research and communication skills.

**POS 330. AMERICAN POLITICAL IDEAS.** An advanced course in political theory: the major political ideas and controversies that are associated with the development of American political thought. Prerequisites: Any Political Science course or permission of the instructor. (3 crs.)

**POS 335. ADMINISTRATIVE LAW.** The legal structure and political environment within federal administrative agencies in the United States that formulate public policy. Emphasis is given to the growth of the administrative state within the United States, the necessity for the delegation of legislative authority to administrative agencies and the need for judicial control of the bureaucracy. Prerequisites: POS 100, POS 105 or permission of the instructor. (3 crs.)

**POS 450. SEMINAR IN AMERICAN POLITICS.** This seminar, required of all Political Science majors, is designed to provide intensive examination of a specific and narrowly focused area in the field of American politics. The course is research-oriented and consists of individually prepared contributions by all participants, which are discussed and critically appraised by all members of the class. Prerequisites: Students taking this course must be Seniors majoring in Political Science. (3 crs.) S

## SOCIOLOGY COURSES (SOC)

Introductory level courses are indicated by a plus (+).

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

**+SOC 100. PRINCIPLES OF SOCIOLOGY.** Examines interaction among human beings. Emphasis on natural and social heritage, the meaning and functions of culture, and the origin, function, and characteristics of social

institutions, with inquiry into the nature and genesis of social pathology. (3 crs.) F, S

+SOC 110. **ETHNIC, RACIAL AND SEXUAL MINORITIES.** Disadvantaged, not just numerical, minorities are studied in terms of their demographic and ecological characteristics. Contemporary issues are studied in historical context. (3 crs.)

+SOC 125. **MEN, WOMEN AND WORK.** Through readings, audio-visual materials, panels and informal student reports, class members investigate the roles of men and women in the existing economic structure, the reasons for these roles and the development of trends and changes in the economic area. Discussion-centered. (3 crs.)

+SOC 155. **CHARISMATIC LEADERS.** The characteristics of charismatic leaders and the methodology used to study this phenomenon. Discussion-centered classes. (3 crs.)

+SOC 165. **MODERN FREEDOM MOVEMENTS.** The study of social movements in American society. Basic focus is upon social change brought about by social movements. (3 crs.)

**SOC 175. CONTEMPORARY WOMEN'S MOVEMENT.** An investigation of themes, philosophies, and activists in the current women's movement. (3 crs.)

**SOC 200. RESEARCH METHODS IN SOCIOLOGY.** Fundamental concepts of systematic, empirical social research; the logical and procedural rules for scientific problem solving and the methods and techniques for implementing these rules in actual research. (3 crs.)

**SOC 205. CONTEMPORARY SOCIAL PROBLEMS.** Contrasting theoretical approaches provide alternative approaches to understanding and analyzing social problems. (3 crs.) F,S

**SOC 210. SOCIAL STRATIFICATION.** The student is made more aware of the class, status, and power inequities of our stratified society. Class, caste, and estate systems are compared. Prerequisite: SOC 110. (3 crs.)

**SOC 215. SOCIOLOGY OF THE WORKPLACE.** Basic patterns of work behavior in American culture. Some emphasis is placed upon career paths and the impact of technological change upon work. (3 crs.)

**SOC 220. THE FAMILY.** The institution of the family within the context of American culture. Prerequisite: SIC 100. (3 crs.)

**SOC 225. SOCIOLOGY OF AGING.** Theoretical issues of aging, research, and the methodological traditions involved in the study of the human aging process. Special emphasis is placed upon the interaction of pertinent biological and sociological variables related to the processes of work, retirement, leisure, institutionalization, and death. Prerequisite: SOC 100. (3 crs.)

**SOC 240. URBAN SOCIOLOGY.** Focuses on the relationship between the demographics of urbanization and the social-psychological characteristics of urbanism. Determinist, compositional, and sub-cultural theories are compared. Prerequisite: SOC 100. (3 crs.)

**SOC 260. CRIME.** Types of criminal behavior, the epidemiology of crime in the United States, the social basis of law, and major etiological forces responsible for lawbreaking. General systems theory is the basic theoretical perspective used in this course. Prerequisite: SOC 100. (3 crs.)

**SOC 285. SOCIOLOGY OF SUBSTANCE USE AND ABUSE.** The sociology of substance use and abuse, as well as the approaches for treatment. Special emphasis is given to alcohol and the more commonly abused drugs (e.g., nicotine, marijuana, and cocaine). The course focuses on the social processes that influence substance abuse and the societal costs and consequences. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

**SOC 305. SYMBOLIC INTERACTIONISM.** A sociological contribution to social psychology, symbolic interactionism, is viewed as complementing psychological contributions to the field, particularly to the Gestalt, psychoanalytical, and neo-behavioral theories. Prerequisite: SOC 100. (3 crs.)

**SOC 370. SOCIOLOGICAL THEORY BUILDING.** Some of the logical bases for determining the relative merits of alternative assumptions concerning matters of fact or social policy. Prerequisite: SOC 100. (3 crs.)

**SOC 375. HISTORY OF SOCIAL THOUGHT.** Major theoretical perspectives are compared in terms of their assumptions and utility in explaining social behavior; emphasis is on conflict theory, symbolic interactionism, and structure functionalism. Intended primarily for Sociology and Social Work majors in the sixth semester or higher. (3 crs.)

**SOC 495. SEMINAR IN SOCIOLOGY.** (3 crs.)

## SOCIAL SCIENCE COURSES (SOS)

Introductory level courses are indicated by a plus (+).

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

**+SOS 100. INTRODUCTION TO SOCIAL SCIENCE.** An introduction to the broad field of human behavioral studies, with concern for the changing and contrasting patterns evidenced therein. (3 crs.) F, S

**+SOS 101. WORLD CULTURE.** A survey of the evolution of human culture: governmental, economic, social, religious, intellectual, and aesthetic activities from ancient times to the beginning of the modern world. (3 crs.)

**+SOS 107. UNIVERSAL CULTURE PROBLEMS.** Problems of technological change in ancient Egypt and in modern China; problems of social organization in industrial western nations and in the U.S.S.R.; problems of allocation of authority in ancient Greece and in Nazi Germany; and problems of religion in medieval Europe and the Middle East today. (3 crs.)

**SOS 110. QUALITY OF LIFE.** (3 crs.)

**SOS 155. CULTURAL VIEWS OF WOMEN.** Women in five different cultures. Special attention is given to the work of Margaret Mead. (3 crs.)

**DEPARTMENT OF SOCIAL WORK****SOCIAL WORK**

Associate Professor Edward Brown, *chair*. Professors Beverly G. Willison.

**BACHELOR OF SCIENCE IN SOCIAL WORK**

The Social Work program is designed to (1) provide the student with generalist skills for direct entry into social work practice through a variety of agencies and human services settings at a beginning professional level; (2) to prepare the student for entrance to graduate programs of social work or related professional schools; and (3) to contribute to a general college education by helping students to understand social welfare needs, services, and issues relevant to a modern industrial democracy.

Graduates of the program are eligible for full membership in the National Association of Social Workers and also for advanced standing if they choose to continue their social work education at an accredited graduate social work program. The program provides career opportunities in such areas as personal services (casework counseling, family development, therapy, etc.); protection services (corrections, public health, judicial system, etc.); maintenance services (child care, institutions, mental health, physical health, public welfare, etc.); and information/advising services (education, hot lines, crisis centers, consulting, etc.).

For graduation student must maintain at least a 2.0 QPA average in the major.

**Curriculum:**

(A) **General Education:** Composition I-II (ENG 101-102); 12 credits in Humanities ; 12 credits in Natural Sciences; 12 credits in Social Science; 18 credits of free electives.

(B) **Area of Concentration:** Introduction to Social Work (SOW 150); Social Work Interviewing (SOW 301); Social Work Methods I (SOW 255); Social Work Methods II (SOW 346); Social Work Methods III (SOW 347); Social Work Research Methods (SOW 450); Human Growth and Behavior I (SOW 215); Human Growth and Behavior (SOW 216); Minority Group Relations (SOW 208); Abnormal Psychology (PSY 400); Human Sexuality and Society (SOW 475); Social Change (SOW 370); Delivery of Services (SOW 365); Social Welfare as a Social Institution (SOW 290); Child Welfare (SOW 270); Juvenile Delinquency (SOW 265); Contemporary Social Problems (SOW 205); Advanced Clinical Methods in Social Work (SOW 352); Welfare Practicum I ((SOW 309); Welfare Practicum II (SOW 319); and Seminar in Social Work (SOW 495).

**SOCIAL WORK COURSES (SOW)**

Introductory courses are indicated by a plus (+).

**+SOW 150. INTRODUCTION TO SOCIAL WORK.** Introduces the social, political, and economic dimensions of poverty and welfare services of the United States. Complements other beginning courses in the social sciences by integrating this knowledge in a fashion which aids in the comprehension of welfare services while establishing a basis for movement towards higher level courses. (3 crs.)

**SOW 208. MINORITY GROUP RELATIONS.** Analysis of the historical, economic and political relations of relations of American religious, ethnic, and racial minorities in terms of social change and social structure. f social change and social structure. Special attention given to Puerto Rican, Chicano and Indian subcultures. Sources of prejudice and discrimination, social processes including conflict segregation, assimilation, accommodation, and cooperation. Prerequisite: SOC 100. (3 crs.)

**SOW 215. HUMAN GROWTH AND BEHAVIOR II.** A continuation of Human Growth and Behavior I. Prerequisite: SOW 215 (3 crs.)

**SOW 255. SOCIAL WORK METHODS I.** Designed for people who work with other people. Assumes that although the tasks that a human service worker may be asked to perform vary from agency to agency, there are, nevertheless, certain attitudes, knowledge, and skills that are basic to all such work. It further assumes that as these attitudes, knowledge, and skills become more acutely developed, self-awareness will develop with subsequent development of a professionalized self. Prerequisites: SOW 150 and SOW 100. (3 crs.)

**SOW 265. JUVENILE DELINQUENCY.** The causes, prevention, and treatment of deviancy among youth. Emphasis on concept of the non-adversary role of the juvenile court system and the urgent need for change. An exploration of the sociological theories for deviancy and the changing attitude toward treatment and treatment facilities. Prerequisite: PSY 100 (3 crs.)

**SOW 270. CHILD WELFARE.** The services which are peculiar to programs in a Child Welfare agency. Casework with children, natural parents and substitute parents is discussed. Separation theories are presented and related to the understanding of this experience for children. Some historical, as well as, current practice in homemaker service, day care, foster care, (foster home institutions, group homes, and residential treatment centers) and adoption will be presented. Case material will be used to focus the discussion of the caseworker's role in these services. Prerequisite: SOW 150 (3 crs.)

**SOW 290. SOCIAL WELFARE AS A SOCIAL INSTITUTION.** Historical approach to social welfare as an institution in order to focus on the process of institutionalization in which behavior that is anticipated and unpredictable evolves into that which is regular, patterned and recurring. The historical approach also enables students to make some correlation between values, beliefs and norms emanating from social welfare in sixteenth, eighteenth and nineteenth century Europe and concepts, attitudes and philosophies associated with social welfare in twentieth century America. Prerequisites: PSY 100 and SOW 150. (3 crs.)

**SOW 301. SOCIAL WORK INTERVIEW.** This course is designed to familiarize students with the essential components of interviewing skills in collecting information, assessing client problems and interviewing in the process of ameliorating individual or small group disfunctioning. This course emphasizes the importance of the interview as a major means of communication with persons in need of help. (3 crs.)

**SOW 309. WELFARE PRACTICUM I.** An opportunity to learn and apply theoretical knowledge to practice through involvement in a social welfare agency setting or institution. The student is required to spend 16 clock hours per week in the field. Prerequisite: Permission of the instructor. (6 crs.)

**SOW 319. WELFARE PRACTICUM II.** Continuation of Welfare Practicum I. The student continues to work under a trained social worker, preferably in the same setting as the previous placement. The student is expected to demonstrate a considerable amount of classroom knowledge and should show conviction about the value of social work in improving the client's psycho-social functioning. The student is required to spend 16 clock hours per week in the field. Prerequisite: SOW 309 and permission of the instructor. (6 crs.)

**SOW 346. SOCIAL WORK METHODS II: GROUP WORK.** History of social group work, the social the social work values, the assessment of goals and objectives in the group, the principles of social group work, and the various models of group therapy. Prerequisites: SOW 150 and SOW 255. (3 crs.)

**SOW 347. SOCIAL WORK METHODS III: COMMUNITY ORGANIZATION.** A comprehensive review and descriptive history of the evolution of community organization methodologies with emphasis upon their generic social work qualities. Concern is devoted to both the character of the process and tasks associated therewith, as well as the role community organization plays in social reform in the United States. The course material relates to collective social behavior, social institutions, the politics of social services delivery, community problem-solving, and social planning. Prerequisite: SOW 346. (3 crs.)

**SOW 352. ADVANCED CLINICAL METHODS IN SOCIAL WORK.** Builds upon the elements of casework practices introduced in Social Work Methods I. The process of psychosocial study, diagnosis, and treatment more adequately developed. Abundant use of assigned tests and case material, particularly those concerned with social welfare. Pedagogic use of role playing is also systematically developed. Generic concepts stressed, but specific setting topically considered. For example, relaxation training, biofeedback, hypnosis and projective testing for the social worker are typically considered. Prerequisite: SOW 255 (3 crs.)

**SOW 365. DELIVERY OF SERVICES.** Deals with macro practice techniques. Theoretical underpinnings are examined from a social systems perspective. The primary value stressed is that the student must become sensitive to consumers and empathetic to their concerns is prerequisite to becoming a professional social worker. It is felt that such a goal cannot be attained simply by talking about consumers, but that consumerism must be experienced. Therefore, the student is required during the semester to become involved in a consumer concern, which will be agreed upon by the student and the instructor, and write a paper describing their experience and how it relates to the course. Prerequisite: SOW 346.

**SOW 370. SOCIAL CHANGE.** A continuation of SOW 365, Delivery of Services, and also emphasis on macro, generalist techniques, drawn from social system theory. It is also stressed that societal representatives will effect needed changes only if the human service worker initiates change efforts in a fashion that provides adequate feedback to decision makers. It is assumed that decision makers effect needed societal changes satisfied. Prerequisites: SOW 346, 365. (3 crs.)

**SOW 450. RESEARCH METHODS IN SOCIAL WORK.** The social work scientific endeavor is presented as a special type of problem-solving and analytical thinking activity. Its thrust is to teach the undergraduate student to become a critical consumer of research reports and to prepare the student to begin to understand the critical importance of research as a professional endeavor.

**SOW 475. HUMAN SEXUALITY.** This course provides a basic overview of the human sexual system. Social sexual values and attitudes will be examined along with information on physiological and psychological sexual dysfunctioning. A special emphasis will be on the skills and knowledge needed to provide information to clients as well as therapeutic interventions. (3 crs.)

**SOW 495. SEMINAR IN SOCIAL WORK.** (variable)

<b>DEPARTMENT OF SPECIAL EDUCATION</b>
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**SPECIAL EDUCATION**  
**MENTALLY/PHYSICALLY HANDICAPPED**  
**COMMUNITY LIVING ARRANGEMENTS**  
**MENTALLY/PHYSICALLY HANDICAPPED:**  
**PHYSICAL EDUCATION AND RECREATION**  
**EARLY CHILDHOOD/SPECIAL EDUCATION**  
**ELEMENTARY/SPECIAL EDUCATION**

Professor Wallace D. Hodge, *chair*. Professors Robert A. Bauman, Peter J. Belch, Robert F. Dickie, Jay R. Powell; Associate Professors Albert Dascenzo, Regis Lazor, Ben A. Mulé, Angela K. Zondos; Assistant Professor Paul L. Lancaster

The Department of Special Education, accredited by the American Association of Colleges of Teacher Education, offers several programs leading to the baccalaureate degree with a major in Special Education. The Mentally/Physically Handicapped curriculum leads to a Pennsylvania Instructional I Certification. This certificate entitles the graduate to teach children manifesting the following handicaps: mental retardation, learning disability, physical handicaps, emotional disturbance, and brain damage. The Mentally/Physically Handicapped curriculum with Physical Education and Recreation emphasis also leads to Pennsylvania certification. In addition graduates of this program can provide adaptive physical education instruction for each of the handicap categories. Majors in either Early Childhood or Elementary education may dual major in Special Education. Graduates of these programs receive certification in both Early Childhood/Elementary and Mentally/Physically Handicapped.

*Pennsylvania teacher certification requires a satisfactory grade on the NTE.*

The field of special education, both within the state of Pennsylvania and nationally, continues to grow, providing excellent professional career opportunities. Recent federal legislation has mandated new services for handicapped youngsters and provided increased funding. The impetus should be toward an increased growth rate in special education programs, particularly for children with severe and/or profound handicaps. The area of physical education and recreation for the handicapped is also presently characterized by expanding interest and activity. More and more programs are recognizing the needs of handicapped children to develop their physical skills and their ability to participate in recreational activities. Graduates of the Mentally/Physically Handicapped program are qualified to assume several professional roles including: special education classroom teacher, resource room teacher, homebound instruction teacher, hospital teacher, itinerant physical education teacher for the handicapped, recreational director in an institutional or agency setting, recreational program specialist for governmental agencies involving parks and playgrounds as well as a variety of roles in sheltered workshops and community-living arrangements for handicapped adults.



The growth of mainstream programs for mildly handicapped youngsters has been rapid. It has been recognized that children with mild forms of handicaps typically attain higher levels of achievement in the regular class environment than in the special self-contained classroom. These children do, however, need special help and remedial instruction in some areas of the curriculum. Thus, a relatively new educational concept, the resource room, is becoming an increasingly common means of addressing the needs of children while continuing to maintain their enrollment in regular classrooms. This process of integrating the handicapped child should be initiated early, preferably at the preschool level, or no later than the early elementary years. Teachers trained in Early Childhood or Special Education will be able to provide excellent resource services to both children and the other staff members of an elementary school. Graduates of this program are qualified to assume several professional roles, including regular early childhood classroom teacher (nursery-third grade), special education classroom teacher—mentally retarded, emotionally disturbed, physically handicapped, learning disabled, brain-damaged (nursery-twelfth grade), and resource room teacher.

The Special Education Department also offers two programs for majors preparing to work with the handicapped in various community settings. Students may complete a two-year associate degree or a four-year baccalaureate degree in the Community Services Personnel Training Program. This program emphasizes providing service to the handicapped in other than school settings. Training stresses a comprehensive non-categorical approach to understanding handicapping conditions.

<p style="text-align: center;"><b>BACHELOR OF SCIENCE IN EDUCATION: MENTALLY/PHYSICALLY HANDICAPPED EDUCATION</b></p>
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This program, leading to the Pennsylvania Instructional Level I certification, entitles the graduate to teach children with the following handicaps: Mental retardation, learning disability, physical handicaps, emotional disturbance, and brain damage.

The general objectives of the program are:

- To demonstrate an understanding of the nature of handicapping conditions and the impact of these conditions on normal growth and development;
- To demonstrate an ability to effectively use alternative instructional strategies appropriate to the needs of exceptional children;
- To demonstrate the ability to identify the educationally relevant characteristics of various exceptional children and to effectively diagnose and prescribe appropriate educational experiences;
- To demonstrate the ability to function as a competent classroom manager in promoting learning among handicapped students;
- To demonstrate competency to initiate instructional programs that facilitate appropriate career and vocational goals for the mentally/physically handicapped.

**Curriculum:**

(A) **General Education:** 9 credits in Humanities; 9 credits in Natural Sciences; 9 credits in Social Sciences; 3 credits of Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 101); 22 credits of free electives, including English Composition I-II (ENG 101, 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Teaching in a Multicultural Society (EDU 210); Computers for Teachers (EDF 301); 6 credits of electives; Student Teaching and Practicum

(C) **Area of Concentration:** Exceptional Child I-II (ESP 100, 201); Behavior Principles I-II (ESP 301, 401); Education of the Severely/Profoundly Handicapped (ESP 502); Diagnostic Testing/Prescriptive Teaching (ESP 503); Physical Activities for the Exceptional Child (HPE 337); Curriculum Methods I-II (ESP 504-505); Habilitation Training (ESP 506).

**BACHELOR OF SCIENCE IN SPECIAL EDUCATION:  
COMMUNITY SERVICES**

The Community Services Personnel Training Program is a four-year undergraduate curriculum leading to a Bachelor of Science degree in Special Education. It emphasizes career working with the handicapped in community settings other than schools. Training stresses a comprehensive non-categorical approach to understanding handicapping conditions. Students learn to work with the mentally retarded, learning disabled, physically handicapped, emotionally disturbed, and brain-injured.

The field of community alternative services for the handicapped is the fastest growing area in the field of human care services. Both philosophical concern and legal mandates have drastically altered the nature of such services during the past few years. Communities are beginning to recognize and respond to their responsibility for handicapped residents. Large-scale warehousing of human beings within institutions has been significantly reduced, and, more importantly, society is re-examining the central question of institutionalization on humanitarian and constitutional grounds. This shift has opened an entirely new professional career field—providing community-based alternative programs for the handicapped. Expansion, while rapid, has been impeded by the lack of trained personnel. The need for competent personnel in this area will very probably continue to expand. Graduates of this program are qualified to assume professional roles as resident managers of community living arrangements, mental retardation specialists in MH/MR community programs, supervisors of work activity centers, supervisors of therapeutic activity centers, supervisors of adult development centers, supervisors of child development centers.

The general objectives of the Community Services Personnel Training Program are:

- To demonstrate the ability to use effectively behavior management principles in a number of applied settings;
- To demonstrate the ability to program effectively and provide instruction to handicapped clients in the area of daily living skills.
- To demonstrate the ability to provide effective counseling services to clients and their families.

**Curriculum:**

**(A) General Education:** 9 credits in Humanities; 9 credits in Natural Sciences; 2 credits in Health or Physical Activities; General Psychology (PSY 100); 20 credits of free electives, including English Composition I-II (ENG 101, 102).

**(B) Professional Specialization:** 15 credits from the following: Abnormal Psychology (PSY 400); Developmental Psychology (PSY 207); Social Psychology (PSY 209); Principles of Behavior Modification (PSY 350); Child Welfare (SOW 270); Contemporary Social Problems (SOC 205); The Family (SOC 220); Juvenile Delinquency (SOW 265); Social Institutions (SOC 240); Social Change (SOW 370).

**(C) Professional Education:** Exceptional Child I-II (ESP 101, 200); Behavior Principles I-II (ESP 301, 401); Education of Severely/Profoundly Handicapped (ESP 502); Academic and Recreational Skill Training (ESP 278); Occupational and Daily Living Skill Training (ESP 279); Community Resources and Public Relations (ESP 378); Business Management and Legal Factors (ESP 379); Client Counseling and Psycho-Social Development and Client Counseling (ESP 478); Program Evaluation and Personnel Management (ESP 479); Internship and Practicum.

<b>ASSOCIATE DEGREE IN COMMUNITY LIVING ARRANGEMENTS</b>
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One of the most significant new developments in the field of human services has been the rapid and dramatic growth of community-based programs for the mentally retarded. These community living arrangements (CLAs) need trained staff members to provide client services.

This program is specifically designed to incorporate skills that will lead to immediate employment in a CLA after completion of the program.

**Curriculum:**

**(A) General Education:** Composition I-II (ENG 101, 102); 9 credits in Social Sciences (including General Psychology [PSY 100] and one Psychology elective and a Sociology course); 6 credits in Natural Sciences including Fundamentals of Mathematics (MAT 100); 3 credits of free electives.

**(B) Professional Courses:** Exceptional Children I-II (ESP 101, 200); Behavior Principles I-II (ESP 301, 401); Academic and Recreational Skill Training (ESP 278); Occupational Skill Training and Activities of Daily Living (ADL) (ESP 279); Community Resource Utilization and Public Relations (ESP 378); Practicum.

<b>BACHELOR OF SCIENCE IN EDUCATION: MENTALLY/PHYSICALLY HANDICAPPED: PHYSICAL EDUCATION AND RECREATION</b>
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The Comprehensive Mentally/Physically Handicapped Physical Education and Recreation program is a four-year undergraduate program leading to a Bachelor of Science degree in Education and to the Pennsylvania Instructional I certification.

This certificate entitles the graduate to teach children with the following handicaps: mental retardation, learning disability, physical handicaps, emotional disturbance, and brain damage. Majors pursuing the Physical Education and Recreation area of interest can provide physical education instruction for each of these handicap categories.

The area of physical education and recreation for the handicapped is presently characterized by expanding interest and activity. More and more programs are recognizing the needs of handicapped children to develop their physical skills and their ability to

participate in recreational activities. Graduates of this program are qualified to assume several professional roles, including special education teacher for the handicapped, recreational director in an institutional or agency setting, and recreational program specialist for governmental agencies involving parks and playgrounds.

The objectives of this program are:

- To demonstrate an understanding of the nature of handicapping conditions and the impact of these conditions on normal growth and development;
- To demonstrate the ability to effectively use alternative instructional strategies appropriate to the needs of exceptional children;
- To demonstrate the ability to identify the educationally relevant characteristics of various exceptional children and to effectively diagnose and prescribe appropriate educational experiences;
- To demonstrate the ability to function as a competent classroom manager in promoting learning among handicapped students;
- To demonstrate competency to initiate the instructional programs that facilitate appropriate career and vocational goals for the mentally/physically handicapped;
- To demonstrate the ability to implement physical education programs for handicapped youngsters, with emphasis on gross-motor skills and physical activities leading to lifetime recreation skills.

**Curriculum:**

(A) **General Education:** 9 credits in Humanities, including Oral Communication (COM 100); 3 credits in Health and Physical Education; 9 credits in Natural Sciences; 9 credits in Social Sciences, including General Psychology (PSY 100); 21 credits of Free Electives, including Composition I-II (ENG 101, 102)

(B) **Professional Education:** 32 credits: Educational Foundations (EDF 100); Educational Psychology (PSY 208); Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Teaching in a Multicultural Society (EDU 210); Computers for Teachers (EDF 301); six credits of electives; Student Teaching and School Law: 12 credits.

(C) **Area of Concentration:** 39 credits: Exceptional Child I-II (ESP 100, 200); Behavioral Principles I-II (ESP 301, 401); Education of the Severely and Profoundly Handicapped (ESP 502); Diagnostic Testing and Prescriptive Teaching (ESP 503); Physical Activities for the Exceptional Child (HPE 337); Curriculum and Methods I-II (ESP 504-505); Habilitation Training (ESP 506).

(D) **Physical Education and Recreation:** 16 credits: Anatomy, Kinesiology and Physiology (ESP 315); Motor Learning (ESP 316); Rhythmical Analysis and Creative Movement (ESP 317); School-Community Recreation and Crafts (ESP 415); Methods of Physical Education and Recreation (ESP 416).

**BACHELOR OF SCIENCE IN EDUCATION:  
EARLY CHILDHOOD/SPECIAL EDUCATION (DUAL MAJOR)**

Students of superior academic achievement who are majoring in either Early Childhood Education or Special Education are encouraged to consider pursuing a dual curriculum leading to Pennsylvania certification in both fields. Current educational thought advocates the placement of mildly handicapped youngsters in regular classrooms with special education resource services made available to the student and the classroom teacher. Students who

successfully complete this dual-major program will possess demonstrated competencies in facilitating the assimilation of the mildly handicapped into the mainstream of American education and society.

The growth of mainstreaming programs for mildly handicapped youngsters has been rapid. It has been recognized that children with mild forms of handicaps typically attain higher levels of achievement in the regular class environment than in the special self-contained classroom. These children do, however, need special help and remedial instruction in some areas of the curriculum. Thus, a relatively new educational concept, the resource room, is becoming an increasingly common means of addressing the needs of these children while continuing to maintain their enrollment in regular classrooms. This process of integrating the handicapped child should be initiated early, preferably at the preschool level, or no later than the early elementary years. Teachers trained in both Early Childhood and Special Education will be able to provide excellent resource services to both children and the other staff members of an elementary school.

Graduates of this program are qualified to assume several professional roles, including regular early childhood classroom teacher (nursery-third grade), special education classroom teacher—mentally retarded, emotionally disturbed, physically handicapped, learning disabled, brain-damaged (nursery-twelfth grade)—and resource room teacher.

Early Childhood/Special Education dual majors must demonstrate the competencies associated with each of the individual certificate programs (refer to the Early Childhood and Special Education programs). In addition, the following general objectives must be met:

- To demonstrate the ability to identify students who are in need of some special service;
- To demonstrate the ability to work effectively with other teachers in cooperatively planning programs for children with special needs;
- To demonstrate the ability to facilitate the social acceptance of children with handicaps by structuring classroom environments that reinforce positive interpersonal relationships;
- To demonstrate the ability to complete educational assessment of the learning needs of students;
- To demonstrate the ability to develop individual educational prescriptions based on assessment data;
- To demonstrate the ability to effectively modify instructional strategies or materials to provide for the unique needs of students manifesting learning handicaps.

#### **Curriculum:**

(A) **General Education:** 15 credits in Humanities, including Oral Communication (COM 100) and Composition I-II (ENG 101-102); 15 credits in Natural Sciences; 15 credits in Social Sciences, including General Psychology (PSY 100); 3 credits in Health or Physical Activities.

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Child Psychology (PSY 205) or Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Teaching in a Multicultural Society (EDU 210); Computers for Teachers (EDF 301); Student Teaching and Practicum.

(C) **Early Childhood Courses:** Field Experience in Early Childhood (ECE 202); Laboratory Experiences in Nursery/Kindergarten (ECE 201); Art for Early Childhood (ECE 215); Music for Early Childhood (ECE 217);

Health and Physical Education for Early Childhood (ECE 218) or Physical Activities for the Exceptional Child (HPE 337); Reading Experiences in Early Childhood (ECE 301); Children's Literature (ECE 311); Mathematics Content in Early Childhood (ECE 315); The Child in Social and Physical Environment (ECE 316); Science for Early Childhood (ECE 317); Early Childhood Seminar (ECE 405).

(D) **Special Education Courses:** Exceptional Child I-II (ESP 100, 201); Behavioral Principles I-II (ESP 301, 401); Education of the Severely/Profoundly Handicapped (ESP 502); Diagnostic Testing/Prescriptive Teaching (ESP 503); Physical Activities for the Exceptional Child (HPE 337) or Health and Physical Education for Elementary Grades; Curriculum Methods I-II (ESP 504-505); Habilitation Training (ESP 506).

<p><b>BACHELOR OF SCIENCE IN EDUCATION: ELEMENTARY/SPECIAL EDUCATION (DUAL MAJOR)</b></p>
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The growth of mainstream programs for mildly handicapped youngsters has been rapid. It has been recognized that children with mild handicaps typically attain higher levels of achievement in the regular class environment than in the special self-contained classroom. However, these children still need special help and remedial instruction in some areas of the curriculum. Thus, a relatively new educational concept, the resource room, is becoming an increasingly common means of addressing the needs of mildly handicapped children. This process of integrating the handicapped child should be initiated early, preferably at the preschool level, or no later than the early elementary years. Teachers trained in both Elementary and Special Education are able to provide excellent resource services to both children and other staff members of an elementary school. Graduates of this program are qualified to assume several professional roles: regular elementary classroom teacher (K-8), special education classroom teacher (mentally retarded, emotionally disturbed, physically handicapped, learning disabled, brain-damaged, nursery-grade 12), and resource room teacher.

Students of superior academic achievement who are majoring in either Elementary Education or Special Education are encouraged to pursue a dual curriculum leading to Pennsylvania certification in both fields. Since current educational thought advocates the placement of mildly handicapped youngsters in regular classrooms with special education resource services made available to the student and the classroom teacher, students who successfully complete this dual major program will possess demonstrated competencies in facilitating the assimilation of the mildly handicapped into the mainstream of American education and society.

Elementary/Special Education dual majors must demonstrate the competencies associated with each of the individual certification programs (refer to the competencies given in this and the Elementary Education sections of this catalog). In addition, the following general objectives must be satisfied:

- To demonstrate the ability to identify students who are in need of some special service;
- To demonstrate the ability to work effectively with other teachers in cooperatively planning programs for children with special needs;
- To demonstrate the ability to facilitate the social acceptance of children with handicaps by structuring classroom environments that reinforce positive interpersonal relationships;

- To demonstrate the ability to complete educational assessment of the learning needs of students;
- To demonstrate the ability to develop individual educational prescriptions for children based on assessment data;
- To demonstrate the ability to effectively modify instructional strategies and/or materials to provide for the unique needs of students with learning handicaps.

**Curriculum:**

(A) **General Education:** 18 credits in Humanities, including Oral Communication (COM 100) and Composition I-II (ENG 101-102), courses in art, history, and music; 15 credits in Natural Sciences, including algebra, biology, physical science, and Man and His Environment; 15 credits in Social Sciences, including General Psychology (PSY 100), American Government, U.S. History (Before or Since 1877), Elements of Economics, and Geography; Co-Ed Health and one credit of Physical Education

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 208); Child Psychology (PSY 205) or Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Teaching in a Multicultural Society (EDU 210); Computers for Teachers (EDF 301); Student Teaching; Practicum and School Law.

(C) **Elementary Education Courses:** Elementary Health and Physical Education (EDE 208) or Physical Activities for the Exceptional Child (HPE 337); Teaching of Reading (EDE 301); Children's Literature I (EDE 311); Field Experiences in Early Childhood Education (ECE 202); Mathematics Content and Methods in the Elementary School (EDE 305); Teaching of Social Studies (EDE 306); Science for Elementary Teachers (EDE 307); Teaching Language Arts (EDE 308).

(D) **Special Education Courses:** Exceptional Child I-II (ESP 100, 201); Behavioral Principles I-II (ESP 301, 401); Education of the Severely/Profoundly Handicapped (ESP 502); Diagnostic Testing/Prescriptive Teaching (ESP 503); Physical Activities for the Exceptional Child (HPE 337) or Health and Physical Education for the Elementary School (EDE 208); Curriculum and Methods I-II (ESP 504-505); Habilitation Training (ESP 506).





<b>SPECIAL EDUCATION COURSES (ESP)</b>
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F and S indicate whether a course is usually offered in the Fall or the Spring semester.

B indicates that the courses are usually offered *both* semesters.

**ESP 101 & 200. EXCEPTIONAL CHILD I & II.** A two-course introductory sequence to handicapped children and to the field of special education. These courses examine the range of handicaps in children and their broad sociological, educational, and vocational implications. Specifically, the sequence develops competencies in such areas as the historical development of services for handicapped children, definitions and classification of children's handicaps, the impact of labelling children and mainstream programs, pre-school and post-school programs for the handicapped, family services, prosthetic devices and program modifications for the physically handicapped and a behavioral analysis of normal child development. These courses stress observation of the various target groups of handicapped children. (4 crs. each) F

**ESP 250. WORKSHOP FOR TEACHER AIDES.** For teacher aides who work in classes for handicapped children. The content is, however, of great value to all teacher's aides since it deals with methods that might enable the participants to deal more easily and more effectively with any children. Numerous activities characterize the workshop; it is not a lecture course. (3 crs.) B

**ESP 278. ACADEMIC AND RECREATIONAL SKILL TRAINING.** Handicapped persons residing in the community must acquire those skills which will facilitate assimilation to the community at large. Important among these skills are basic competencies in academic areas such as reading, writing, communication, and computational abilities. In order to live independently, the handicapped must also be capable of "normal" behavioral responses in various social, vocational and recreational situations. (3 crs.) F

**ESP 279. OCCUPATIONAL SKILL TRAINING AND ACTIVITIES OF DAILY LIVING (ADL).** This course focuses on the prevocational and vocational needs of handicapped youth and adults as well as those supportive skills necessary for achieving acceptable levels of "normal adult adjustment." Since the habilitation and training needs of the handicapped population are so diverse, the nature of course content and emphasis is also broad, to include such programs as sheltered workshops and rehabilitation facilities, work activity centers, therapeutic activity centers, CLS's, etc. (3 crs.) F

**ESP 301. BEHAVIOR PRINCIPLES I.** Provides the student with the verbal and performance skills in measurement and observation necessary to apply the principles of behavior modification in schools and a variety of other settings. Students who complete the course will have mastered skills in data collection, data manipulation, and data-display including graphing, behavioral definitions, the principles of reinforcement and extinction, and data-based decision making. (4 crs.) F

**ESP 315. ANATOMY, KINESIOLOGY, PHYSIOLOGY.** An introduction to practical knowledge of human growth and development, human anatomy and physiology. Special focus on the biomechanics of human motion in relation to sport and recreational skills for handicapped and nonhandicapped persons. (3 crs.) S

**ESP 316. MOTOR LEARNING.** A preparatory course for teaching adapted physical education to handicapped children. A systematic approach based on the I CAN Curriculum is used to assess, teach and evaluate psychomotor skills. Child development theories are studied and applied to the development of special physical education programs for handicapped children. (3 crs.) S

**ESP 317. RHYTHMICAL ANALYSIS AND CREATIVE MOVEMENT.** An introductory course that focuses on the therapeutic value of music and dance. Special emphasis is placed on Laban's Effort-Shape System of Movement Analysis. (3 crs.) S

**ESP 360. FIELD EXPERIENCE FOR SPECIAL EDUCATION.** Provides a vehicle for obtaining needed practical experiences with various groups of handicapped children. The type of practicum site may vary widely and includes

such settings as public and private residential institutions, day care centers, therapeutic activity centers, sheltered workshops, rehabilitation centers, community MH/MR programs, and summer camps for handicapped children. (Variable credit) B

**ESP 378. COMMUNITY RESOURCE UTILIZATION AND PUBLIC RELATIONS.** Community-based programs for handicapped individuals utilize community facilities, agencies, and services to provide broad-based support and assistance to the client populations. In those situations where an insufficient or inadequate level of support is in place, the public as well as the policy makers must be mobilized to fill identified voids. Very often the springboard from which an effective service base can be established is a well developed program of public relations. The public relations program also serves the handicapped by educating the community members—the neighbors of handicapped persons living in the community. (3 crs.) B

**ESP 379. BUSINESS MANAGEMENT AND LEGAL CONSIDERATIONS.** Community-based programs currently exist both as a mandate of law and at the pleasure of legislation from a fiscal standpoint. Further, the relationships between providers and clients, providers and agencies, agencies and clients, etc. are all regulated. This course, therefore, explores the many legal implications involved in community-based programs and specifies the responsibility that students will face as professionals. (3 crs.) B

**ESP 401. BEHAVIOR PRINCIPLES II.** This course familiarizes the student the laboratory derived learning principles that constitute the field of applied behavior analysis. An experimental component provides each student the opportunity to observe and report on a behavioral intervention program. (4 crs.) S

**ESP 415. SCHOOL, COMMUNITY RECREATION, AND CRAFTS FOR HANDICAPPED PERSON.** Basic philosophical foundations of leisure and recreation. Special focus is on the aims and benefits of the recreation process and therapeutic recreation. A third of this course includes supervised practice with persons who are handicapped. (3 crs.) B

**ESP 416. METHODS OF PHYSICAL EDUCATION AND RECREATION FOR HANDICAPPED PERSONS.** Prepares teachers of the handicapped to plan, assess, prescribe, teach, and evaluate special physical education programs for persons who are mentally retarded, learning disabled, hearing impaired, visually handicapped, emotionally disturbed, orthopedically handicapped, and multi-handicapped. (4 crs.) B

**ESP 459. STUDENT TEACHING.** In the new comprehensive curriculum, each course has a practicum associated with it that involves consistent contact throughout each semester with special children. The Special Education staff members make a concerted effort to ensure that Special Education majors are exposed to the full range of children covered under the comprehensive certification, i.e., mentally retarded, emotionally disturbed, learning disabled, brain damaged, and physically handicapped. Students are also exposed to the dimensions of mild-profound and elementary-secondary since the new certification covers K-12, mild through profound, in each of the handicapping areas for their student teaching experience. The areas relate to their specific vocational goals and their own interests and strengths. The major practicum, Student Teaching, provides an intensive experience for the student in two of the handicapping areas for a period of sixteen weeks. (12 crs.) B

**ESP 478. PSYCHO-SOCIAL DEVELOPMENT AND CLIENT COUNSELING.** Examines the concept of normalization and how the emphasis on the normalization of the experiences of handicapped clients in community-based programs is vital to their successful adjustment. Methods for developing normalizing experiences are also explored. (3 crs.) B

**ESP 479. PROGRAM EVALUATION AND PERSONNEL MANAGEMENT.** This course is intended to fulfill the need of training of personnel within community facilities who are required to perform management duties. The environments for which the training techniques in the course are designed include community living arrangements, sheltered workshops, adult activity centers (both therapeutic and work), and other human service providers and community social welfare agencies. Competencies are developed that are knowledge- or information-based as well as skill-based. (3 crs.) B

**ESP 490. PROFESSIONAL PRACTICUM AND SCHOOL LAW.** Meets weekly to provide Special Education majors working towards a comprehensive certificate (Mentally Retarded, Emotionally Disturbed, Learning Disabled, Brain Damaged and Physically Handicapped) with an opportunity to discuss problems encountered by the students in their teaching experiences. The students are provided with opportunities to demonstrate the effectiveness and functionality of their teacher-made devices, learning centers, and curriculum materials used in their classroom. (2 crs.) B

**ESP 495. HONORS SEMINAR.** (3 crs.) B

**ESP 498. INTERNSHIP.** Each student majoring in the Handicapped Persons Community Service Personnel Training Program completes a one-semester (15-week) internship assigned to community agencies. Ten weeks are spent working in all phases of a community living arrangement (CLA), including client counseling, skill training, recreational planning, public relations, business and personnel management, etc. Interns are required to live at the CLA facility when it is considered essential to their training. The remaining five weeks of the internship are spent in another type of community program for the handicapped, such as therapeutic activities centers, work activity centers, adult development centers, sheltered workshops, etc. Students are encouraged to identify the type of agency they are interested in and attempts are made to arrange an appropriate affiliation. (Variable.) B

**ESP 501. INTRODUCTION TO THE EXCEPTIONAL CHILD.** An introduction to handicapped children and to the field of special education, examining the broad range of handicaps in children and their sociological, educational, and vocational implications. (Variable.) B

**ESP 502. EDUCATION OF THE SEVERELY/PROFOUNDLY HANDICAPPED.** How to work with children and adults who display severe/profound learning and/or behavior problems. Students spend time tutoring at facilities for this population. (Variable.) F

**ESP 503. DIAGNOSTIC TESTING AND PRESCRIPTIVE TEACHING.** This course deals with both norm-referenced and criterion-referenced tests and their use with exceptional children. Class participants must administer selected tests and prescribe remediation based on the results. (Variable.) S

**ESP 504 AND ESP 505. CURRICULUM PLANNING AND METHODS I AND II.** Curriculum and Methods I and II are a block of courses that are offered to Special Education majors the semester prior to their student teaching experience. The major purpose of these courses is the instruction of communication and arithmetic skills to all age groups of exceptional children. Specifically, Curriculum and Methods I is concerned with communication skills (reading—silent and oral—vocabulary development and comprehension). Curriculum and Methods II emphasizes arithmetic skills. Both courses stress: (1) a behavioral diagnosis of communication and arithmetic strengths and weaknesses; (2) the development and implementation of intervention strategies for various populations of exceptional children; (3) the selection and/or development of appropriate materials for instruction; and (4) the procedures and techniques for continuous evaluation for the instructional process in order to determine effectiveness. (Variable.) B

**ESP 506. HABILITATION TRAINING.** This course deals with special education programs for senior high school students as well as those persons who reside in the community. Emphasis is placed on vocational preparation and training. Specific techniques for task analysis of jobs, daily living skills, and social adaptation constitute a major portion of this course. Emphasis is placed on the development of functional skills that contribute to normalized development. (Variable.) B

## DEPARTMENT OF SPEECH PATHOLOGY AND AUDIOLOGY

Associate Professor Albert E. Yates, *chair*. Professors R. Michael Feldman; Associate Professors Charles A. Gismondi, D. Frank McPherson, Richard R. Nemeec

### BACHELOR OF SCIENCE IN EDUCATION: SPEECH/LANGUAGE PATHOLOGY

The experiences in the Speech Pathology and Audiology Department are integrated with the overall undergraduate program in order to provide students with a broad understanding of the needs of individuals who have communication disorders. The department also provides clinical services for individuals who have communication disorders. Students observe and/or assist in diagnostic evaluations and therapy programs. The work includes experiences with individuals of all ages, ranging from pre-school to adult.

The undergraduate program in Speech Pathology and Audiology (SPA) is a preprofessional degree program. Students, therefore, should be preparing themselves for future graduate training in order to pursue a career in the profession of Speech/Language Pathology. (At California University of Pennsylvania, teacher certification in SPA is not offered as an undergraduate program, but may be obtained in graduate school.) Students planning to complete the undergraduate program in SPA should maintain a grade point average (GPA) sufficient to enhance the probability that they can be admitted to a graduate program. Since unconditional admission to most graduate programs in SPA requires a 3.0 GPA in the major area and a 2.8 overall GPA in undergraduate work, these are the minimum goals which undergraduates should strive to achieve. To facilitate the attainment of these goals, the faculty in SPA have determined that students should be maintaining the following GPAs at the indicated points in their undergraduate program:

	OVERALL GPA	SPA GPA
End of Freshman Year (32 credit hours)	2.20	2.50
End of Sophomore Year (64 credit hours)	2.40	2.65
End of Junior Year (96 credit hours)	2.60	2.80
Graduation (128 credit hours)	2.80	3.00

Students who are not achieving the above standards will be counseled each semester concerning the options which are available to them : (1) Make a more concerted effort to improve their level of performance, (2) consider transferring to some other program, or (3) graduate from the program with the minimum allowable GPA (2.3 overall and 2.5 in SPA), but with the understanding that employment opportunities in the profession with only the

B.S. degree will be extremely limited if not completely nonexistent. Every effort will be made to assist students with whatever option they choose.

The objectives of this program are to:

- Develop an understanding of the basic acoustical, anatomical, neurological, and normal development of speech, language, and hearing;
- Develop knowledge of the various disorders affecting speech and language and the underlying pathologies and symptoms of the disorders;
- Create awareness of the instruments and procedures available to assess speech and language disorders and develop the ability to select and use such instruments correctly;
- Develop the clinical skills to effectively perform therapeutic procedures to correct or improve speech and language disorders;
- Instill the principles and practices of ethical professional behavior.

**Curriculum:**

(A) **General Education (56 credits):** Humanities: 18 credits (from two disciplines), including Composition I-II (ENG 101-102) and Oral Communication (COM 101); Natural Sciences: 9 credits (from two disciplines); Social Sciences: 9 credits (from two disciplines); 3 credits Health or Physical Activities; General Psychology (PSY 100); Free Electives: 14 credits.

(B) **Related Professional Courses (30 credits selected from adviser-approved university courses),** including Developmental Psychology (PSY 207), Teaching in a Multicultural Society (EDU 210) or Ethnic, Racial, and Social Minorities (SOC 110), Computers for Teachers (EDF 301), Foundations of Education (EDF 100), and Educational Psychology (PSY 110). (EDF 100 and PSY 110 are required only for Pennsylvania Certification.)

(C) **Speech Pathology and Audiology (42 credits):** ASHA Basic Science Requirements (selected from matrix): 6 credits in Biological Sciences, Physical Sciences, or Mathematics; 6 credits in Behavioral or Social Sciences; Survey of Speech Pathology (SPA 100); Language and Speech Development (SPA 105); Phonetics (SPA 203); Anatomy and Physiology (SPA 204); Acoustics and Psychoacoustics (SPA 211); Speech Pathology I (SPA 300); Speech Pathology II (SPA 301); Auditory Training and Speech Reading (SPA 302); Introduction to Audiology (SPA 305); Clinical Practicum (SPA 400).

<b>SPEECH PATHOLOGY AND AUDIOLOGY COURSES (SPA)</b>
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**SPA 100. SURVEY OF SPEECH PATHOLOGY.** This course introduces the student to the field of communication disorders through a description of the communicatively handicapped. (3 crs.)

**SPA 105. LANGUAGE AND SPEECH DEVELOPMENT.** The course emphasis is on the normal development of speech, language, and communication. The form and function of language are considered, i.e., phonology, syntax, morphology, semantics, and pragmatics. (3 crs.)

**SPA 203. PHONETICS.** Introduces practical phonology and phonetics as they apply to the communicative process. The student is required to learn and use the International Phonetic Alphabet. (3 crs.)

**SPA 204. ANATOMY AND PHYSIOLOGY.** The structure and normal function of the components of the human body participating in the production of speech; how the function of these components may change during speech production. Prerequisite: 6 cr. in biological sciences. (3 crs.)

**SPA 211. ACOUSTICS AND PSYCHOACOUSTICS.** This course will provide the student with a basic understanding of how sound is generated and measured. In addition, the manner in which the human auditory

system encodes sound information and subsequently extracts meaning from it will be investigated. Prerequisite: 6 credits of Physical Science or Mathematics. (3 crs.)

**SPA 300. SPEECH PATHOLOGY I.** This course provides students with introductory knowledge of children with language and speech disorders. They will become aware of procedures and principles utilized by speech-language pathologists in the assessment and management of children with language and speech delays/disorders. Prerequisites: SPA 100, 203, 204 and 211. (3 crs.)

**SPA 301. SPEECH PATHOLOGY II.** Primary emphasis is placed on several of the major speech disorders, namely: fluency disorders, voice disorders, language disorders in adults, dysarthria, apraxia, and dysphagia. Prerequisites: SPA 203, 204, 211. (3 crs.)

**SPA 302. AUDITORY TRAINING AND SPEECH READING.** The course will emphasize work with hearing handicapped individuals in the following areas: (a) diagnostic information; (b) speech reading methods; (c) auditory training techniques; and (d) speech training for the aurally handicapped. Prerequisites: SPA 211 and 305. (3 crs.)

**SPA 305. INTRODUCTION TO AUDIOLOGY.** The course will provide the student with an understanding of the genetic and disease processes producing hearing loss in children and adults and the procedures used to assess hearing loss and rehabilitate persons with hearing impairment. Prerequisite: SPA 204, 211. (3 crs.)

**SPA 400. CLINICAL PRACTICUM.** Provides the student clinician with a variety of therapeutic and evaluation experiences with children or adults having speech, language or hearing disorders. Prerequisites: SPA 300 and 301. (3 crs.)



<b>DEPARTMENT OF SPORTS MEDICINE</b>
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**ATHLETIC TRAINING EDUCATION**

Associate Professor William B. Biddington, *chair*; Associate Professor Robert H. Kane, Jr.; Assistant Professor Bruce D. Barnhart; Instructor, Joni L. Cramer

The Athletic Training Education Program provides interested students with the opportunity to develop the leadership, responsibilities, and special skills necessary for a career as a Certified Athletic Trainer. The basic concept of athletic training involves the prevention, care, treatment, and rehabilitation of athletic injuries. The Athletic Training Education Program is a National Athletic Trainers' Association (NATA) approved curriculum and is approved by the State Board of Physical Therapy. Modern athletic training rooms are located in Hamer Hall and Adamson Stadium. The cadaver anatomy laboratory is also located in Hamer Hall. The California University intercollegiate athletic program, which is a strong NCAA Division II program and a member of the PSAC (Pennsylvania State Athletic Conference), comprises 14 varsity sports that enable students to gain valuable experience as student athletic trainers.

The high incidence of injuries occurring through athletic participation has become a national concern and has created demand for individuals who have completed athletic training courses, fulfilled clinical requirements, and earned a minimum of a bachelor's degree. Job opportunities for certified athletic trainers have increased substantially, and the employment potential for athletic trainers should continue to increase. The ultimate goal of this program is to prepare graduates for certification by the NATA and for careers in athletic training. Many high schools hire athletic trainers to help provide better health care for their interscholastic athletic programs. In addition, four-year colleges and universities and junior and community colleges provide significant possibilities for employment. Positions with professional teams exist; however, they are fewer in number than those associated with school athletic programs. There is also growing employment in sports medicine and rehabilitation clinics for athletic trainers.

Admission into the Athletic Training Education Program is competitive, and only a limited number of students are selected each year. Applications for the Athletic Training curriculum are accepted during the second semester of the freshman year and screened by the Admissions and Academic Standards Committee (AASC). During the first semester of the sophomore year, the student submits a letter of application to the AASC, which screens, interviews, and selects the remaining students to a maximum number of ten. Criteria for selection are a minimum of a 2.75 QPA, 350 observation hours over a three-semester period, interpersonal skills, and other qualifications, which can be obtained from the Program Director of the Athletic Training Education Program.



**BACHELOR OF SCIENCE IN EDUCATION:  
ATHLETIC TRAINING EDUCATION (SINGLE MAJOR)**

This program will lead a prospective student to a Bachelor of Science degree in Education without teacher certification.

**Curriculum:**

(A) **General Education:** 15 credits in Humanities including Oral Communication (COM 101); English Composition I-II (ENG 101, 102); 9 credits in Natural Sciences; 9 credits in Social Sciences; 2 credits in Physical Activities and 37 credits of free electives.

(B) **Area of Concentration:** Practicum Athletic Training I, II (ATE 100, 110); Substance Abuse Education (ATE 120); Human Anatomy of the Extremities I-II (ATE 200, 210); Health (HPE 100); two courses in Psychology; Kinesiology (HPE 310); Physiology of Exercise (HPE 311); Athletic Training I-II (ATE 220, 260); Administrative Aspects of Athletic Training (ATE 230); Introduction to Educational Media (EDF 304); Human Physiology for Athletic Trainers (ATE 250); Nutrition for Sports (ATE 230); Emergency Medical Technician (HPE 500); Modality Principles and Techniques with Laboratory (ATE 320); Therapeutic Exercise with Laboratory (ATE 330); Orthopedic Evaluations in Sports Medicine (ATE 400); and Special Topics in Sports Medicine (ATE 450). Clinical hours: minimum of 800 hours during junior and senior years.

**BACHELOR OF SCIENCE IN EDUCATION:  
ATHLETIC TRAINING/SECONDARY EDUCATION —  
DUAL MAJOR WITH:**

<b>Biology</b>	<b>English</b>
<b>Chemistry</b>	<b>Foreign Languages</b>
<b>Communication (Speech)</b>	<b>General Science</b>
<b>Communication (Theatre)</b>	<b>Mathematics</b>
<b>Early Childhood</b>	<b>Physics</b>
<b>Earth Science</b>	<b>Social Studies</b>
<b>Elementary Education</b>	<b>Special Education</b>

The dual major in Athletic Training/Secondary Education enables interested students to pursue the education and training necessary for a dual career as effective teachers and athletic trainers. The requirements listed below are for the Athletic Training component alone. Students interested in this program should contact the Program Director of the Athletic Training Education Program for details on the dual major. This program also requires satisfactory performance on the NTE in order to receive a Pennsylvania teaching certificate.

**Curriculum:**

(A) **General Education:** 15 credits in Humanities including Oral Communication (COM 101); English Composition I-II (ENG 101, 102); 9 credits in Social Sciences; 9 credits in Natural Sciences; 2 credits in Physical Activities. (Certain programs require specific courses in these areas).

(B) **Area of Concentration:** Human Anatomy of the Extremities I-II (ATE 200, 210); Practicum Athletic Training I, II (ATE 100, 110); Substance Abuse Education (ATE 120); Health Co-ed (HPE 100); General Psychology (PSY 100); Kinesiology (HPE 310); Physiology of Exercise (HPE 311); Emergency Medical Technician (HPE 500); Athletic Training I-II (ATE 220, 260); Human Physiology for Athletic Trainers (ATE 230); Nutrition for Sports (ATE 240); Human Physiology for Athletic Trainers (ATE 250); Modality Principles and Techniques with Laboratory (ATE 320); Therapeutic Exercise with Laboratory (ATE 330); Orthopedic Evaluations in Sports Medicine (ATE 400) and Special Topics in Sports Medicine (ATE 450). Clinical experience: minimum of 800 hours during junior and senior years.

(C) **Professional Education Requirements:** As required by the College of Education and Human Services.

(D) **Professional Specialization (Second Major):** As required by the specific major.

**ATHLETIC TRAINING COURSES (ATE)**

F and S indicate whether a course is usually offered in the Fall or the Spring semester.

**ATE 100. PRACTICUM ATHLETIC TRAINING I.** The basic mechanical techniques of athletic training, such as taping, transportation, modality usage, maintenance of equipment, record keeping, etc. (1 cr.) F

**ATE 110. PRACTICUM ATHLETIC TRAINING II.** A continuation of Practicum Athletic Training I; taping, evaluations, rehabilitation equipment, etc. Prerequisite: ATE 100. (1 cr.) S

**ATE 120. SUBSTANCE ABUSE EDUCATION.** The knowledge of substance abuse as it relates to athletics and competition, drug testing procedures as enforced by governing associations, and the prevention and treatment of substance abuse.

**ATE 200. HUMAN ANATOMY OF THE EXTREMITIES I.** The organization, structures, and functions of the human body: the development of the cell, tissues, integumentary system, digestive system, respiratory system, urinary system, reproductive system, lymphatic and cardiovascular systems. (3 crs.) F

**ATE 210. HUMAN ANATOMY OF THE EXTREMITIES II.** The organization, structures and functions of the human body; the development and function of the skeletal system, ligament and joint structure, muscular system, and the nervous system. Prerequisite: ATE 200. (3 crs.) S

**ATE 220. ATHLETIC TRAINING I.** The basic prevention, care, treatment, and rehabilitation of athletic injuries; understanding and demonstrating how to develop a conditioning program, basic evaluation of injuries, and how to manage them, and other topics related to sports medicine. Prerequisites: Open to curriculum students only. (3 crs.) F

**ATE 230. ADMINISTRATIVE ASPECTS OF ATHLETIC TRAINING.** The administrative functions, litigation, staff relationships, ethics, budget and supplies, inventory, facility design, maintenance, safety assessment, student trainer organization and résumé writing. Prerequisites: Open to curriculum students only. (1 cr.) S

**ATE 240. NUTRITION FOR SPORTS.** Nutrition and its applications to health and sports: designed to provide the student with a sound nutritional background so that sound decisions may be made concerning all aspects of nutrition. Additionally, specific nutritional techniques used to improve athletic performance are addressed. (3 crs.) F

**ATE 250. HUMAN PHYSIOLOGY FOR ATHLETIC TRAINERS.** An introductory course in human physiology examining the function of the body's major systems. Particular attention is given to those systems of interest to prospective athletic trainers. Prerequisites: ATE 200, 210. (3 crs.) S

**ATE 260. ATHLETIC TRAINING II.** The spine and its extremities; the evaluation techniques that are used to determine the degree of injury found in the clinical setting. Prerequisite: Open to curriculum students only. (3 crs.) S

**ATE 320. MODALITY PRINCIPLES AND TECHNIQUES WITH LABORATORY.** Lectures and laboratory exercises that explain the use and theory of physical therapy modalities that are used in the sports medicine clinical setting. Prerequisite: Open to curriculum students only. (4 crs.) F

**ATE 330. THERAPEUTIC EXERCISE WITH LABORATORY.** Lectures and laboratory exercises that explain the use and theory of therapeutic exercise and equipment used for rehabilitation in the sports medicine setting. Prerequisite: Open to curriculum students only. (4 crs.) S

**ATE 400. ORTHOPEDIC EVALUATIONS IN SPORTS MEDICINE.** Clinical evaluations of injured athletes by the student and the physician to be used in determining the extent of an injury. The student will register for this course again in a consecutive semester. Prerequisite: Open to curriculum students only. (1 cr.) F S

**ATE 450. SPECIAL TOPICS IN SPORTS MEDICINE.** Orients the advanced student to research and experimentation in sports medicine and athletic training. Prerequisite: Open to curriculum students only. (3 crs.) F



## THEATRE DEPARTMENT

### THEATRE (THE)

See also the program in Secondary Education Communication Certification (pages 164-165 in this catalog.)

Professor Roger C. Emelson, *chair*. Associate Professor Malcolm P. Callery; Assistant Professor Michael J. Slavin; Instructor Richard James Helldobler

### PURPOSE

As one of the performing arts, the theatre is a means of self-expression and social communication. Whether studying pure dramatic expression or musical dramatic expression, the objective is to understand how speech, as well as the non-verbal aspects of a production, such as lighting, movement, scenery and costumes, communicates ideas and emotion and how they have been used and are used for entertainment, education, reform and other social purposes. The study of the dramatic arts serves not only Theatre majors but those in other disciplines concerned with human interaction and symbolic expression, e.g., Art, Communication Studies, Political Science, Sociology, English, and Psychology. Students who are aware of the history and technology associated with the theatre hopefully will be, as participants, whether as actors or viewers, more appreciative of this art form.

### PROGRAM

Theatre is an undergraduate degree program in the College of Liberal Arts. Theatre also is one option of the teacher certification program in Communication. Persons who receive certification in this area can teach English, Theatre, Speech, and Non-Print Media. The student interested in the certification program should contact the College of Education and Human Services. A master's degree program in Communication that includes theatre studies is available through the School of Graduate Studies.

The Theatre Program as a whole serves a dual function. It provides occupational education and training for talented students who wish to pursue a career in Theatre, and it provides not only educational but performance opportunities for all students on campus. The addition of six dance courses, which range from basic ballet to theatre dance, gives the major a competitive advantage in professional preparation.

The Theatre Department annually presents four on-campus play, dance and musical productions. Dance concerts which combine classical ballet and modern jazz contribute to the university's performing arts presentations. At Linden Hall, a nearby conference and recreation center, the department sponsors the Valley Theatre Company, which produces six plays and musicals from May through October. In cooperation with the Student Association, Incorporated, the department also sponsors three play-producing groups: the University

credits. It is expected that each experience will be in a different area of play production. Theatre majors are required to take one practicum credit during each regularly enrolled term. A major must have a minimum of eight practicum credits. Practicum grades are awarded on the faculty advisor's evaluation of the quality of work performed and on the completion of the work hours agreed to at the time the practicum is undertaken.

The Theatre Department recognizes student achievement. It rewards creative excellence by offering opportunities for upper level students to produce a musical variety show and to direct or design theatrical productions.

The University's Steele Auditorium has a seating capacity of 955. It has a proscenium stage, a 16-channel sound mixer with multiple microphone and line inputs on stage, and is undergoing a complete renovation of its lighting system. The theatre also has scenery, lighting, costume, and property areas.

### HONOR SOCIETY

Since 1938, outstanding students annually have been elected to the University Players' Hall of Fame. Membership in Alpha Psi Omega (ΑΨΩ), the national honor society, can be achieved through active participation in theatre productions.

### CAREERS

Graduates work throughout the country in professional and semi-professional theatre, in film and television, rehabilitational theatre, teaching, recreation, public relations, interior decoration, and arts management.

## BACHELOR OF ARTS IN THEATRE

### Curriculum:

(A) **General Education:** Composition I-II (ENG 101-102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of free electives.

(B) **Area of Concentration:** Required: 29 credits of Introduction to the Theatre (THE 100); Ballet Technique (THE 121); Fundamentals of Acting (THE 131); Stagecraft I (THE 151); History of the Theatre I & II (THE 261 & 262); Production, Rehearsal and Performance (THE 392); Theatre Practicum (THE 350-358); 24 credits of theatre electives; 15 credits of related electives in disciplines closely related to Theatre.

<b>THEATRE COURSES (THE)</b>
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F and S indicate whether the course is usually offered in the Fall or the Spring. All the Theatre courses are offered during a student's four-year matriculation at California University.

Introductory level courses are indicated by a plus (+).

**+THE 100 INTRODUCTION TO THE THEATRE.** A survey of the art and craft of the theatre from play script to play production. Theatre history and literature, acting, directing, design, and playhouse architecture are studied to discover what goes on in the theatre and what it all means. Students will be assigned as cast or crew for departmental productions during the term in which they are enrolled. Students can expect to participate in classroom performances. (3 crs.) F,S

**+THE 101. VOICE AND SPEECH.** A practical and useful course for the performer or anyone who wants a flexible, strong, controlled voice. The Lessac method involving the natural ways in which the body produces vocal sounds is primarily studied for clear and articulate speech which is free of regional qualities, affectation, imitation, and annoying physical habits. The course also involves transcription of the International Phonetic Alphabet for correct pronunciation. (3 crs.) F

**+THE 102. VOICE AND INTERPRETATION.** Methods of analysis and presentation for effective oral reading of dramatic literature, prose and poetry. (3 crs.) S

**+THE 121. BALLET TECHNIQUE I.** Introductory instruction in the basic techniques applicable to ballet as practiced in western Europe and in the United States. Basic techniques include barre exercises, port de bras and center practice with jumps, beats, and turns. This course is suitable for the student who has no previous experience. (3 crs.) F

**THE 122. BALLET TECHNIQUE II.** The development of strength and fluidity through an extension of techniques demonstrated in specialized study and drill. Emphasis is placed on quicker retention of complex combinations. Further emphasis is placed on center work to develop the student's artistry in the dance form. Prerequisite: Ballet Technique I or permission of the instructor. Variable credits are awarded depending on the student's experience and ability. (1-3 crs.) (Repeatable only for a maximum of 7 credits to count toward graduation.) S

**+THE 126 MAKEUP.** This course covers modeling the face and the body with makeup, and the addition of three-dimensional prostheses. Historical, specific character, fantasy, corrective, street and fashion makeup will be researched, designed and applied. Students with an advanced interest will construct three-dimensional prostheses and hair pieces. (3 crs.)

**+THE 131. FUNDAMENTALS OF ACTING.** An introduction to the development of the basic tools of the actor's craft, and personal discipline for the actor through the use of acting exercises, sensitivity exercises, theatre games and improvisation. (3 crs.) F

**+THE 151. STAGECRAFT I.** Introduction to the theory and practice of stagecraft, involving basic set construction, painting and plan reading. Practical experience for students majoring in performance media. (3 crs.) F

**THE 152. STAGECRAFT II.** Advanced practice and principles of scenery and property construction. Practical experience with plastics, metals, silk screening, drafting and advanced woodworking is stressed. Prerequisite: Stagecraft I or permission of instructor. (3 crs.) S

**THE 200. FUNDAMENTALS OF DIRECTING.** The comprehensive study of a director's pre-production planning for a play presented on stage, film or television. The directorial analysis of plays and basic fundamentals of composition, picturization, pantomime with properties, movement, and ground plan are studied. The in-class

preparation of a complete directorial script for a one-act or cutting from a longer play may be directed as part of a public program of student-directed plays. (3 crs.) S

**THE 211. LIGHTING I.** The basic theory and practice of lighting for the stage, film, and television. Practical experience for students majoring in performance media is stressed. (3 crs.) F

**THE 212. LIGHTING II.** Advanced practice of lighting for the stage, television and film. Practical application for students majoring in performance media is stressed. Prerequisite: Lighting I or consent of the instructor. (3 crs.) S

**+THE 220. JAZZ TECHNIQUE I.** Introductory instruction in the basic techniques applicable to American jazz dance. Lengthening muscles and developing isolation techniques are practiced as necessary for most forms of jazz dance. The Luigi Technique which includes standing and floor warm-up, stretch and center practice in jumps, turns and isolations is studied. (3 crs.) F

**THE 221. JAZZ TECHNIQUE II.** The development of strength and fluidity through an extension of jazz techniques as demonstrated in specialized study and drill. Emphasis is placed on quicker retention of complex combinations. Further emphasis is placed on center work to develop the student's artistry in the dance form. Prerequisite: Jazz Technique I or permission of the instructor. Variable credits are awarded depending on the student's experience and ability. (1-3 crs.) (Repeatable only for a maximum of 7 credits to count toward graduation.) S

**THE 225. COSTUME CONSTRUCTION.** Basic pattern drafting and sewing techniques applied to the construction of costumes. (3 crs.)

**THE 231. INTERMEDIATE ACTING.** The development of a personal and useful acting method to create believable characters for the stage. The acting method is developed through intense scene work that includes character and script analysis. Prerequisite: Fundamentals of Acting or consent of the instructor. (3 crs.) S

**+THE 240. CREATIVE DRAMATICS.** The stimulation and development of creativity through playmaking exercises, storytelling, improvisation and sensitivity techniques useful for potential teachers and parents. (3 crs.) F S

**THE 245. CHILDREN'S THEATRE.** The selection, direction and production of plays for children. (May be repeated for credit.) (3 crs.)

**+THE 255. PUPPETRY.** The planning and production of puppet plays. (3 crs.)

**+THE 257. HISTORY OF COSTUME.** A survey of the history of costume in the western world. (3 crs.)

**+THE 261. HISTORY OF THE THEATRE I.** The development of the theatre from the Classic through the Baroque, including representative plays. (3 crs.) F

**THE 262. HISTORY OF THE THEATRE II.** The development of the theatre from the Baroque to the present day, including representative plays. (3 crs.) S

**+THE 263. AMERICAN THEATRE HISTORY.** A survey of the American theatre from Colonial times to the present, including representative plays. (3 crs.) F

**THE 270. READERS THEATRE.** The principles and practice of organizing and presenting Readers Theatre presentations. Prerequisite: THE 102 or COM 111 or permission of instructor. (3 crs.)

**THE 300. THEATRE DANCE I.** Introductory instruction in the basic techniques applicable to the various dance forms used in musical theatre. The forms are tap, jazz, ballet, ethnic and modern dance. Choreographic styles as



originated by Agnes DeMille, Bob Fosse, Jerome Robbins and Jack Cole will be demonstrated and applied. Prerequisite: Ballet Technique II, Jazz Technique II or permission of the instructor. (3 crs.)

**THE 301. THEATRE DANCE II.** The development of strength and fluidity through an extension of modern dance techniques as demonstrated in specialized study and drill. Emphasis is placed on principles stressed in Theatre Dance I with the addition of character shoes for women, partnering work and stage combat. Prerequisite: Theatre Dance I or permission of the instructor. Variable credits are awarded depending on the student's experience and ability. (1-3 crs.) (Repeatable only for a maximum of 7 credits to count toward graduation.)

+**THE 305. SHAKESPEARE IN THE THEATRE.** Representative Shakespearean plays studied as theatrical presentations. (3 crs.)

**THE 315. WORLD DRAMA ON STAGE.** Classical to nineteenth-century plays (excluding Shakespeare) studied as theatrical presentations. (3 crs.) F

**THE 317. MODERN DRAMA ON STAGE.** Nineteenth and twentieth-century plays studied as theatrical presentations. (3 crs.) S

**THE 323. SCENERY DESIGN I.** Introduction to the theory and practice of designing scenery for various environments. Prerequisite: Stagecraft I or permission of the instructor. (3 crs.) F

**THE 324. SCENERY DESIGN II.** Advanced theory and practice of designing scenery for various environments. Prerequisite: Scenery Design I or permission of the instructor. (3 crs.) S

**THE 325. COSTUME DESIGN.** Basic principles of costume design. Students complete various design projects for specific plays selected from a variety of historical periods. (3 crs.)

**THE 328. SCENE PAINTING.** The practice of scenery painting for the theatre. Students work with a variety of paints, texturing materials, and application techniques. Emphasis is placed on enlarging an existing art work to a size suitable for the stage. (3 crs.)

**THE 330. ADVANCED ACTING.** This course challenges the actor's ability to demonstrate a personal and useful acting method through a wide range of problems as found in historical and modern plays, and in acting styles. Prerequisite: Intermediate Acting or permission of the instructor. (3 crs.) S

**THEATRE — CHANGE IN PRACTICUM LISTING.** Theatre practicum is the application of learned skills in all areas of theatre and dance. Credit is variable. Maximum number of credits per term is five; maximum that will count toward graduation is eighteen. Courses numbered THE 350 through THE 358 are practicums that can be repeated up to 5 credits each. Courses THE 357 and 358 can be repeated, but cannot exceed 10 credits.

+**THE 350. THEATRE PRACTICUM: ACTING.**

+**THE 351. THEATRE PRACTICUM: DANCE.**

+**THE 352. THEATRE PRACTICUM: DIRECTING.**

+**THE 353. THEATRE PRACTICUM: DESIGN.**

+**THE 354. THEATRE PRACTICUM: MANAGEMENT.**

+**THE 355. THEATRE PRACTICUM: TECHNICAL DIRECTOR.**

+**THE 356. THEATRE PRACTICUM: TECHNICAL PRODUCTION.**

+**THE 357. THEATRE PRACTICUM: TOURING THEATRE.**

+**THE 358. THEATRE PRACTICUM: SUMMER THEATRE.**

**THE 392. PRODUCTION, REHEARSAL AND PERFORMANCE.** Special acting, directing, management and design, or technical involvement in a play production. Prerequisite: Senior level only. (3 crs.) F S

**THE 400. DRAMATIC THEORY AND CRITICISM.** Theories of dramatic structure and their application to theatrical presentations. (3 crs.) S

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<b>ACADEMIC AFFAIRS</b>
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<p>Vice-President for Academic Affairs          Acting Associate Vice-President for Academic Affairs          Dean, School of Graduate Studies and Research          Dean, College of Education and Human Services          Acting Associate Dean, College of Education and Human Services          Director of Student Teaching          Dean, College of Science and Technology          Associate Dean, College of Science and Technology          Dean, College of Liberal Arts          Associate Dean, College of Liberal Arts          Dean of Library Services          Library Systems Analyst          Dean for Enrollment Management and Academic Services          Assistant Director of Admissions          Assistant Director of Admissions          Director, Placement and Career Services          Assistant Director, Placement and Career Services          Coordinator, Cooperative Education          Director of Institutional Research          Director of Honors Program</p>	<p>Nancy Z. Nelson          Donald J. Thompson          George W. Crane          Stephen A. Pavlak          Regis Lazor          Betty A. Ford          Richard B. Hart          Harry M. Langley          Jesse A. Cignetti          Walter A. Brumm          William L. Beck          Kathleen A. Jokl          Norman G. Hasbrouck          Amy C. Woodward          Jeannine Metal          Stephanie Lashway          Charles E. Talbert          Dawn Wilson DePasquale          Richard L. Kline          Jay R. Powell</p>
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<b>STUDENT DEVELOPMENT AND SERVICES</b>
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<p>Vice-President for Student Development and Services          Dean of Students          Dean of Student Life/University Judicial Officer          Dean for Student Services          Associate Dean for Residence Life          Director, University Dining Services          Associate Dean for Support Services, Director for Social Equity          Director, Women's Center, Disabled Services          Associate Dean for Student Services          Residence Hall Director          Residence Hall Director          Residence Hall Director          Residence Hall Director          Residence Hall Director</p>	<p>Elmo Natali          Paul E. Burd          Phillip L. Hayes          Dennis Riegelnegg          William F. Behrendt          Lenora Angelone          Alan K. James          Alberta Graham          Tim Susick          Paul Burns          Colleen Crooks          William Edmonds          Shawn Urbine          Leslie Louse</p>
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Athletic Director  
Associate Athletic Director  
Dean/International Student Adviser  
Counseling Psychologist  
Counseling Psychologist  
Counselor, Drug & Alcohol Specialist, Director of CHOICES  
Campus Ministry  
Director of Student Publications  
Executive Director, Student Association, Inc.  
Assistant Director, Student Association, Inc.  
Operations Manager, Student Association, Inc.  
Program Director, Student Association, Inc.  
Assistant Program Director, Student Association, Inc.  
Systems Analyst  
Comptroller, Student Association, Inc.  
Director, Fitness Center  
University Physician  
Head Nurse  
University Nurse  
University Nurse  
University Nurse  
University Nurse  
University Nurse  
Nurse Educator  
Manager, Book Store, Student Association, Inc.  
Manager, University Dining Services

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Paul Flores  
Nancy J. Tait  
Lynn R. Surrey  
Dawn Moeller  
Liz Gruber  
Sr. Karen Larkins  
William Bennett  
Paul E. Burd  
Barry Niccolai  
Dave Smith  
Jay R. Wheeler  
John G. Watkins  
Richard Olshefski  
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Raymond Nino, M.D.  
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Virginia Saunders  
Mary Ann Keruskin  
Lois Sheridan  
Bernice Barnhart  
Claudia Martucci  
Janet Todaro  
Norma Snyder  
Linda Timko  
Paul Taylor



<b>ADMINISTRATION AND FINANCE</b>
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<p>Vice-President for Administration and Finance          Associate Vice President for Administration and Finance          Comptroller          Director of Computer Services          Director of Financial Aid          Director of Grants          Director of Health and Safety          Director of Personnel          Director of Physical Plant          Director of Public Safety          Director of Purchasing          Director of Budget          Inventory and Facilities Officer          Director of Payroll</p>	<p>Allan J. Golden          Eugene P. Grilli          Vacant          Richard E. Cerullo          Gary Seelye          Sandra Huska          Thomas Hartley, Sr.          Penelope Stanick          Thomas Jameson          Jack Duvall          Carl Maurer          Charles W. Zinsser, Jr.          Vacant          Margaret M. Wilson</p>
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<b>DEVELOPMENT AND EXTERNAL RELATIONS</b>
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<p>Vice-President for Development and External Relations          Executive Director, Mon Valley Renaissance          Director of Alumni Relations          Director of Public Relations</p>	<p>Homer R. Pankey          Richard H. Webb          Pauline M. Tonsetic          Cleo C. Boyle</p>
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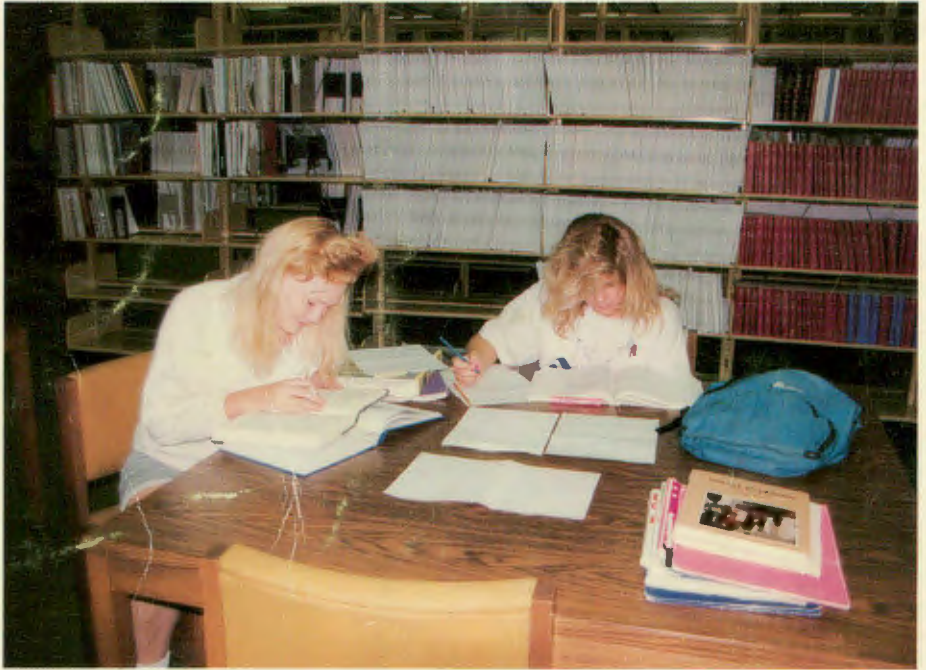












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