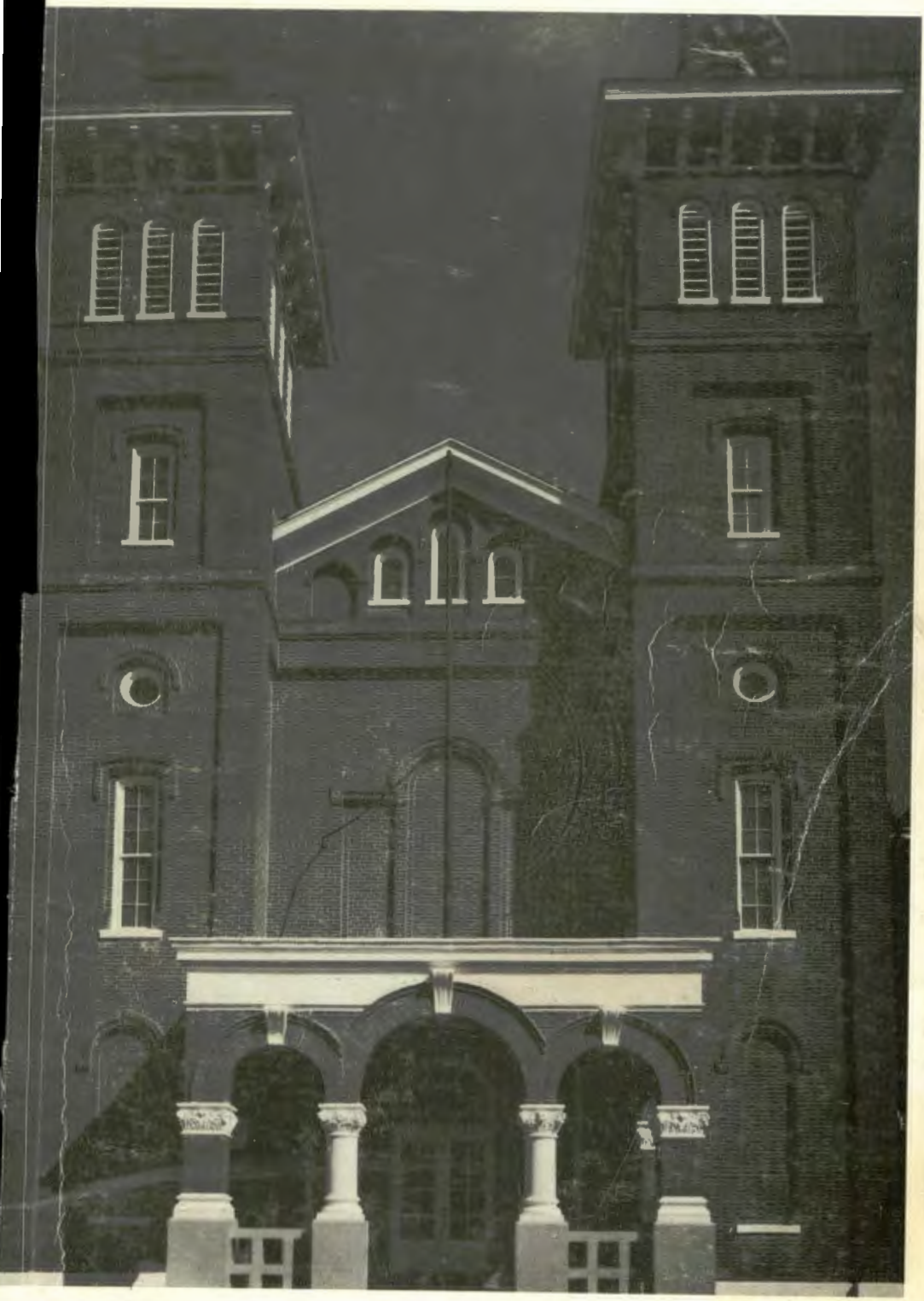
UNDERGRADUATE CATALOGUE 1985-87



CALIFORNIA UNIVERSITY OF PENNSYLVANIA

California University of Pennsylvania

UNDERGRADUATE CATALOG

Volume 83 **1985-87** **Number 1**

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 for 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

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, 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 Title IX Coordinator, (412) 938-4351, Affirmative Action Officer, (412) 938-4185, 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 will be held responsible for keeping informed of official policies and for meeting all relevant requirements.

CONTENTS

CALENDAR 1984-1987

SUMMER 1984

Registration	Thurs.	June 7
1st 5-week session begins	Mon.	June 11
10-week session begins	Wed.	June 13
July Fourth Recess		
Begins after classes	Tues.	July 3
Ends at 8:00 A.M.	Mon.	July 9
1st 5-week session ends	Tues.	July 17
Registration - 2nd five	Tues.	July 17
2nd 5-week session begins	Wed.	July 18
2nd 5-week session ends	Tues.	August 21
10-week session ends	Wed.	August 22

Fall 1984

Registration and Orientation	Tues., Wed.	September 4, 5
Classes begin	Thurs.	September 6
Thanksgiving Recess		
Begins after classes	Wed.	November 21
Ends at 8:00 A.M.	Tues.	November 27
Classes end	Thurs.	December 20

SPRING 1985

Registration and Orientation	Thurs., Fri.	January 24, 25
Classes begin	Mon.	January 28
Spring Recess		
Begins after classes	Fri.	March 8
Ends at 8:00 A.M.	Mon.	March 18
Easter Recess		
Begins after classes	Thurs.	April 4
Ends at 8:00 A.M.	Tues.	April 9
Classes end	Fri.	May 17
Commencement	Sat.	May 18

SUMMER 1985

Registration	Thurs.	June 6
Classes begin	Mon.	June 10
July Fourth Recess		
Begins after classes	Wed.	July 3
Ends at 8:00 A.M.	Tues.	July 9
1st 5-week session ends	Tues.	July 16
Registration - 2nd five	Mon.	July 16
2nd 5-week session begins	Wed.	July 17

2nd 5-week session ends	Tues.	August 20
10-week session ends	Mon.	August 19

FALL 1985

Registration and Orientation	Tues., Wed.	September 3, 4
Classes begin	Thurs.	September 5
Thanksgiving Recess		
Begins after classes	Wed.	November 27
Ends at 8:00 A.M.	Tues.	December 3
Classes end	Thurs.	December 19

SPRING 1986

Registration and Orientation	Thurs., Fri.	January 23, 24
Classes begin	Mon.	January 27
Spring Recess		
Begins after classes	Fri.	March 7
Ends at 8:00 A.M.	Mon.	March 17
Easter Recess		
Begins after classes	Thurs.	March 27
Ends at 8:00 A.M.	Tues.	April 1
Classes end	Fri.	May 16
Commencement	Sat.	May 17

SUMMER 1986

Registration	Thurs.	June 12
Classes begin	Mon.	June 16
July Fourth Recess		
Begins after classes	Thurs.	July 3
Ends at 8:00 A.M.	Mon.	July 7
1st 5-week session ends	Thurs.	July 17
Registration - 2nd five	Thurs.	July 17
2nd 5-week session begins	Mon.	July 21
2nd 5-week session ends		
10-week session ends	Thurs.	August 21

FALL 1986

Registration and Orientation	Wed., Thurs.	September 3, 4
Classes begin	Fri.	September 5
Thanksgiving Recess		
Begins after classes	Wed.	November 26
Ends at 8:00 A.M.	Tues.	December 2
Classes end	Fri.	December 19

SPRING 1987

Registration and Orientation	Thurs., Fri.	January 22, 23

Classes begin	Mon.	January 26
Spring Recess		
Begins after classes	Fri.	March 6
Ends at 8:00 A.M.	Mon.	March 16
Easter Recess		
Begins after classes	Thurs.	April 16
Ends at 8:00 A.M.	Tues.	April 21
Classes end	Fri.	May 15
Commencement	Sat.	May 16

SUMMER 1987

Registration	Thurs.	June 11
Classes begin	Mon.	June 15
July Fourth Recess		
Begins after classes	Thurs.	July 2
Ends at 8:00 A.M.	Mon.	July 6
1st 5-week session ends	Thurs.	July 16
Registration - 2nd five	Thurs.	July 16
2nd 5-week session begins	Mon.	July 20
2nd 5-week session ends 10-week session ends	Thurs.	August 20

FALL 1987

Registration and Orientation	Mon., Tues.	August 31, September
Classes begin	Wed.	September 2
Labor Day Recess		
Begins after classes	Fri.	September 4
Ends at 8:00 A.M.	Tues.	September 8
Thanksgiving Recess		
Begins after classes	Wed.	November 25
Ends at 8:00 A.M.	Tues.	December 1
Classes end	Thurs.	December 17

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 affirmative action policies of a system of fair and open recruitment and acceptance of students regardless of sex, race, color, religious creed, life style, affectional or sexual preference, handicap, 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 and affirmative action 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. College dormitories 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 handicap distinctions are made to better serve and accommodate all students. Finally, in accordance with recent federal and state legislation, architectural and programatic modifications have been implemented to ensure that no qualified student is prevented from succeeding at California University of Pennsylvania because of handicap.

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 Dr. Mel Madden (938-4185) the Affirmative Action Officer, Ms. Janice McConnell (938-4351) the Title IX Coordinator, or Mr. Arthur Bakewell (938-4076) the Section 504 Coordinator.

THE CAMPUS

The University is in the Borough of California, a community of approximately six thousand residents located in Washington County on the west bank of the Monongahela River, about a one-hour drive south of Pittsburgh. It is accessible from the north via Interstate 70 and State Route 88, and from the south by U.S. Route 40 (the Old National Pike) and State Route 88. A new limited access highway will eventually link the campus directly with Interstate 70 and other limited access highways. The University is approximately one 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 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 easy access provides the student an opportunity to enjoy the Pittsburgh Symphony, the Pittsburgh Ballet, the Civic Light Opera, David L. Lawrence Convention Center, the Pittsburgh Steelers, Penguins, 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 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. Previous changes in the scope and role of the institution had been in the direction of restricting the role of the institution, but with its new status, California returned to its previous status as a four-year degree-granting institution, with increasing opportunities for growth and development. Under the presidency of Dr. Robert Steele (1928-1952), 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: Another major change occurred during the presidency of Dr. Michael Duda (1956-68), when liberal arts curricula were introduced, and the college became California State College. In 1962 a graduate program was introduced. The degrees of MA and MS 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. A program of continuing education was also established in this year, in order to meet the educational needs and interests of non-degree students.

1983: On July 1, 1983, the college became California University of Pennsylvania, during the presidency of John Pierce Watkins (appointed in 1978), in recognition of its multiple roles and purposes. The School of Science and

Technology became fully operational, offering programs in such varied areas as mathematics and computer science, industrial management, nursing, and energy technology.

Goals of the University

California University of Pennsylvania offers, at reasonable cost, a wide range of opportunities in higher education, in both traditional degree programs and in special programs and courses, to benefit both the individual and the Commonwealth.

The University's newest mission is in Science and Technology. Programs in this area prepare students for the increasingly complex demands of the industrial and business world, keeping them abreast of the latest developments and scientific innovations. The College of Education, the oldest division of the University, trains teachers in elementary and secondary education, and offers special programs in Industrial Arts, Speech Pathology, and Special Education, and a variety of nursing programs. The College of Liberal Arts, the traditional backbone of a university, offers a wide range of humanistic studies not only for academic concentration but as part of the general cultural and historical education every educated person should acquire. The undergraduate education at the University is designed to produce men and women who are ready to enter the worlds of business, government, industry, and education, or to proceed to specialized professional or graduate training.

The Graduate School enables those who already have undergraduate training in a field to develop their expertise further, to the level of the master's degree. The Continuing Education program likewise provides a number of courses, for intellectual, personal, and professional growth.

The University fosters and encourages research and professional development on the part of its faculty, in order not only to keep them current in their professional fields but in order to contribute to the social and economic well-being of the Commonwealth and to foster the advancement of learning.

Recognizing its responsibility to the Commonwealth and the nation, the University sponsors a variety of programs, seminars in education, in social services (such as aging), in business and technology, that use the facilities and the faculty of the University. The public may make use, at appropriate times, of the facilities of the University, such as the library, athletic and recreational facilities, meeting places, and the technical expertise of the faculty.

Objectives of the University

The faculty and students of the University are participating members of an educational institution charged with the 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 this institution are:

(1) To provide a liberalizing 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 competent faculty, an efficient administrative staff, and appropriate facilities;

(4) To create and maintain a learning environment in which the rights of all are respected;

(5) To provide learning opportunities for persons interested in 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 cultural, social, and intellectual activities and experiences for the College and surrounding communities;

(8) To encourage thoughtful and responsible faculty and student participation in local, state, national, and international affairs;

(9) To aid and encourage high standards of teaching and 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.

Academic Programs Offered

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 and sciences is enriching and essential in providing a liberal education for all students.

The University offers degrees from four separate colleges: the College of Education, which awards the bachelor of science degree in education in five major programs, and two associate degree programs; the College of Liberal Arts, which awards the bachelor of arts and the bachelor of science degrees in thirty-seven programs; the College of Science and Technology, which awards the bachelor of science degree in sixteen programs; and the Graduate School, which offers the master of science, master of arts, and master of education degrees. The following programs are offered:

I. LIBERAL ARTS (BACHELOR'S DEGREE)

HUMANITIES

Art
Arts in Human Services
English
French
German
Philosophy
Spanish
Theater

SPEECH COMMUNICATIONS

General Speech
Emphasis on Radio and Television

NATURAL SCIENCES

Biology
Chemistry
Earth Science
Geology
Mathematics
Physics

SOCIAL SCIENCES

Anthropology
Economics
Geography
Gerontology
History
Political Science
Psychology
Industrial Organizational Psychology
Social Work
Sociology

PRE-HEALTH PROFESSIONS

Pre-Chiropractic Medicine
Pre-Dentistry
Pre-Medicine
Pre-Mortuary Science
Pre-Optometry
Pre-Osteopathic Medicine
Pre-Pharmacy
Pre-Podiatric Medicine
Pre-Veterinary Medicine

PROFESSIONAL WRITING PROGRAM

Business and Commercial Writing
Creative Writing
Emphasis on Radio and Television
Journalism
Scientific and Technical Writing

INTERDISCIPLINARY

American Studies
Humanities
International Studies
Natural Sciences
Pre-Law
Social Sciences

Undecided Major
Urban Affairs
Urban Recreation and Park Administration

SLAVIC STUDIES

Slavic and Eastern European Studies
Soviet Studies

II. SCIENCE AND TECHNOLOGY

A. BACHELOR'S DEGREE

BUSINESS ADMINISTRATION

Business Administration
Accounting
Business Economics
Finance
Marketing
Management

ENVIRONMENTAL STUDIES

Environmental Conservation
Environmental Resources
Environmental Science
Environmental Health
Environmental Technology

GRAPHIC COMMUNICATIONS TECHNOLOGY

G.C.T. - Electro-Graphics Option
G.C.T. - Photo-Offset Lithography Option
G.C.T. - Screen Printing Option

INDUSTRIAL MANAGEMENT TECHNOLOGY

I.M.T. - Computer Science Option
I.M.T. - Manufacturing Option
I.M.T. - Printing Management Option

INDUSTRIAL TECHNOLOGY

I.T. - General Option
I.T. - Management Option
I.T. - Scientific Option

SCIENCE AND TECHNOLOGY

Administration and Management
Manufacturing Technology
Math and Computer Science
Medical Technology
Petroleum Technology
Pre-Engineering
Water Analysis Technology

B. ASSOCIATE DEGREE

Accounting
Administration and Management
Computer Science Technology
Drafting Technology
Numerical Control Technology
Screen Printing

III EDUCATION

A. BACHELOR'S DEGREE

Early Childhood Education
Elementary Education
Industrial Arts
Speech Pathology and Audiology
Athletic Training

SPECIAL EDUCATION

Mentally and/or Physically Handicapped
Community Service Personnel
Mentally and/or Physically Handicapped with Physical Education and Recreation

SECONDARY EDUCATION

Biology
Chemistry
Comprehensive Social Science
Communications
Earth Science
English
French
German
Mathematics
Physics
Spanish

Dual Majors

Elementary/Early Childhood

Elementary/Special Education
Early Childhood/Special Education
Athletic Training/Another Ed. Program

B. ENDORSEMENT PROGRAMS
(available as an addition to another certification program)

Driver's Training
Environmental Education
General Science

C. ASSOCIATE DEGREE

Community Living Arrangements
Early Childhood

IV. UPPER - DIVISION PROGRAMS

(available only to individuals with **previous** special certification and/or degree)

SCIENCE AND TECHNOLOGY

Radiologic Technology (for CRT's)
Nurse Anesthesia (Consortium Program)
Nurse Anesthesia (for CRNA's)
Pre-Nurse Anesthesia (for R.N.'s)
Nursing (BSN Cognate Program for R.N.'s)
Pre-B.S.N. (R.N.'s who need prerequisites)

SERVICE AREAS IN EDUCATION

Certified Registered Nurse Anesthetist (for CRNA's)
Dental Hygienist (for Dental Hygienists)
Public School Nurse (for RN's)

CERTIFICATION AREAS IN EDUCATION

Early Childhood Certification
Elementary Certification
Industrial Arts Certification
Secondary Certification
Special Education Certification
Speech Pathology and Audiology Certification

General Information

ALUMNI ASSOCIATION

The alumni of this University have been organized since 1939. This organization numbers more than 20,000 graduates and former students of the University.

The Association attempts to advance the growth and development of the University through individual and group endeavor; to foster beneficial relationships among alumni, students, and the University; and to encourage outstanding academic and extracurricular achievement by the undergraduate and graduate students.

There are a number of services available to alumni, including a travel program to destinations around the world; a quarterly publication, *The California Review:* use of the library and other University facilities; help from the Placement Office in locating a job; and many social events, including Homecoming and Alumni Day.

The Office of Alumni Relations, located in Old Main, Room 113, 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 communication's center and clearing house for all alumni activities. **Alumni are always welcome.**

CAMPUS MINISTRY

It is well understood that education is a matter of developing the student as a whole person. The spiritual and religious needs of students, therefore, must be addressed as well as other aspects of education. The Campus Ministry Office, with a staff of professional Campus Ministers, was, therefore, established to assist students in the development of their spiritual and religious lives.

The Campus Ministry of California University of Pennsylvania is located in the main lobby of the Memorial Student Union Building. Office hours are from 10:00 A.M. until 3:00 P.M. on weekdays while the University is in session. The Chaplains, however, are on call twenty-four hours a day.

Some of the services provided are Pastoral Counseling, Spiritual Direction, information about local churches, literature from participating faiths, and other services. The Campus Ministry sponsors or co-sponsors a variety of programs of a religious or service nature throughout the school year.

Students are welcome to come to the Campus Ministry Office to introduce themselves when coming to the campus; they may acquaint themselves with the Campus Ministry and find information on the local churches. They are welcome to call the Campus Ministry at 938-4573.

The Campus Ministry, although not a part of, nonetheless works closely with the Counseling Center and with other University departments for the well-being of the students.

The Catholic chaplains, Father Regis M. Farmer and Sister Ellen McClure, are funded by the Catholic Diocese of Pittsburgh; the Protestant Chaplain, is funded by the United Campus Ministry Council of California. Although the chaplains are members of specific denominations, they serve all

students, regardless of Church affiliation. If desired, the Chaplains will put students in touch with a priest, minister or rabbi of their chosen denomination.

COMPUTER CENTER

The University Computer Center is located in the east portion of the Manderino Library. User facilities are located there and in the World Culture Building across the street. The facilities are available for student use at least 80 hours each week, and extended hours during the academic term are published at the two locations.

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. 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.

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.

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, are 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 information 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 the 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 contained 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 witten 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 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. No University official has the authority to destroy such material without the author's permission.

VIII. University Officials Responsible for Student Records

The following University officials are designated as 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.

COUNSELING AND PSYCHOLOGICAL SERVICES (The Counseling Center)

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 California.

You may call the Center at 938-4191, or contact the receptionist in Room 202 in the Learning Research Center for an appointment with a licensed psychologist, social worker or counselor. You can make the appointment yourself or be referred by a faculty member, fellow student, staff person or management personnel.

You may 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.

Your special Student Services fees make the counseling services essentially free to you.

The counselors at the Center have helped thousands of students to readjust to their college environment and have assisted many students to remain in college instead of "dropping out." Counseling and psychological services are so significant on campus today that many students in the past have re-shaped their goals and ambitions to such a major extent as to warrant the continuation of counseling services for all students young and old.

The professional counselors have extended their services by developing a strong referral system locally on campus and off campus as well. Referrals can be made to any department or office on campus for financial aid, student work-study programs, tutoring, academic advising, and so on. Further, there is a close liaison with the Student Development Office, Resident Directors in the dormitory system, the Health Center, the Speech and Hearing Clinic, the Rehabilitation Office, the Veterans Affairs Office, the Womens Center, the Campus Ministry, and others.

Additional referrals can be made to area mental health centers in Monessen, Centerville, Washington, Uniontown, Connellsville and Pittsburgh.

Alcohol and drug abuse is a serious problem on campus and students can see a counselor anonymously without any record of the meeting. The counselor may refer the student who is misusing alcohol and/or drugs to student groups on campus (A. A. or N. A.) which meet every week. Further information may be obtained by contacting the Counseling Center staff or the Campus Ministry.

There are no set rules about how much anxiety, frustration or conflict you should go through before seeking help. We are not in the Dark Ages anymore, and if you find your life experiences unpleasant, your behavior unproductive and increasing in frequency and duration, then contact the Counseling Center staff for help.

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

Please call us at 938-4191 or drop in at Room 202 of the Learning Research Center. Office hours: 8:00 a.m. to 4:00 p.m. daily, Monday through Friday. Weekend and evening sessions are by appointment.

DAY CARE PROGRAMS

(1) MVHS DEVELOPMENTAL DAY CARE

Mon Valley United Health Services, Inc. operates a Developmental Day Care Program on California University Campus. The pre-school classroom is located in the Learning Research Center and operates Monday through Friday from 7:30 A.M. to 5:30 P.M. The program is funded by a variety of sources and is available to students and faculty at a cost of $0 to $50.00 depending on family situation.

The major goal of the program is to facilitate the growth and development of the child while supporting the family. While in our program, the

child's emotional, intellectual, social and physical development is our major concern.

The program is staffed by a lead teacher, an assistant teacher and a caseworker. The staff are well trained in child development and are responsible for creating an environment that is conducive to growth and development. Our expectation is that children will move smoothly from one developmental level to the next and will learn those life skills necessary for each. Our program also strives to provide an environment that children will enjoy.

INTERCOLLEGIATE ATHLETICS

California University of Pennsylvania sponsors a comprehensive athletic program for men and women students. The program is regulated by the policies of the Athletic Council and administered by the Director of Athletics.

Fifteen sports are available to students. They are: baseball, basketball, cross-country, fencing, football, golf, track and field, and wrestling for men; and basketball, cross-country, fencing, softball, tennis, track and field, and volleyball for women.

The University has three facilities that are used for athletics. Adamson Stadium, a modern facility located at the University Recreation Center, has spacious locker rooms and a training room. The stadium has a seating capacity of 4,500 and includes an all-weather track. Also located at the Recreation Center are seven tennis courts, a baseball diamond, a softball diamond, a cross-country course, and several practice areas for varsity athletics and intramural activities.

Hamer Hall, located on the main campus, has three basketball courts, an olympic-size swimming pool, a training room, weight room and a wrestling practice room. The building has seating capacity of 3,600 in the gymnasium and 250 in the natatorium. Herron Hall, also located on the main campus, is used primarily for classes and recreation. It contains two basketball courts, a handball court and a swimming pool.

California University of Pennsylvania holds membership in the National Collegiate Athletic Association, Division II, the Eastern College Athletic Association, the Pennsylvania State Athletic Conference, and the Pennwood West Conference.

THE LIBRARY

The Louis L. Manderino Library (completed in 1980), located at the entrance to the University campus, is one of the newest, busiest, and most popular buildings on campus. With more than a quarter million books in open stacks, subscriptions to 1200 newspapers, magazines, and other periodicals, and 1500 seating capacity, it is first of all a place both to study and to read, whether the reading is required for a course or for a term paper, or for browsing and recreation. The library is open 15 hours a day during the week and eight hours a day on weekends, and Reference librarians are always on duty to provide assistance.

Manderino Library offers a great many special services and collections. Besides pay phones and inexpensive copying machines, typewriters are available, free of charge. The Reference collection has materials ranging from encyclopedias and law books to more than 500 telephone books and

innumerable college catalogs. A Pamphlet File can be used for current information on a variety of subjects, and a Curriculum Master File describes courses in more detail than this catalog can. Through the interlibrary loan service, students may obtain books and articles not available at Manderino Library, often at low or no cost, and sometimes within as little time as a week; and through the University's membership in the PRLC the student may arrange to use the facilities at a total of 92 college and university libraries in the area. Through the use of the DIALOG on-line computer search, the student may procure an up-to-date, printed bibliography in any of more than 192 subject areas at no cost. A Curriculum Library for the use of students in Education has a number of textbooks and children's books. The Library also has a large collection of specially housed art slides, most of which were taken and donated by Dr. Alexander Tsambassis, Emeritus Professor of Philosophy.

The University Library maintains a large collection of microfilms and similar materials, of items such as rare books and newspapers that would be too bulky or too expensive to keep in full format; and this collection comprises as many pages as the library maintains in book form. Chief among this material is the ERIC system of publications relating to education, comprising tens of thousands of educational items (and for which a DIALOG search may be requested) and the huge collection of government documents.

An expanding Media Center has both the hardware (such as videocassette players, phonographs, cassette players) and the software (such as films, records, and tapes) that the student may use in the library or, in some circumstances, check out for use at home or in the dormitory.

PLACEMENT

The Placement Office assists seniors, graduate students and alumni of California University of Pennsylvania in obtaining full-time, permanent, professional employment. Through the Placement Service, students may obtain general advice, information and statistics on job opportunities.

On-campus interviews are scheduled annually for students interested in meeting with representatives from school districts, business firms, governmental agencies, and industries seeking graduates.

It is advisable that any information needed be obtained through an individual appointment with the Director of Placement in Main Hall.

Academic Policies and Procedures

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 at any time.

Students are required to follow the provisions of the catalog and curriculum guide that are in effect at the time of their enrollment. Students who have interrupted their education for more than one year will become subject to the provisions of the current catalog or curriculum guide.

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 instructors, 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.

ADVANCED STANDING

The University approves the advanced standing opportunity for high school students only under exceptional circumstances and only with the full cooperation of the student's high school principal. Most frequently, high school students will avail themselves of the advanced placement opportunity on a part-time basis. Occasionally early admission is possible, but only after a mutually agreeable arrangement has been worked out with the high school involved. The University does not admit high school juniors for early admissions. The final decisions on advanced standing applications are made by the Associate Vice-President for Academic Affairs.

APPEALING A GRADE

In appealing a grade, a student should first contact the instructor who issued that grade to discuss the reason for the grade. If the student is not satisfied with the instructor's explanation, the student should then contact the instructor's Department Chairperson. This latter contact must be in writing and must be filed with the Chairperson within thirty (30) 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 his/her 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.

It must be understood that it is not the policy of the administration to change a grade duly assigned by an instructor. 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.

ATTENDANCE

Because regular class attendance is a prerequisite to successful class performance, the University does not allow "cuts"—that is, unexcused or unauthorized absence from class. Individual instructors have their individual policies on absences and may assess reasonable penalties for departures from these policies.

It is your responsibility to explain any absences to your instructors and to convince them of the reasonableness and genuineness of your excuse. If you are going to miss classes for several days in a row, notify your Dean, who will notify your instructors. Requests for absence due to official University activities, such as field trips or athletic contests, must be made by the appropriate University official. A lengthy absence due to illness or other causes may require appropriate documentation.

Even if your instructor has excused your absence, it is still your separate responsibility to fulfill the requirements of the course, according to the schedule determined by your instructor. 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. An unreasonable number of unauthorized absences may result in failure in the course.

CLASS STANDING

A full-time undergraduate student is one who is enrolled for 12 or more credits in a semester. A student enrolled for less than 12 credits per semester is a part-time student.

The following credit hour ranges apply:

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

These class designations are based on credits passed, not on credits attempted.

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

COLLEGE LEVEL EQUIVALENCY PROGRAM

The University offers the adult student 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 forty 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 Continuing Education in Main Hall. There is a fee of $25.00 for evaluation of the CLEP results and recording the results on the student's transcript.

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

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 instructor and in the senior year, students may be allowed to take some courses numbered in the 500's.

Generally, courses are numbered in the following way:

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

Courses whose numbers end in 9 (such as 209 and 459) consist of independent study or individual tutoring. They require the consent of the instructor and of the department. Courses whose numbers have 9 or 8 in the middle (such as 481 and 491) are seminars or workshops.

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 instructor, the department that offers the course, and the Vice-president for Academic Affairs; you must register for the course; you must 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.

CREDITS

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

A full-time student is one who is taking twelve or more credit hours. If you are taking fewer, you are considered a part-time student.

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

DEGREES: WHEN CONFERRED

Degrees are conferred in May (at the end of the spring semester), in August (at the end of the summer term), 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 do 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 1982, one is a member of the class of 1982. It is immaterial what year one may have attended the Commencement.

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.

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.

Readmission to the University after an academic dismissal is not automatic. After being out for one semester, a student who has been dismissed for unsatisfactory scholarship may apply for readmission in the office of his/her College dean. Application for readmission must be made in writing no later than one month before the beginning of the term. In those cases where readmission involves a curriculum change, students must apply to the dean of that College of the University responsible for the new major.

DISTINGUISHED SERVICE AWARDS

The Distinguished Service Awards are 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 members of the faculty.

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

If you do not achieve the proper GPA, you may be subject to either Academic Probation or Academic Dismissal, as presented below.

GRADE POINT AVERAGE

To calculate your 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. For example, if a student has taken 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, life experience 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 filing grade is kept if you challenge a course by examination and fail that examination.

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 that the Dean of Academic Records has your correct address.

In compliance with a Federal Law, 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.

GRADING SYSTEM

Grade		Grade Points Per Credit Hour
A	Superior attainment	4
B	Above average	3
C	Average	2
D	Below average; lowest passing grade	1
F	Failure	0
I	Incomplete	0
IF	An Incomplete for which the work was not completed within a calendar year; not computed in the Grade Point Average but not removable from a student's academic record.	0
P	Passed	0
W	Official withdrawal from the University within the first six weeks of a semester (not counted in the GPA).	0

WP	Withdrew passing after six weeks (not counted in the GPA).	0
WF	Withdrew after six weeks with a D or F grade (counted in the GPA).	0
WX	Administrative withdrawal from the University (not counted in the GPA).	0
UW	Unofficial withdrawal from a course which the student never attended or for which there is verified registration error (not counted in the GPA).	0

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 the Graduate School, except those of the undergraduate degree or teaching certification; and graduate credits that are used to fulfill undergraduate requirement 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 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. Students must apply for graduation in the appropriate dean's office by the deadline. Graduation will be postponed if this requirement is not met.
2. A minimum of 128 semester credits, including the satisfactory completion of all required courses, is required for graduation, with a cumulative grade point average of 2.00 for all courses in which grades other than P are assigned. (Grade points are not computed for courses completed at other colleges or universities.)*
3. In the College of Education, the candidates must complete Student Teaching.
4. All bills must be paid in full before graduation can be approved.
5. Students in all curricula must complete a minimum of thirty credits of the last sixty credits at California University of Pennsylvania.
6. 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 postponed if a student's record is incomplete.
7. 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.

**Certain curricula may require minimum grades in courses in a student's major.*

HONOR SOCIETIES

Alpha Mu Gamma — National Collegiate Foreign Language Honor Society
Alpha Psi Omega — National Honorary Dramatics Fraternity
Beta Beta Beta — National Honorary Biological Society
Chi Gamma Psi — Honorary Fraternity in the Field of Science
Epsilon Pi Tau — International Honor Society in Industrial Arts
Gamma Theta Upsilon — National Honorary Geographical Society
Kappa Delta Pi — Honor Society in Education
Lambda Alpha — National Honorary Anthropology Fraternity
Omicron Delta Epsilon — International Honor Society in Economics
Phi Alpha Theta — International Honorary History Fraternity
Pi Gamma Mu — National Social Science Honor Society
Pi Kappa Delta — National Honorary Forensic Fraternity
Sigma Tau Delta — National Honorary English Fraternity
Sigma Pi Epsilon Delta — National Honorary Fraternity in the Field of Special Education

HONORS AT GRADUATION

Commencement Honors are awarded to a limited number of students in the graduating class. Not more than one-eighth of the class may receive honors. A minimum of 64 credits is required to receive commencement honors.

Highest Honors ..... Grade Point Average 3.75 to 4.00
High Honors ..... Grade Point Average 3.50 to 3.74
Honors ..... Grade Point Average 3.25 to 3.49

(Highest honors are equivalent to *Summa Cum Laude;* high honors to *Magna Cum Laude;* honors to *Cum Laude.*)

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.

HONORS CONVOCATION

The University recognizes, encourages and rewards academic excellence on the part of both undergraduate and graduate students by naming Presidential Scholars at an annual Honors Convocation in the spring semester.

An undergraduate Presidential Scholar must have a cumulative grade point average of 3.25 and have completed 64 credits (if a junior) or 96 credits (if a senior), at least 30 credits of which must have been taken at this university.* Both part-time and full-time students, if qualified, may be named Presidential Scholars. A graduate student must have a cumulative grade point average of 3.75 and have completed 24 credits of graduate work.

At the Honors Convocation, presentations are made by honors societies, a Distinguished Graduate award is presented to an alumnus 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 various colleges of the University.

**As students in two-year, associate degree programs do not attain junior status, they do not participate in the Honors Convocation; but upon transfer to four-year, baccalaureate programs, they may, if qualified, be named Presidential Scholars.*

INCOMPLETE GRADES

The temporary grade of I (Incomplete) may be assigned by an instructor if a student has not completed the work of the course, because of illness or other reasons that the instructor considers acceptable. (The instructor may, however, submit a course grade on the basis of the work that has been completed.) The student must arrange to make up the work to remove the grade of I within one calendar year of receiving it. If it is not removed within that time, the grade of I becomes IF, which cannot be removed from the student's academic record, although it is not computed into the grade point average; in order to obtain credit for a course in which an IF was received, a student must reschedule the course.

If a student receives a grade of I immediately before withdrawing from the University and if the grade is not removed within five years, at the end of that period the grade of I becomes an F, which can be removed only if the course is completed.

OVERLOAD

Students may register for 18 credits without special permission. 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, written permission must be obtained from the dean of that College of the University in which the student is enrolled for more than 6 credits for either of the 5-week sessions or for more than 12 credits throughout the summer term. Because of the brevity of the summer session, registration for overload is particularly discouraged.

PASS/FAIL

In any course in which the grading is either P or F and the instructor 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 credit and are figured into the grade point average.

There are two kinds of courses in which the pass/fail option is given: (1) certain courses are designated in this way for all students enrolled in them; (2) if a student enrolled in this university before the summer session of 1982, he/she may make a limited use of a pass/fail option in no more than a total of five (5) courses meeting his/her graduation requirements *in general education only* and no more than half the general education courses scheduled in any given semester. Pass/Fail Declaration Forms may be obtained from the Office of Academic Records from the first day of class each semester and must be submitted during the first six weeks of the semester (or in the summer during the first two weeks). Instructors are not notified as to whether a student has elected the pass/fail option.

It will be noted again that students who have enrolled at the University beginning with the summer of 1982 are not eligible for this pass/fail option.

PROBATION

A freshman carrying fewer than twelve (12) 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 less 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 his/her class category is placed on academic probation.

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 his/her class category.

A student may be continued on extended probation if his/her cumulative grade point average remains below the required minimum but his/her grade point average for the term is at least 2.00. Any student on extended probation must have his/her schedule approved by the dean of that College of the University in which he/she is enrolled before the start of the new term.

REGISTRATION

Specific instructions as to the conduct of each registration are announced to students in the *California Times* and in separately published schedules of courses for the Fall, Spring, and Summer terms. Faculty advisors are also given specific instructions about registering students.

Consult the published schedule for current regulations as to dropping and adding courses, fees, etc.

Generally speaking, however, the following regulations apply:

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 or a payment plan has been arranged by the Vice President for Administration and Finance. In all such cases, the student must complete the special financial arrangements in the Office of the Vice President for Administration and Finance prior to the deadline for payment of fees and comply with the billing instructions. Any student who fails to remit payment on or before the deadline date or fails to contact the Office of the Vice President for Administration and Finance to arrange a deferment has his/her registration cancelled prior to the first day of classes. Provided fees have been paid or arrangements have been made for them to be paid, those students who have had their schedules cancelled are given an opportunity to have their schedules reinstated before classes begin without payment of any further fee for late registration. 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 payment of $15.00 for late registration.
6. Failure to register in the official manner causes the registration to be cancelled.

REPEATING A COURSE

You may repeat a course previously taken at this university. If you intend to do so, you must complete a course contract in the Office of Academic Records at the beginning of the term in which you repeat the course.

If you repeat a course, only the later grade (excluding grades of I, W, WP, WF, and WX) will be counted in your grade point average, although the original grade will remain on your record.

READMISSION TO THE UNIVERSITY

A student who desires to return to the University after an absence of three consecutive terms must apply for readmission to the appropriate Dean.

A student who has been dismissed for unsatisfactory academic performance may be considered for readmission only in accordance with the conditions of the dismissal. Usually, the student is not considered for readmission for a minimum of one semester.

In the case of a suspension or dismissal for disciplinary reasons, the student must (a) comply fully with the conditions of the 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.

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

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 must be taken on the campus in regular day, evening, or Saturday classes.

SECOND DEGREE

California University of Pennsylvania offers students the opportunity to work for a second undergraduate degree. A student who has completed the Bachelor's degree program may work on another Bachelor's degree without doing four years of college work, and the student enrolled in one degree program is permitted to complete the requirements of a second degree by completing the major requirements for the second degree. The specific requirements for this program are as follows:

1. Anyone possessing a Bachelor's degree or anyone currently working on a degree at this institution is eligible.
2. A minimum of thirty (30) semester hours in addition to the first degree is required.
3. The student must meet all requirements of Area of Concentration with advisor's and/or department's approval. (Those courses the student has taken for the first degree are entered on the graduation check-out evaluation as though they were transfer credits.)
4. The second degree policy should not be confused with the procedure for students in the School of Education working on a second field of certification. Students may choose to work on a second teaching certificate by meeting the certification requirements without applying for or meeting the requirements of a second degree.

TRANSCRIPTS

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 in this catalog.

Transcripts of academic records and certificates of good standing and honorable dismissal are issued by the Office of Academic Records, Room 103 in the Administration Building.

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), (c) the name and address of the person making the request, and (d) 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; and 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.

Each student may receive one transcript without charge. Additional copies cost $2.00 each, and payment must be received before the transcript is issued. Checks and money orders should be made payable to California University of Pennsylvania.

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 as many as 75 transfer credits for work satisfactorily completed at the other institution. How you get your credits evaluated and transferred is explained in the Admissions section of this Catalog, p. 51.

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

UNDERGRADUATE CREDIT FOR GRADUATE COURSE

Undergraduate students may enroll in graduate courses for undergraduate credit if they meet the necessary requirements for those courses. Individual departments shall decide what the prerequisites for each course shall be. Graduate status may be a prerequisite for admission to some courses.

VETERANS: COURSE CREDIT FOR MILITARY SERVICE

Veterans may be awarded credit for military service and/or military schools. Any veteran who has completed more than twelve months in the military service and has received an honorable discharge (or release from active duty) is eligible for five credit hours in the Free Elective category. Active reservists are eligible at the rate of one credit hour per year, up to five credits. A veteran who had attended a military school may be eligible for credit. Each veteran seeking such an award must submit a copy of his DD 214 to the Director of Veterans Affairs, who in turn will make a recommendation to the Office of the Dean.

WITHDRAWAL FROM COURSES

If you withdraw from a course before the end of the sixth week of a semester, there is no record kept of your registration, and no other penalty is assessed.

If you withdraw from a course after the end of the sixth week, however, your instructor will report the grade you were earning when you withdrew, and it will become a permanent part of your transcript, 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 an 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.*

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 from several administrative offices, including the Business Office. Upon receipt of the clearance form and review of the student's records and status, the Dean of Academic Records 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:

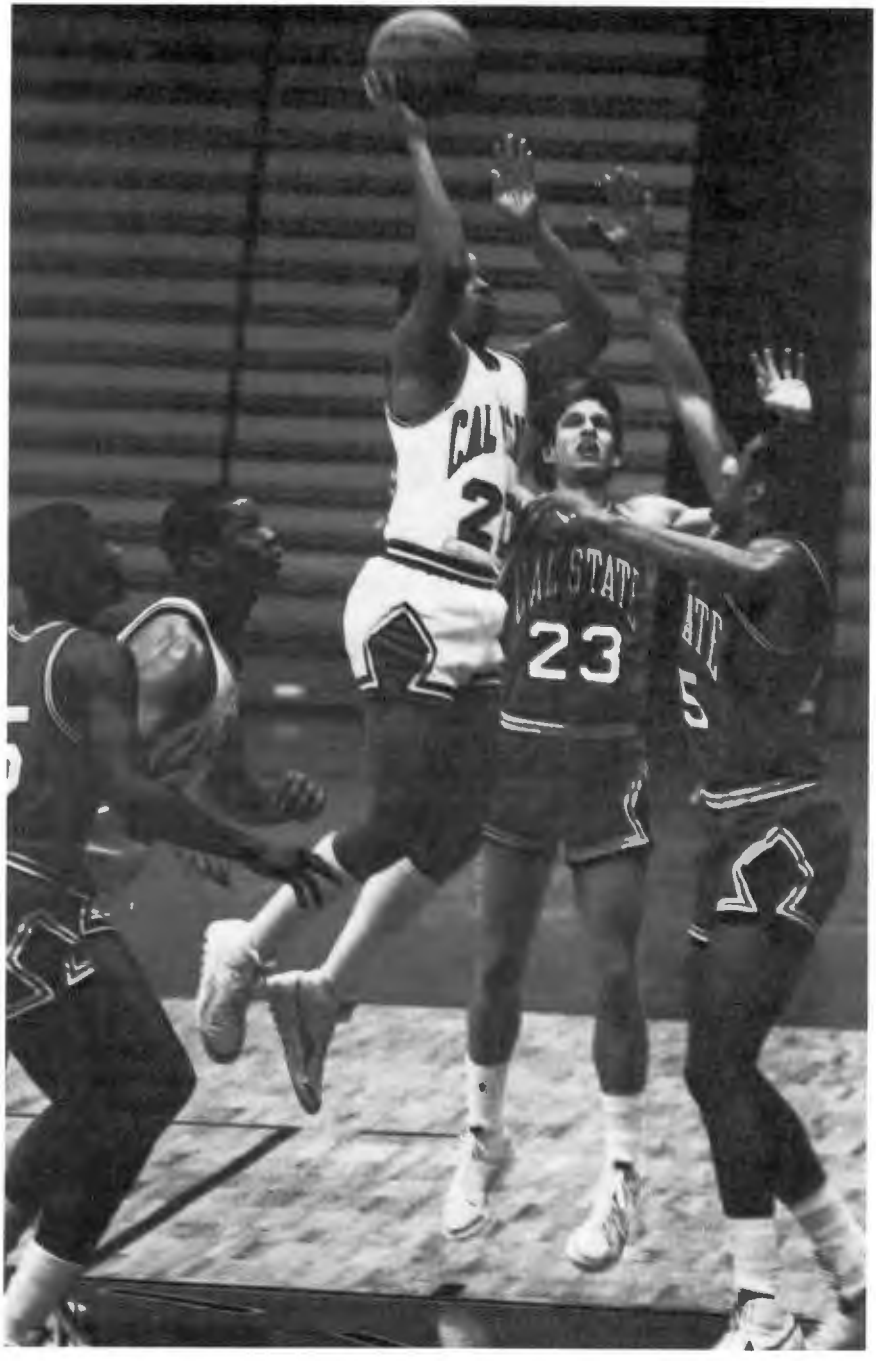
1. An honorable dismissal is granted to a student who withdraws from the University in the official manner, has met all financial obligations to the University, and has been properly cleared by the Dean of Academic Records.
2. If the student withdraws officially, a W grade is recorded for each course 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. Instructors assign A, B, C, D, or F grades, and the Dean will translate A, B, C grades to WP and D or F grades to WF. 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 results in automatic failure for all courses scheduled. It also makes the student ineligible for any refund of fees. Improper withdrawals of this type will be classified as "not in good standing."

WITHDRAWALS: ADMINISTRATIVE

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

1. 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:
   A. Registration in violation of university regulations (e.g., academic ineligibility to register).
   B. Failure of the student to comply with academic requirements (e.g., unsatisfactory class attendance).
   C. Failure to pay university fees by the deadline.
   D. Disciplinary suspension (or dismissal) for the remainder of an academic term.
   E. Severe psychological/health problems where the student cannot be permitted to continue in attendance.
   F. Other reasons deemed appropriate by the proper administrative officer.
2. Except for academic ineligibility, the date of the administrative withdrawal will be used to determine the amount of fees to be assessed or cancelled. (In most cases, the regular fee assessment and refund policies of the university will prevail.)
3. If a student registers in violation of the academic eligibility rule, the registration will be declared invalid and the fees paid by the student will be refunded in full. No grades will be recorded.
4. Policy for recording grades:
   A. For administrative withdrawals during the first six weeks of a semester (or two weeks in a five-week summer session), the grading symbol WX will be recorded for all courses on the student's schedule. No other grades, including incompletes, will be assigned.
   B. After six weeks (or after two weeks in a summer session), the date of the administrative withdrawal and the reason for the withdrawal will be considered in assigning grades.
      1. Disciplinary suspension or dismissal—only WP or WF grades will be recorded.
      2. For psychological/health reasons—WX or incomplete grades be assigned. (Instructors must consent to assigning incomplete grades. Otherwise, WX grades will be recorded.)
      3. For failure to pay fees—only WX grades will be recorded.
   C. The WX grading symbol is not computed in the student's grade point average and therefore carries no academic penalty. In all cases where WX grades are mandatory, the Dean of Academic Records will submit a written authorization for the Data Center to record this withdrawal symbol.
5. The Dean of Academic Records has the authority to backdate an administrative withdrawal if circumstances warrant such action.
6. Disciplinary suspensions (or dismissals) for the remainder of an academic term shall be initiated by the appropriate authority in the Student Development Office and written notification shall be sent without delay to

the Office of Academic Records. The Dean of Academic Records will cancel the student's registration, notify other administrative offices on a "need to know" basis, and inform the faculty members involved of the action taken.



FINANCIAL AID: GRANTS, SCHOLARSHIPS, EMPLOYMENT, LOANS

GLOSSARY OF FINANCIAL AID TERMS

AID:	Total package of funds awarded to meet university expenses
CSS	College Scholarship Service: Organization which analyzes Financial Aid Forms (F.A.F.'s) — (**NOT** used by California University of Pennsylvania)
CWSP	College Work Study Program: Work on campus, controlled by the University and funded by the Federal government
GRANT	Gift aid which is not repaid, based on need
GSLP	Guaranteed Student Loan Program: Federal loan program which subsidizes borrowed funds through hometown banks, etc.
Loan:	Funds that are borrowed and must be repaid, usually at low interest.
NEED:	Negro Educational Emergency Drive: Local grant program for Black students demonstrating need
NDSL	National Direct Student Loan: Federal program allocating need based loans through the university
PELL:	Federal grant program which is based on financial need
PHEAA	Pennsylvania Higher Education Assistance Agency: State agency awarding state grants and guaranteeing loans.
PLUS	Parent Loans for Undergraduate Students: Explained below
QPA or GPA	Quality Point Average: Cumulative grade point average used to determine academic eligibility.
SAR	Student Aid Report: Results of the PELL Grant analysis, sent to student; student must submit all three copies to the university
SCHOLARSHIP:	Gift aid which is not paid back; based on academic or co-curricular excellence
SEOG	Supplemental Educational Opportunity Grant. University based Federal grant awarded to students with highest need

GENERAL INFORMATION

Financial aid is a critical factor in providing students with the opportunity for a college education. Many types of financial assistance are listed. All financial aid is intended to supplement the family's financial resources—not as a substitute. For at least 75 percent of California University of Pennsylvania students, financial aid has made higher education a reality.

APPLICATION PROCEDURE (ALL NEED BASED PROGRAMS)

Students wishing to apply for need based financial aid must file a "Pennsylvania State Grant - Federal 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 before April 1.

Transfer students must also complete a "Financial Aid Transfer Form" for each college, university, or post-secondary school previously attended. This form is required even if no aid was received at the previous school. These forms are available in our Financial Aid Office and will be provided upon request.

BASIS AND METHOD OF AWARDING FINANCIAL AID

Student financial aid is provided on the basis of the applicant's documented financial need. Financial aid 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.

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
National Direct Student Loan
College Work-Study
Guaranteed Student Loan

Part-time students can apply for aid in the same manner as full-time students. The aid awarded is dependent upon the student's educational costs.

RIGHTS AND RESPONSIBILITIES OF FINANCIAL AID APPLICANTS

Every student has the right to apply for financial aid and also request and receive reconsideration of the financial aid decision. Students also have the right to know how their financial need and family contribution were 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 provisions 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 and/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, Industrial Arts materials, art supplies, etc.) without depending upon financial aid funds.

SCHOLARSHIPS

Hercules, Inc. Scholarship: Each year a $1,000 award is made available to an academically outstanding student majoring in chemistry at California University of Pennsylvania. The recipient of this award must have completed at least one year of undergraduate study in chemistry or a related science curriculum. This scholarship is sponsored by the Donora plant of Hercules Chemical, Inc. Details concerning this grant are available at the Physical Sciences Department.

AAUW Scholarship: The California University of Pennsylvania Branch of the American Association of University Women has established a $400 per year award. The award will be made to an upperclass woman over 30 who wants to complete her undergraduate degree at the University. The nominees must be a full-time student and may renew the award upon maintenance of a 3.0 academic grade average. Those interested in applying should contact the Financial Aid Office.

Harhay Memorial Scholarship: This scholarship was established in memory of the late Frank Corwyn Harhay. An award of $100 will be granted to an outstanding academic student enrolled on a full-time basis in the Nature Conservation program at California University of Pennsylvania. The recipient is selected by a committee of instructors and members of the Financial Aid staff. Inquiries concerning this grant should be directed to Department Chairperson, Biology Department.

California University of Pennsylvania Faculty Scholarships: The Faculty of California University of Pennsylvania awards scholarships of $2,000 each to a selected number of freshmen. Minimum qualifications include: (1) admission as a full-time student at California University of Pennsylvania. (2) a combined Scholastic Aptitude Test score above 1200, and (3) rank in upper five percent of the high school graduating class. Inquiries should be directed to Dr. Robert T. Little, Chairman, Faculty Scholarship Committee.

Blanche Rebecca Heath Scholarship: This scholarship was established in memory of the late Blanche Rebecca Heath. A renewable award of $500 per year is granted to one entering freshman majoring in elementary education. High school performance is the primary requisite in selecting a recipient. Interested entering freshmen should contact the Dean, College of Education, California University of Pennsylvania for application information.

ALUMNI SCHOLARSHIP PROGRAM

The Alumni Association offers 10 scholarships of $250 each to first-time matriculating post secondary-students enrolled on a full-time basis. These alumni scholarships are given on the basis of a minimum grade point average of 3.25, Scholastic Aptitude Test (SAT) composite scores of at least 1050, a

graduating class rank in the top 10% at the time of application, evidence of leadership ability, and involvement in extra-curricular activities in high school and/or the community.

The alumni scholarships may be renewed annually provided that a cumulative grade point average of 3.25 is maintained. A maximum of four $250 annual awards may be received by a student.

Students will be notified by the Dean of Admissions of their alumni scholarship award. Students must notify the university of their scholarship acceptance by March 1 or within 30 days after acceptance of admission to the University.

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 STIPEND

The university offers participation in the Reserve Officers Training Corps. Scholarships (one-, two-, three-year) are available for undergraduate studies. Army Reserve and National Guard members may enroll and earn up to $11,000. Advanced and scholarship ROTC cadets receive a tax-free subsistence allowance in addition to other financial aid. Additional information is available through the ROTC Department on campus. To see how this program can fit your needs, call 938-4074.

SPECIAL BENEFITS

Benefits are funds to which some people are entitled under special conditions.

Veterans' Benefits are available to veterans who are discharged from the Armed Forces. Application should be made at local Veterans Administration offices.

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 Bureau of Vocational Rehabilitation.

OTHER SOURCES OF FINANCIAL AID

The previous sections have been devoted to outside financial aid, primarily from university and government agencies. There are also many other avenues from which to obtain aid. These would include relatives, local clubs or organizations, businesses, summer earnings, special scholarships, etc. Your guidance counselor, local civic leaders or local librarians would be of valuable 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, National Direct Student Loans, State Guaranty Loans, PLUS Loans or the College Work

Study Program), the University requires students to maintain satisfactory academic progress.

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

1. All first-time freshmen and transfer students are exempt from aid denial due to lack of academic progress for the first year of attendance at the University. Progress during the first year, however, does determine eligibility for subsequent years.
2. After two (2) semesters of full-time attendance the student is required to have completed a minimum of twenty-four (24) credits with a Grade-Point Average of at least 1.75;
3. After four (4) semesters, forty-eight (48) credits must have been completed, with a Grade-Point Average of at least 1.85.
4. After six (6) semesters, seventy-two (72) credits must have been completed, with a Grade-Point Average of at least 1.95.
5. After eight (8) semesters, ninety-six (96) credits must have been completed, with a grade point average of at least 2.00.
6. After ten (10) semesters, one hundred and twenty (120) credits must have been completed, with a Grade-Point Average of at least 2.00.

The University does not award assistance from Title IV programs beyond a maximum of 5.5 academic years (11 semesters).

All of these requirements are for full-time students in four-year programs. Students studying less than full-time or in two-year programs are assessed at the appropriate pro-rated calculation. (For example, a half-time student who schedules and completes only twenty-four (24) credits in the course of four (4) semesters is taken to be the same as one who has scheduled and completed the same number of credits in two semesters of full-time attendance.)

In accordance with the University's requirements for academic progress, 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 his/her 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 his/her class category. In this case, eligibility for Title IV Federal Aid may be continued; OR (3) If the student's cumulative Grade-Point Average remains below the required minimum for his/her class category after a probationary semester **and** the student's 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 his/her 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 cumulative Grade-Point Average for his/her class category has been achieved.

FOR SPECIAL GRADES

I (Incomplete): Credits are not awarded for this grade, and consequently until the incomplete grade is resolved, a course in which it is received does not count towards satisfying the credit requirements listed above. 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 requirements 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

If a student is deficient in credits and/or Grade-Point Average at the end of an academic year, he/she 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 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 ("transient clearance") from the dean of his/her college within 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), an appointment should be made with the Director of Financial Aid to discuss 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.

GENERAL

In order to receive Title IV assistance, a student must be making satisfactory progress whether or not he/she has previously received Title IV aid.

REFUND POLICY

The following formula is applied when a Title IV aid recipient withdraws from school during the refund period outlined in the University Catalog:

$$\frac{\text{Charges Assessed Due To Withdrawal}}{\text{Charges Originally Assessed For the Entire Term}} \quad \frac{\text{Title IV Aid (Minus Work Study) Awarded for Payment Period}}{\text{Total Aid Awarded (Minus Work Study) Earned for Payment Period}}$$

Once a percentage of refund has been established using the formula, it is the policy of the institution to apply the appropriate percentage to the institutional amount due and/or to any other legitimate documented off-campus expenses (books, off-campus housing, etc.). The calculated refund percentage is refunded to the appropriate aid account. The institution will apply the PELL, SEOG, and other grants first and utilize Title IV loan funds as a secondary resource. Any portion of a refund allocable to a Guaranty Student Loan or PLUS Loan is returned to the student lending institution.

In addition, if the borrower becomes a full-time staff member in a preschool program of the Economic Opportunity Act (Head Start) in certain states, for a period comparable to the full school year, and provided the borrower's salary is comparable to that of an employee of a local agency, the amount of the loan shall be reduced at the rate of 15 percent a year, plus interest for each complete year of service.

If the borrower serves as a member of the Armed Forces of the United States, a maximum of 50 percent of the loan shall be cancelled at the rate of 12 ½ percent a year plus interest for each complete year of service in an area of hostilities.

In addition, interest and payments shall be 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 Act, 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. Applications specified in the application section of this brochure are required.

Student Guaranteed Loans: 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 the university. In many cases, the student cannot qualify for student employment or a student loan. Even when commercial credit sources are available, repayment generally runs concurrent with the years the student attends the university. To help these young people and their families, a Guaranteed Loan Program is in operation.

Under this program a student may borrow from a bank or other financial institution. An undergraduate student may borrow as much as $2,500 a year up to a total of $12,500. A maximum of $10,000 may be borrowed to complete a four-year baccalaureate degree program.

Students from families with adjusted gross incomes of less than $30,000 can borrow without demonstrating need. Students from families earning need test to determine if they are is less than $500, the loan will be is demonstrated, the student may the student may borrow up to the program limit ($2500/year for

oan purposes will be provided with

n is not required until the student ne Federal government will pay the rolled in the university.

their local bank or financial institu- on forms for the Guaranteed Loan ole to students from other states vania Higher Education Assistance

recommendation of the Financial recognized as a necessary consid- uld be minimized to meet projected

mits parents to borrow for depen- ent undergraduate and graduate or borrow under this program, but the le.

US loans made on or after Novem- ke the Guaranteed Loan Program, Repayment of the principal and in- promissory note.

be available at your local lending

nall emergency short-term loans are nnsylvania undergraduate students. cial 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 may work up to 15 hours weekly 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 (40 hours per week) under this program. In three months of summer employment under the Work-Study Program, an eligible student could earn $1,000 or more. This amount, supplemented by weekly earnings during the school

year, could help provide total educational costs, including necessary clothes, transportation and personal expenses.

To work under this program, a student must be enrolled as a full-time student at the University. The student's eligibility depends upon the demonstration of financial need.

Student Employment (Non-CWSP): Employment available under this program is provided on a priority basis with financial need as the first consideration. Should funds for this program permit, students who do not meet financial need requirements may also be employed. Work assignments and work schedules are similar to those for the Federal Work Study Program. Interested students can receive further information and applications by contacting the Financial Aid Office. Such student employment is considered a financial aid resource and may influence the amount of aid a student receives from university-based Federal programs. Applications are required.

GRANTS

The Pell Grant: (Basic Educational Opportunity Grant) is a Federal aid program 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 $1,800. The Pell Grant award, unlike a loan, does not have to be repaid. A student is eligible to receive a Pell Grant during the period of time required to complete a first undergraduate degree.

Supplemental Educational Opportunity Grants: These are available to students who demonstrate financial need. The minimum a student may receive is $200 per academic year. A student is eligible to receive the grant during the time required to complete his/her first undergraduate degree.

Pennsylvania Higher Education Assistance Agency Grants: The PHEAA program was created to assist qualified students who need financial assistance to attain 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. Interested students may request further information at the Financial Aid Office.

Other State Grants: Several states, including Massachusetts, Vermont, Connecticut, West Virginia, Rhode Island, New Jersey 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

National Direct Student Loan: California University of Pennsylvania participates in the National Direct Student Loan program. 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.

Eligible undergraduate students may borrow from this loan program each academic year. The repayment period and the interest do not begin until six months after the student ends his or her studies. After termination of studies, the loans bear interest at the rate of 5 percent a year (annual percentage interest), and repayment of principal may be extended over a 10-year period. The institution may require a minimum repayment of no less than $30 a month.

If a borrower becomes a full-time teacher in a public or other non-profit private elementary or secondary school with a high enrollment of students from low-income families, or as a full-time teacher of handicapped children, for each complete year of service the amount of the loan shall be reduced at the rates of 15 percent a year, plus interest for the first and second years of service; 20 percent a year, plus interest for the third and fourth years of service; 30 percent a year, plus interest for the fifth year of service; which results in 100 percent cancellation of the loan.

ADMISSIONS

NONDISCRIMINATION POLICY

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, ethnic and national origin in the administration of its educational policies, admissions processes, scholarships and loan programs, employment practices and athletic and other 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 Title IX Coordinator, (412) 938-4351, Affirmative Action Officer, (412) 938-4185, 504 Coordinator, (412) 938-4076, or the Director of Office of Civil Rights Region III, U.S. Department of Education, Philadelphia, PA 17101.

GENERAL INFORMATION

Requests for applications and all correspondence concerning admissions should be directed to the Dean of Admissions and Academic Records. Applicants are encouraged to write or call for an appointment to visit the University. 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 should be a graduate of an approved secondary school or have an equivalent preparation as determined by the Pennsylvania 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. Applicant 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.

SPECIFIC ENTRANCE REQUIREMENTS

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, and a high school transcript or GED certificate.

Results from the Scholastic Aptitude Test (SAT) or the American College Test (ACT) should be sent, if available. These test results are beneficial to students and advisors; 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 less than thirty (30) credits of higher education have been completed, applicants must also submit the high school transcript, including the results of all standardized test scores.

The University will accept a maximum of seventy-five (75) credits in transfer from a junior or community college. The determination of which courses will be credited to the major, general requirements, or electives will be completed by the appropriate Dean following the application process.

The University subscribes fully to the Articulation and Transferability Agreement between the (former) Pennsylvania State Colleges and University and the Pennsylvania Community Colleges. Under this agreement, graduates of a Pennsylvania Community College are eligible for admission to this University if students receive an Associate degree in an academic program approved by the University.

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 us 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 transient status is requested. In all cases, admission is granted for the approved semester only.

D. Early Admission for Freshmen

Students wishing to enroll at the University with the expectation of either earning college credits prior to high school graduation or completing the senior year of high school and first year of college simultaneously must complete the special admission clearance form in addition to the formal application, transcripts, and fees.

Special admission is granted for only one semester at a time. The procedure must be completed each semester that special clearance is desired. All students are classified as non-degree/non-matriculated during this period.

At the time of secondary school completion, the student's status will be changed and an official transcript generated.

E. Graduates of California University

Post-baccalaureate students who have graduated from California University must register with the Dean in the area where additional courses are desired.

Students do not need to contact 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.

G. Foreign Students

Foreign students are required to submit an application for admission to California University of Pennsylvania. In all cases, a special foreign 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 foreign students could 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.

All foreign students must also subscribe to the insurance plan of California University.

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. R.O.T.C. Students

All students interested in the R.O.T.C. program must complete the application, application fee, and transcripts.

Details concerning the program can be found in the Military Science, ROTC Section of this catalog.

J. Veterans

Veterans who have not attended an institution of higher education since their discharge are unconditionally admissable 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 provisions 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 the environment where students are known as individuals and receive additional help from faculty, administrators, and students. In addition to the standard support services, CUP offers a Special Programs Department, which provides tutoring and counseling for all age groups.

Academically and financially needy students may be eligible for special state and federal programs as administered through the Special Programs Department at the University.

READMISSION OF STUDENTS

A student who desires to return to the University after an absence of three consecutive terms must apply for readmission to the appropriate Dean.

A student who has been dismissed for unsatisfactory academic performance may be considered for readmission only in accordance with the conditions of the dismissal. Usually, the student is not considered for readmission for a minimum of one semester.

In the case of a suspension or dismissal for disciplinary reasons, the student must (a) comply fully with the conditions of the 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.

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

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.

OUT-OF-STATE RESIDENCY

Out-of-state 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.

ADVANCED PLACEMENT PROGRAM

Advanced Placement examinations which are completed under the auspices of the College Entrance Examination Board are available to students. Credits will be granted to students who submit scores of 3 or higher.

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.

PLACEMENT

The Placement Office assists seniors, graduate students, and alumni of the University in obtaining full-time, permanent, professional employment. Through the Placement Service, students may obtain general advice, information and statistics on job opportunities.

On-campus interviews are scheduled annually for students interested in meeting with representatives from school districts, business firms, governmental agencies, and industries seeking graduates of the University.

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.

It is advisable that any information needed be obtained through an individual appointment with the Vice-President for Academic Affairs.

COMMUNITY COLLEGE GRADUATES

The University subscribes to the Articulation and Transferability Agreement between the (former) State Colleges and University, and Community College. 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 said 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.

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.

Community College transfers will be admitted under the condition of California's Transfer Credit Evaluation policy.

TRANSFER CREDIT EVALUATION

1. The University will transfer no more than 75 credits per student from any two-year Community or Junior College.
2. Courses transferred from two-year institutions will be equated to 300 and 400 level courses at California only after it can be shown that their content exceeds or is equivalent to appropriate 300 and 400 level courses at California.
3. Courses taken at another school under a pass/fail option will be transferred under the conditions of California's pass/fail policy.
4. Students in good standing at California may take courses at another institution. Before taking such courses, the student must obtain written permission from an advisor and the appropriate Dean.
5. When a graduate from any two-year or junior college transfers to California, courses shall be considered for transfer in the following order.

   (1) Courses for which the grade earned was A, B, or C.
   (2) Courses for which a "Pass" grade was given.
   (3) Courses for which the student received a D grade.

   No courses for which a D grade was received will be transferred after a total of 64 credits has been transferred.
6. Grades of D are not transferable unless they are counted as part of the Associate Degree.

FINANCIAL INFORMATION AND FEES

FEES AND EXPENSES*

The basic fee (tuition) covers the cost of instruction, registration, the keeping of student records, library services, student welfare and health services (with the exception of extra nurses) and laboratory facilities.

Full-time students: For full-time students (scheduled from 12-18 credits) who are residents of the Commonwealth of Pennsylvania, the basic fee is $785.00 a semester. An additional $66.00 per credit will be charged for credits scheduled in excess of 18.

Part-time students: Part-time students who are residents of the Commonwealth of Pennsylvania will be charged $66.00 per credit hour. (A part-time student is one who is scheduled for 11 or fewer credits.)

Out-of-State students: Out-of-state students enrolled on a full-time basis (from 12-18 credits) pay an enrollment fee of $1,374.00 per semester. An additional $115.00 per credit will be charged for credits scheduled in excess of 18.

Out-of-State, part-time students: The basic fee is $115.00 per semester hour.

OTHER FEES*

Advance Deposit

All first-year students, including transfers, and readmitted students are required to submit a $75.00 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.

Room and Board Charges

The room and board charges cover the cost of living in a University dormitory and for meals in the University dining hall. The cost for both is $900.00 per semester. Of this amount, $500.00 is charged for room and $400.00 is charged for meals.

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 State-supported college or university in the State of Pennsylvania. A minor will generally be presumed to be a resident of the place of his 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.

**All fees are subject to change.*

Student Association Fees:

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

12 or more credits	$55.00
6 - 11 credits	16.00
1 - 5 credits	9.00

NOTE: This fee is refundable through the Office of the Student Activities, Inc.

A late charge will be assessed after the first six weeks:

Full-time undergraduate	$5.00
6 - 11 credits	2.00
1 - 5 credits	1.00

College Service Fee:

All students will be charged $65.00 for 9 or more credits per semester; $30.00 for 1 to 8 credits per semester for this fee.

NOTE: This fee is nonrefundable except for academic dismissal and in case of administrative action to revoke a registration.

Student Union Building Fee:

All students must pay this fee as follows:

10 or more credits	$10.00
7 to 9 credits	5.00
1 to 6 credits	2.50

NOTE: This fee is nonrefundable except for academic dismissal and in case of administrative action to revoke a registration.

A fee of $10.00 must be paid by each candidate for a degree from California University of Pennsylvania. A student shall not be 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.

C.L.E.P. Fee:

A one-time, flat fee of $25.00 is charged for the administration and recording of CLEP credits regardless of the number of credits awarded.

SUMMARY OF FEES (Per Semester)

Full-time Resident Students	In-State	Out-of-State
Basic Fee*	$ 800.00	$1,434.00
Student Union Building Fee	10.00	10.00
Housing Fee	550.00	550.00
Meal Fee	425.00	425.00
Student Association Fee	55.00	55.00
College Service Fee	65.00	65.00
TOTAL	$1,905.00	$2,539.00

Full-time Commuting Students

Basic Fee*	$ 800.00
Student Union Building Fee	10.00
Student Association Fee	55.00
College Service Fee	65.00
TOTAL	$ 930.00

**Based on a maximum of 18 credits per semester.*

NOTE: UNIVERSITY FEES ARE SUBJECT TO CHANGE.

SUMMER REFUND POLICY (For Basic Fees Charged)

5 Weeks Session

1st Week	80% refund of basic fees charged
2nd Week	60% refund of basic fees charged
After 2nd Week	NO REFUND

10 Weeks Session

1st Week	80% refund of basic fees charged
2nd Week	70% refund of basic fees charged
3rd Week	60% refund of basic fees charged
4th Week	50% refund of basic fees charged
After 4th Week	NO REFUND

Special Conditions (for Summer Sessions):

1. The first day of classes will be used as the starting date in considering the first week for determining a refund or billing adjustment.
2. 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 College Service Fee.
3. Financial aid recipients who intend to withdraw from the University must be cleared by the Financial Aid Office as part of the withdrawal procedure.

Policy on Room and Board Charges:

1. Refunds on room charges will follow the same percentage schedule established for Basic and Other Academic fees refunds.
2. Refunds on board charges will be made according to the following percentages:

Semester Withdrawal

1st & 2nd Weeks	80% refund of amount charged
3rd Week	70% refund of amount charged
4th Week	60% refund of amount charged
5th Week	50% refund of amount charged
6th & 7th Weeks	40% refund of amount charged
8th & 9th Weeks	30% refund of amount charged
10th & 11th Weeks	20% refund of amount charged
After the 11th Week	NO REFUND

SUMMER SESSIONS REFUND POLICY (Room and Board):

Per Week Charge, according to Total Per Week

5 Weeks Sessions

1st Week	80% refund	4th Week	20% refund
2nd Week	60% refund	5th Week	NO REFUND
3rd Week	40% refund		

10 Weeks Sessions

1st Week	80% refund	5th Week	40% refund
2nd Week	70% refund	6th Week	30% refund
3rd Week	60% refund	7th Week	20% refund
4th Week	50% refund	8th Week	NO REFUND

Refund Eligibility:

1. 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 will be considered the effective date of withdrawal.
2. Refunds are not granted on an automatic basis. A student eligible for a refund must submit a written request to the University Vice President for Administration and Finance (Room 236, Administration Building) without delay. **No action will be taken until this has been done.**

DELINQUENT ACCOUNTS

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

REFUND POLICY (For Basic Fees Charged)

Partial refunds, or credit, will be granted to students who have made an official withdrawal from the University. They will be based upon a percentage of the fees charged according to the following schedule:

Semester Withdrawal

1st and 2nd Week	80% refund of the basic fee charged
3rd Week	70% refund of the basic fee charged
4th Week	60% refund of the basic fee charged
5th Week	50% refund of the basic fee charged
After the 5th Week	NO REFUND

1. A refund or credit will not be allowed unless the withdrawal is properly made in the Office of Academic Records. Except for emergencies, notification will be considered the effective date of withdrawal.
2. Refunds are not granted on an automatic basis. A student eligible for a refund must submit a written request to the Vice President for Administration and Finance (Room 236, Administration Building) without delay. **No action will be taken until this has been done.**

FEES FOR SUMMER SESSIONS

Basic Fee (Tuition)

The enrollment fee for any of the regular summer sessions is $62.00 per semester hour. During summer sessions, the rates for non-Pennsylvania resident undergraduate students shall be the same as those for Pennsylvania undergraduate students.

Housing Fee

Summer session rates are based on the number of weeks in the session. Summer rates are $31.00 per week for dormitory room, and $28.00 per week for dining hall meals.

PAYMENT OF BILLS

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

ACADEMIC MANAGEMENT SERVICES BUDGET PAYMENT PLAN

This Plan allows you to pay University fees in 10 monthly payments commencing June 1, 1984.

The cost of this Plan is $35.00 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.

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 college experience; concern for not only individual intellectual development, but personal, social, and physical development as well.

Student Development provides services to students in the following areas:

Orientation
Health Center
Discipline
Student Association, Inc.
Student Government
Dining Hall
Residence Hall Programming
Counseling Center
Summer Camps
Athletics
Housing
Veterans Affairs/Handicapped Services
Foreign Students

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

Vice President for Student Development and Services
Dean of Women/Administrative Assistant
Dean for Student Services
Dean of Student Life
Assistant Deans of Student Life
Director of Student Association, Inc.
Business Manager of the Student Association, Inc.
Director of Health Services
Director of Housing
Director of Veterans Affairs/Veterans and Handicapped Student/Services and Rehabilitation Counselor
Director of Counseling and Psychological Services
Director of Athletics

ORIENTATION

A comprehensive one-day orientation program 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 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.

ROOM DEPOSIT

An advance room deposit of $100.00, credited to the student's account, 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 by mail which must be signed and returned to the Revenue Office, California University of Pennsylvania, with a check, money order, certified check, or bank draft in the amount of $100.00.

Upper-class students are also required to pay the $100.00 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.

STUDENT ASSOCIATION FEE

Each student enrolled on a full-time basis is charged a Student Fee of $45.00 per semester. Part-time students will be charged as follows: 1-5 credits, $7.00, 6-11 credits, $12.00. Upon payment of this fee, the student becomes a member of the Student Association, Incorporated. The fee is required of all students.

LATE REGISTRATION FEE

Each student who enrolls after the date officially set for registration will be charged an additional fee of $15.00 (except when permission for late registration has been secured in advance).

LATE PAYMENT FEE

A $15.00 fee is charged when a student fails to pay fees during the registration period or by the date established in an approved deferment plan.

BAD CHECK CHARGE

Students making checks payable to California University of Pennsylvania which are not acceptable to the bank because of insufficient funds will be charged $10.00 for each such check. The original amount plus the $10.00 charge must be paid by money order or certified bank draft. Personal checks will not be accepted. The Student Association, Inc. charges $5.00 for bad checks.

DAMAGE CHARGES

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

SERVICE FEE

All students carrying 9 or more credits will be charged $65.00 per semester. All students earning 1 to 8 credits will be charged $30.00.

HEALTH SERVICES

The Health Center provides limited infirmary and nursing services for resident students and emergency infirmary service for all students. The Health Center is staffed by registered nurses and a qualified physician who is available during specified hours.

Infirmary Service for Students

Limited infirmary service is provided for all students. Free service is limited to three days, after which a charge of $1.00 per day is made. Fees for a physician, special nursing care, and prescription drugs must be paid by the student.

Doctor's Fees and Ambulance Fees

Fees for office, home, or infirmary calls by any physician must be paid by the patient. The Student Association, Inc. has an agreement with the local Ambulance Service to provide free local ambulance coverage. Refer to *The Student Handbook* for further information.

Health and Accident Insurance

Some form of Student Health and Accident Insurance is required of students. Information concerning the availability and costs of such insurance may be secured by contacting the Student Association Office, California Memorial Union.

Chronic Diseases

Students suffering from chronic diseases will be interviewed periodically by the University physician to determine the nature of the treatment in progress and examined, if necessary, to determine the status of the disease.

The University may dismiss, or deny admission to any student whose health would be detrimental to the University community.

Class Absences Due to Illness

If class absence is of four days duration or longer, students should contact the Health Center requesting that notification of their illness be sent to their instructors.

UNIVERSITY REGULATIONS

1. The possession or use of alcoholic beverages 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.
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 the payment of the items purchased.
5. Men and women students may not visit each other in their respective 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 in writing in advance by the Dean of Student Life.
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 is prohibited.
9. Students who participate in any demonstation which is disorderly, riotous, destructive and disruptive are subject to legal action by the Commonwealth, the local government, and the University, and disciplinary action by the University.
10. A notice to a student requesting the student to report to a faculty member or an administrative official has priority over any other activity and requires compliance on the date, day and time indicated; or the student must contact the faculty member 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 faculty member, administrative official, or employee of the security force.
12. Any student who possesses or sells or uses any drug or medicine including narcotics such as heroin and marijuana, the issuance of which is controlled by prescription, is subject to disciplinary action by the University and legal action by the civil authorities unless such drug or medicine is secured through regular procedures and channels as required by the statutes of the Commonwealth of Pennsylvania.
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.

PARKING FOR HANDICAPPED STUDENTS

Parking spaces have been reserved for 31 handicapped or disabled persons.

Those who require one should apply for a special parking permit from the Director of Security. The handicapped or disabled person must verify the physical problem through presentation of a letter from a doctor attesting to the disability and whether it is permanent or temporary. Duration of permits is determined on a case-by-case basis.

Questions on this policy may be addressed to the Section 504 Coordinator, Mr. Arthur Bakewell, in Room 230 of the Learning Research Center.

HUMAN RELATIONS PROGRAM

The University is committed to the principle of equal educational opportunity. Programs and courses are designed so that all students, regardless of sex, religion, race and ethnic background, have equal opportunities to succeed. A Human Relations Committee, composed of students, faculty, staff, and administration, was established in February, 1974. This Committee oversees the development and implementation of campus-wide programs which assist with the recruitment, enrollment, and retention of minority students. The Committee assists faculty and administration in responding appropriately to the specific needs of minority students and in maintaining an atmosphere of non-discrimination.

STUDENT RIGHTS APPEAL PROCEDURE

Every student has a right
1. To equal protection of laws and equal justice in the courts:
2. To be free from arbitrary search and arrest; and
3. To have legal counsel and a prompt trial if accused of crime or malfeasance.

The Personnel Deans are available to help students when and if they are arrested or accused of violation of laws and regulations.

STUDENT ASSOCIATION, INC.

The Student Association, Inc. (S.A.I.) is a non-profit corporation financed in part by a student association fee which is paid each term by each student. This is an official fee approved by the University and is required of all students.

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 S.A.I.

The S.A.I. coordinates the co-curricular activities provided by the University including Homecoming, concerts, plays, musical productions, movies, outdoor recreation, dances, picnics, WVCS Radio and other special events. Intercollegiate athletics are also funded by S.A.I. In addition, S.A.I. coordinates the activities of student clubs and organizations. The *Student Handbook* provides a complete listing of active student clubs and organizations.

Publications coordinated by Student Association include a monthly calendar of events, *Student Handbook,* organizational handbook, *The California Times* (student newspaper), *Yesterdays Papers* (yearbook), *Pegasus* (literary magazine), and a number of informative brochures.

The S.A.I. is responsible for the development and maintenance of the University Farm, an eighty-seven acre area located one mile from California on Route 88 South. Facilities include tennis courts, practice football and baseball fields, picnic areas and Adamson Stadium.

S.A.I. supervises the California Memorial Union, campus vending, the Outdoor Recreation Center, and the Campus Book Exchange.

STUDENT CONGRESS

Student Congress is the official student governing body. It is designed to represent and serve 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 which enrich campus life, and creates opportunities for students to exercise and to develop leadership skills.

HOUSING

California University of Pennsylvania provides residence hall accomodations for approximately 1500 students in seven separate residence facilities. Women's residence halls are Clyde, Stanley and South Halls. Men's residence halls are Binns, Johnson, Longanecker and McCloskey Halls. The residence halls are staffed by full-time professional Resident Directors who provide personal and academic counseling, by graduate assistants, and by resident assistants who deal with every-day problems in each dormitory. In addition, professional psychological counseling is available on campus.

The University does not supervise or maintain any off-campus housing. Lists of off-campus housing are available but the housing office does not approve or disapprove of such housing. Students are urged to take necessary precautions in seeking off-campus housing.

As a campus or town resident each student will be extended courtesies and services extended all residents of the Borough of California. Students in turn are expected to adhere to all ordinances and regulations enacted by the borough and those violating regulations and ordinances will be prosecuted accordingly.

Application for Housing

All freshman students are required to live in the university residence halls or commute from their home of record. Freshmen will receive the appropriate application forms with their acceptance letter. Transfer students who indicate that they need on-campus housing are provided with the appropriate application forms at the same time that they receive their letter of acceptance.

Upperclass students must contact the Director of Housing, Office of Student Development, California Memorial Union, California University of Pennsylvania, California, PA, 15419 if they wish to secure on-campus residence hall accommodations.

The University retains the right to assign all students to certain dormitories, floors or roommates.

DINING HALL FACILITIES — Gallagher Dining hall

General Regulations

1. Dining Hall authorization stickers are for personal use only. They are not to be loaned, or sold, to anyone.
2. If a Dining Hall sticker has been lost or stolen, the loss should be reported immediately to the Dining Hall Manager.

3. Students living off campus may request assignments to the University dining hall. Such assignments are made for one full semester and may not be terminated unless the reason is urgent and exceptional.
4. Each resident living in a campus residence hall is required to accept a dining hall assignment. The dining hall assignment entitles the student to nineteen meals a week (three meals Monday through Friday and two meals Saturday and Sunday). Exceptions to this policy can be made when medical problems exist. Permission must be obtained from the Dean for Student Services, Room 127, California Memorial Union.

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. Currently the following social fraternities and sororities function on campus.

FRATERNITIES	SORORITIES
Alpha Kappa Lambda	Alpha Kappa Alpha
Delta Chi	Alpha Sigma Tau
Delta Sigma Phi	Delta Zeta
Kappa Alpha Psi	Gamma Psi
Omega Phi Psi	Sigma Kappa
Phi Kappa Theta	Sigma Sigma Sigma
Sigma Tau Gamma	Zeta Thi Beta
Theta Xi	
Pi Triton	

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.

Sixteen sports are available to students. Baseball, basketball, cross-country, fencing, football, golf, track and field, and wrestling for men; basketball, cross-country, fencing, softball, tennis, track and field, and volleyball for women.

The College has outstanding facilities for athletics. Adamson Football Stadium, a modern facility located at the College Recreation Center, has spacious locker rooms and a training room. The stadium has a seating capacity of 4,500 and includes an excellent all-weather track.

Also located at the Recreation Center are seven tennis courts, a baseball diamond, a softball field, 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, weight room and a wrestling workout room. The building has a seating capacity of 3,600 for basketball games and the natatorium can accommodate over 250 spectators.

Herron Hall, also located on the main campus, is used primarily for women's athletics. This gymnasium has two basketball courts, a handball court, and a swimming pool.

California State College holds membership in the NCAA, ECAC, PSCAC, AIAW, and the EAIAW.

COUNSELING & PSYCHOLOGICAL SERVICES

An important objective of counseling is to help students explore, clarify, and understand their personal thoughts and feelings, to acquire new information about their environment, and how to cope effectively with it.

The Counseling Center offers both individual and group counseling which involve many areas of concern. A popular student question is "Where Am I Going?"

The Center offers professional counseling for students who are experiencing personal/social, emotional, educational and vocational adjustment problems which interfere with their effective performance. Also, consultation to faculty and staff is available.

Appointments can be made by called the Center or by "walking-in."

These services are available to all students. Each individual and group counseling relationship is a confidential matter between the student and the counselor.

Office hours: 8:00 a.m. to 4:00 p.m. daily. Weekend and evening sessions by appointment.

The Counseling Center is located in the Thomas Morgan Learning Research Center. Phone: 938-4191.

OFFICE OF VETERANS AFFAIRS

The Office of Veterans Affairs, Learning Research Center (Ext. 4076), is open from 8:00 a.m. to 4:00 p.m., Monday through Friday. Evening hours can be arranged by appointment. The director is Art Bakewell.

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

All veterans or eligible persons applying for entrance to the University should contact Veterans Affairs at an early date so that necessary VA paperwork can be processed to assure timely payments of educational benefits. Veterans are further advised to take advantage of the University's outstanding program which awards college credits for military service schools.

Veterans who have completed a minimum of twelve months in the Armed Services may receive an award of five credit hours in free electives. Additional credits may be awarded to eligible veterans under the life experience/military service schools program. Official records such as service school diplomas or certificates and a copy of DD Form 214 should be hand carried to the Veterans Affairs Office for review and subsequent referral to the designated college evaluators for possible award of credits. Students who are or have been members of the Active Reserve or National Guard may be awarded one credit per year of active participation, up to a maximum of five credits. All recommendations for awards are subject to final approval by the Vice-President for Academic Affairs.

HANDICAPPED STUDENT SERVICES

Handicapped students are provided an equal opportunity to participate in student services and activities conducted by this University. No qualified handicapped student is, on the basis of handicap, excluded from participation in, denied the benefits of, 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 postsecondary program or activity offered or sponsored by this University.

University programs and facilities are accessible to the handicapped. Special needs of handicapped students are recognized. The Handicapped Student Service Office provides individualized assistance (including attendant services) to those in need. Information on handicapped students' services may be obtained through Arthur Bakewell, the Section 504 Coordinator in Room 230 of the Learning Research Center (938-4077).

Students in need of "attendant services" should contact Section 504 Coordinator in Room 230, Learning Research Center or by phone—938-4076/4077 at the earliest practicable date. Attendants provided through the University's student work-study program are assigned and supervised by the Section 504 Coordinator.

THE DIVISIONS OF THE UNIVERSITY

THE DEPARTMENTS

THE CURRICULA

THE COURSES

PROGRAMS AND DEPARTMENTAL COURSE ABBREVIATIONS

The following departmental and/or program abbreviations are used to identify courses.

CODE	PROGRAMS BY DISCIPLINE	DEPARTMENT
ANT	Anthropology	Social Science
ART	Art	Art
XHS	Arts in Human Services	
TPE	Athletic Training Education	Health and Physical Education
BIO	Biology	Biological and Environmental Sciences
BUS	Business	Business and Economics
XCP	Career Planning	Special Programs
CHE	Chemistry	Physical Science
CPE	Coaching	Health and Physical Education
CCU	Co-Curricular Activity	
CSC	Computer Science	Mathematics and Computer Science
ECE	Early Childhood	Elementary Education
EAS	Earth Science	Earth Sciences
ECO	Economics	Business and Economics
EDF	Educational Foundations	Educational Studies
EDS	Secondary Education	Educational Studies
EDE	Elementary Education	Elementary Education
EDU	College of Education	
ENT	Energy Technology	Industrial Arts and Technology
ENG	English	English
EFS	English for Foreign Students	Foreign Languages and Cultures
XES	Environmental Studies	Biological and Environmental Sciences
FRE	French	Foreign Languages and Cultures
GEO	Geography	Earth Sciences
GER	German	Foreign Languages and Cultures
XGE	Gerontology	Gerontology
GCT	Graphic Communications Technology	Industrial Arts and Technology
GRE	Greek	Foreign Languages and Cultures
HPE	Health and Physical Education	Health and Physical Education
HSD	Highway Safety and Driver Education	Health and Physical Education
HIS	History	History and Urban Affairs
HUN	Hungarian	Foreign Languages and Cultures
IAR	Industrial Arts	Industrial Arts and Technology
ITE	Industrial Technology	Industrial Arts and Technology
ITA	Italian	Foreign Languages and Cultures
LIT	Literature	English
MTE	Manufacturing Technology	Industrial Arts and Technology
MAT	Mathematics	Mathematics and Computer Science
GMS	Military Science	Military Science
MUS	Music	Music
NUR	Nursing	Nursing
PTE	Petroleum Technology	Earth Sciences
PHI	Philosophy	Philosophy
PHS	Physical Science	Physical Science
PHY	Physics	Physical Science
POL	Polish	Foreign Languages and Cultures
POS	Political Science	Social Science
PSY	Psychology	Psychology
PSN	Public School Nursing	Counselor Education and Services
RNA	Registered Nurse Anesthetist	Counselor Education and Services
RUS	Russian	Foreign Languages and Cultures
SCR	Serbo-Croatian	Foreign Languages and Cultures
SOS	Social Science	Social Science

SOW	Social Work	Social Work
SOC	Sociology	Social Science
XCP	Special Programs	
XSS	Soviet Studies	Foreign Languages and Cultures
SPN	Spanish	Foreign Languages and Cultures
ESP	Special Education	Special Education
SPE	Speech Communications	Speech Communication
SPA	Speech Pathology and Audiology	Speech Pathology and Audiology
THE	Theatre	Theatre
XUA	Urban Affairs	History and Urban Affairs
WAT	Water Analysis Technology	Biological and Environmental Studies

COLLEGE OF EDUCATION

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 has developed and maintained a reputation of excellence in the preparation of teachers. California's graduates are able to obtain a teaching certificate in every state in the Union. You will be attending an institution that has consistently met the national standards of accreditation of both the Middle States Association of Colleges and Secondary Schools and the National Council for Accreditation of Teacher Education. This is important for you since N.C.A.T.E. accreditation is recognized by other states as a standard of excellence, and securing a certificate in other states is much easier for graduates of these institutions.

If you attend California University as a Teacher Education student you may enroll in any of the following majors: Comprehensive Special Education, Speech Pathology and Audiology, Elementary Education (Kindergarten to Grade Six), Early Childhood Education (Nursery School to Grade Three), Industrial Arts, Athletic Training and Secondary Education. The Secondary Education Curriculum provides you with the opportunity to major in any of the following programs: Science (Biology, Chemistry, Physics or Earth Science), English, Communications (English, Speech, and Theater), Mathematics, Modern Foreign Language (Spanish, French, German), and Comprehensive Social Science. It is also possible for you to have a dual major. For example, some students double major in Elementary/Special Education, Early Childhood/Special Education and Elementary/Speech Pathology. The College of Education also offers special programs for graduate nurses in either the Public School Nursing Program or the Nurse Anesthetist Curriculum. 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.

If you are enrolled in one of the majors listed above, it may also be possible to earn certification in endorsement areas such as General Science, Driver's Education, Environmental Education and Athletic Training.

Upon completion of a program in the College of Education you will receive a Bachelor of Science Degree and an Instructional I certificate. 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 experience and complete 24 post baccalaureate credits. These credits may be undergraduate, graduate, or inservice credits on any combination thereof. The only restriction is that college credits must be taken at a four-year institution.

APPEAL PROCEDURE FOR CERTIFICATION STUDENTS

Students appealing decisions regarding teaching certification should contact the Dean of Education 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

According to an opinion issued on January 14, 1981 by the Attorney General of Pennsylvania, Section 1109 and 1202 of the School Code are constitutional. This means, therefore, that no permanent certificate may be granted to any individual not a citizen of the United States and no provisional certificate may be granted to any individual who is not a citizen and who has not declared in writing to the Department of Education the intention of becoming a citizen.

ADMISSION TO TEACHER EDUCATION

Admission to California University is not a guarantee that a student majoring in education will be permitted to complete the program (which includes student teaching) and receive a teaching certificate. The College of Education 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 is usually initiated by the candidate in the sixth or seventh semester of study. In summary, a candidate must meet the following requirements:

1. A quality point average of 2.30 in the major field. For students in the Early Childhood and Elementary curriculums, this average will be computed using both elementary and professional education courses.
2. An overall or cumulative average of 2.00, and satisfactory academic standing at time of application.
3. Completion of at least 64 credits (including transfer credits) with a minimum of 12 credits completed in the major field.
4. The recommendation of the advisor or major department head.
5. A personal interview with and recommendation from a member of the Committee for Admission to Teacher Education.
6. Approval by the Committee for Admission to Teacher Education. Application forms for the admission process should be secured from the candidate's departmental office.

All of the above requirements are prerequisites to a student teaching assignment.

Candidates who do not meet the standards for Admission to Teacher Education on initial application have two semesters in which to correct deficiencies and reapply for admission. If still not approved, they may elect to transfer to another curriculum or, with special permission of the Committee, take 14 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 Associate Dean. Such requests must be reviewed and approved by

the Associate Dean. 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 carried on the student's transcript.)

It should be emphasized that the admission to Teacher Education Program, in total, is also designed for the student's growth in educative, experiential, and self-evaluative ways.

STUDENT TEACHING

Student teaching, a major professional laboratory experience, is conducted under the supervision of the Associate Dean. California has five student teaching programs: Elementary, Secondary, Industrial Arts, Speech Pathology and Audiology, 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 will be certified to teach only if they demonstrate ability to teach effectively. Teaching competency will be determined by the Associate Dean, the University Supervisor, and the Cooperating Teacher or Teachers. The student teacher is also required to take a practicum while student teaching. Student teaching is conducted in selected public schools located in the service area of the University.

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 proficiency in their area of specialization. Student teaching is to provide a climate wherein the student may exhibit creativity and ability to make critical judgments based upon knowledge and reason.

Applications for student teaching may be secured at the Dean's Office. Interviews for student teaching assignments are held each October and February.

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

a. be admitted to Teacher Education
b. maintain an overall quality point average of 2.0
c. obtain departmental approval as having satisfactorily completed the required preparatory work.

Students will not be assigned to student teaching until they have completed at least one semester's 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 in consultation with the Dean of the College of Education. The Dean 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.

PROFESSIONAL LABORATORY 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 career lack such experiences. Obviously everyone cannot acquire a sufficient number of these experiences in the classroom. A program of Professional Laboratory Experiences has been devised by each curriculum department to include not only school activities but also activities in communities and in connection with employment. Professional Laboratory Experiences include all those contacts with children, youth, and adults (through observation, participation, and teaching) which make a direct contribution to the understanding of individuals and their guidance in the teaching-learning process.

It is hoped that this program will help students, as prospective teachers, to get an overall picture of the nature of work in a public school. It is essential that students learn to recognize their strong points as well as their deficiencies, whether they be academic, social, or physical. This program is intended to give students an opportunity to learn to exploit their outstanding abilities and to take intelligent action towards elimination of their weaknesses.

Worthwhile experiences are not confined to those which foster intellectual growth alone. Participation in activities which add to physical and social development is vital. These may include such activities as sports in both intra- and intercollegiate competition, student organizations including professional and special interest clubs (dramatics, debate and other forensics), and music activities.

Professional Laboratory Experiences present an opportunity to add to the knowledge and skills gained in college classes. The program offers a yardstick which will assist to measure the practical value of theory, and to check student's understanding of theory in action. It will help students to see their own needs, both personal and professional, and to outline experiences which should be included in their future study. It will assist students to study intelligently their ability to guide others in actual learning situations. This program is an opportunity for self-improvement; it is an excellent means by which students can become more realistically aware of their own capabilities.

GENERAL EDUCATION

Each program offered by the College of Education is divided into three parts: general education, professional education and major area.

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.

To provide the prospective teacher:

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

The general education program is designed to help students meet these objectives.

General Requirements

English Language Skills — All students must achieve competency in English language skills at the level of Composition II. Placement in the course in English Language Skills or Composition I or II is determined by a test administered by the English Department. English Language Skills, Composition I, and Composition II do not satisfy general education requirements in the Humanities area and must be counted as free electives.

Basic Mathematics — Students with S.A.T. Mathematics scores of 400 or less will be required to take a basic mathematics course. Freshmen or transfer students who have not taken the S.A.T. test are placed in a mathematics course according to their high school grades. The basic mathematics course does not course towards satisfying the requirement in the physical or natural sciences.

Reading, Studying, and Listening Skills — Students with S.A.T. Verbal scores of 400 or less must take the Reading, Studying, and Listening Skills course. Placement of freshmen and transfer students who have not taken the S.A.T. test is determined by a test administered by the Elementary Education Department.

COLLEGE OF LIBERAL ARTS

The College of Liberal Arts offers thirty-one programs leading to the Bachelor of Arts degree and six programs leading to the Bachelor of Science degree. These range from broad based area programs to narrowly defined vocational and pre-professional majors; however, in all cases, the very broad general studies program assures all students sufficient flexibility to select courses that meet their interests and needs.

The Curriculum in Liberal Arts

The Liberal Arts curriculum is defined by the requirements of the general education component and the area of concentration component. The general education component consists of 60 semester hours and is the same for each liberal arts program. The area of concentration component consists of 68 semester hours and varies according to the program selected as a student's major.

General Education

The requirements of the general education component are:

3 credits English Composition I

3 credits English Composition II

12 credits Humanities Electives — At least three semester hours must be successfully completed from the art, music, or theatre disciplines. The remaining nine semester hours must be completed from at least two different disciplines. With the exception of English Language Skills (ENG 100) courses in the following disciplines can be used as Humanities electives:

Art — ART
English — ENG or LIT
French — FRE
German — GER
Greek — GRE
Hungarian — HUN
Italian — ITA
Music — MUS
Philosophy — PHI
Polish — POL
Russian — RUS
Serbo-Croatian — SCR
Spanish — SPN
Speech — SPE
Theatre — THE

12 credits Natural Science Electives — Students must complete three semester hours from at least three different disciplines. With the exception of Basic Mathematics (MAT 098), courses in the following disciplines can be used as natural sciences electives:

Biology — BIO
Chemistry — CHE
Computer Science — CSC
Earth Science — EAS
Marine Science Consortium — MSC
Mathematics — MAT
Physical Science — PHS
Physics — PHY

Students must complete one course which has a laboratory component.

12 credits Social Science Electives — Students must complete three semester hours from at least three different disciplines. Courses in the following disciplines can be used as social sciences electives.

Anthropology — ANT	Psychology — PSY
Economics — ECO	Social Studies — SOS
Geography — GEO	Social Work — SOW
History — HIS	Sociology — SOC
Political Science — POS	

18 credits Free Electives — Any course taught for credit at this university can be used as a free elective.

Writing Component Requirement

In meeting the general education distribution requirements listed above, each student must complete three courses which meet the writing component requirement. These courses may be natural science, social science or humanities courses that have been approved as writing component courses and listed as such in the schedule.

Area of Concentration

In addition to completing the sixty semester-hour general education requirements, a student majoring in a Liberal Arts program must complete a sixty-eight semester hour area of concentration. Prospective students should study the program descriptions carefully in order to identify the program best suited to their intellectual and career goals. Many of these programs have a great deal of flexibility built into them, permitting students to elect courses in both their major field and related fields. In every case, students must consult with their advisors and secure an advisor's approval for any course that is intended to meet area of concentration requirements.

Area Programs

In addition to the specifically defined academic disciplines, the College of Liberal Arts offers degree programs in Social Sciences, Natural Sciences, and Humanities. With the aid of an advisor, a student may structure one's own program, choosing courses from the broader range of the entire area rather than limiting oneself to a specific academic discipline or major program.

To earn a Bachelor of Arts degree under one of these programs, a student must, in addition to completing the General Education Program, complete 68 credit hours in either the Natural Sciences, Social Sciences, or Humanities Areas; the division of courses into academic areas being the same as under the General Education Program. Thirty credit hours of this work must be taken in courses beyond the introductory level. (Introductory level courses are indicated in the catalog by a plus.) The student may count as many as five courses from outside the chosen area towards the completion of the program.

These programs allow each student the freedom to make his or her own decisions and pursue one's own goals, allowing him or her to take extensive course work in areas where California does not offer a degree program or where the degree program does not meet the student's specific needs.

These programs are particularly advantageous to students transferring substantial credits from other institutions and to part-time students who may not be able to schedule all of the courses required by a particular degree program.

COLLEGE OF SCIENCE AND TECHNOLOGY

The College of Science and Technology includes the academic departments of Biological and Environmental Sciences, Business and Economics, Industrial Arts and Technology, Mathematics and Computer Science, Nursing (for registered nurses only), and Physical Science. The College offers Associate (two year) 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 young men and women for responsible positions in business, government, industry, and other complex organizations. 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, 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. However, every Science and Technology program except Administration and Management has 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:

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

Speech Communication: All 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.

Students selecting the Administration and Management curriculum follow the General Education program prescribed by the College of Liberal Arts (p. 72). In the major area of concentration each Science and Technology curriculum includes the necessary basic 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 applications is emphasized. Additionally, several programs provide the students with an opportunity 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 CONTINUING EDUCATION

The School of Graduate Studies 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 and reading. Over the past twenty 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.

Some academic departments, such as Business and Economics and Biology and Environmental Sciences, offer courses within their upper-division classes that can be taken by academically qualified undergraduates as well as graduate students.

In 1982, the School of Graduate Studies was expanded to become the School of Graduate Studies and Continuing Education, reflecting the university's expanded interest in meeting the needs of those people who wish to be engaged in formalized learning experiences that do not necessarily lead to academic credit. Workshops, short courses, and seminars are offered by the school throughout western Pennsylvania, and annually attract business people and retired citizens, as well as people who wish to be updated in on-going changes occurring within their professional and vocational positions.

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

DEPARTMENT OF ART

ART

See also: Arts and Recreation in Human Services, under the Department of Theatre.

Assistant Professor Dunlevy, *chair.* Assistant Professors Boak, Grinstead, L. Parkinson, Schaltenbrand.

Bachelor of Arts in Art

The Bachelor of Arts degree program in Art is designed to introduce students to the visual arts as a means of expression and communication. They are exposed to some of the history, traditions, and methods of the fine arts and to practical problems of materials and techniques in the various fine arts media and are given conceptual and technical development in a variety of specializations.

The Art program is highly flexible, and the course of study for each student depends largely upon individual interests and future plans. In order to assist the student in program development and course selection, an Art Department advisor is assigned to the student during the first semester of enrollment. The student and the advisor discuss the student's relative interests in design, drawing, painting, sculpture, weaving, ceramics, printmaking, and fabrics to determine which of these areas the student wants to study in depth. Keeping in mind the student's talents and career goals, they use the flexibility of the program to design the best set of emphasis for that student.

Some of the objectives of this program are: (a) to provide preparation for graduate study; (b) to provide sufficient background for those who have the ability and creative awareness to face the economic pressures confronting the full-time artist; (c) to provide a foundation for students who wish to study art as an essential part of their personal and cultural development; (d) to explore avenues of teaching art outside the realm of public education; and (e) to explore avenues of studio art outside the realm of a practicing studio artist; i.e., gallery/museum personnel, corporate art directors and design personnel.

The careers which are available upon graduation to the Art major are vast. The creative mind is, indeed, needed in all phases of industry to provide for the change and leadership necessary in our ever-changing world.

The Art Department provides a full schedule of exhibits by professional artists and in addition has several student exhibits each year.

Requirements:

(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:** (ART 100); Design I (ART 105); Drawing I (ART 110); Media and Techniques I (ART 107) and II (ART 108); 12 credits in a studio concentration, beyond the introductory course and chosen in consultation with a faculty advisor; 12 additional credits in Art. 15 credits of Humanities electives and 14 credits of electives.

ART (ART)

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

+ART 100. SURVEY OF ART HISTORY: CAVE PAINTING TO PRESENT. Emphasis is placed on the historical relevance of art to our present society. (3 crs.)

+ART 102. ART HISTORY I: CAVE PAINTING TO RENAISSANCE. (3 crs.)

+ART 103. ART HISTORY II: RENAISSANCE TO PRESENT. (3 crs.)

+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 107. MEDIA AND TECHNIQUES I. Development of a broad knowledge of media and techniques used in creative expression. Emphasis is placed on exploration rather than product. Two- and three-dimensional media and techniques are covered. (3 crs.)

+ART 108. MEDIA AND TECHNIQUES II. Development of a broad knowledge of media and techniques used in creative expression. Emphasis is placed on exploration and product. Three-dimensional media and techniques will be covered. (3 crs.)

+ART 110. DRAWING I. Introduction to the basic elements (line, shape, value, etc.), materials (pencil, ink, charcoal, etc.), and techniques of drawing. The development of these graphic skills is accomplished through analysis and interpretation of natural and man-made forms. Some preparation for commercial illustration. (3 crs.)

+ART 113. CERAMICS I. An introduction to the construction, decoration, glazing, and firing of pottery and other clay objects. Construction techniques include wheel throwing and hand-building processes. The course covers a wide range of glazing techniques. (3 crs.)

+ART 114 WEAVING I. Designed for the beginning weaver; includes the very basics of loom weaving with four harnesses. Instruction in the procedures involved in warping thread, the step-by-step method of dressing a loom, and loom-controlled and hand-manipulated weaving methods.

ART 115. STAINED GLASS. (3 crs.)

+ART 116. PAINTING I. An introduction to the fundamentals of painting. Emphasis is placed on pictorial representation and conceptual development, primarily in oils, but work in watercolor or acrylics may be developed. (3 crs.)

+ART 117. PRINTMAKING I. The fundamental techniques of intaglio, relief, and serigraphy. Composition and craftsmanship are stressed in the printing processes. (3 crs.)

ART 193-293-393-493. CERAMICS STUDIO. An art studio course in which each student selects a particular direction for personal exploration. Students work in depth in such areas as ceramic design, glaze problems, kiln construction, ceramics history, etc. At each successive level, they illustrate additional competencies and experience. (3 crs.)

ART 194-294-394-494. WEAVING STUDIO. A successive level studio course in weaving and fiber art, designed to enable the student who is seriously interested in fibers to experiment with and explore multiple techniques and to investigate specific problems in one or several areas, e.g. sculptural weaving, surface treatment of fabric, etc. (3 crs.)

ART 196-296-396-496. PAINTING STUDIO. An art studio course which allows students to select a painting medium and to practice skills and explore in depth problems of form, content, and technique. The course enables students to progress through degrees of competencies and abilities, with opportunities for maximum growth in an area or areas. (3 crs.)

ART 197-297-397-497. PRINTMAKING STUDIO. A successive-level art studio course in which each student selects particular direction for personal exploration. Students work in depth in such areas as relief printing, intaglio, screen printing processes, composition and registration problems in multiple printing, printmaking history, etc. (3 crs.)

ART 242. FIBERS AND THREADS. Designed primarily to give the student an opportunity to manipulate varying fibers in such techniques as macrame, tapestry and free weaving, backetry, sprang, rug construction, braiding, twining, combinations of techniques. Imaginative treatments of all techniques is stressed, unusual uses and combinations of materials are encouraged, and emphasis is on quality pieces. (3 crs.)

ART 245. TAPESTRY WEAVING. The exploration of free tapestry techniques on upright tapestry looms as opposed to low-warp looms. The student experiments in unusual yarns and decorative material, i.e., ribbons, beads, shells, feathers, leather, bamboo, etc., and will be evaluated on competency on the loom, design, and imagination. (3 crs.)

+ART 255. JEWELRY I. An introduction to the varieties of creative jewelry construction and design. Emphasis is placed on an original hand-built product. Techniques covered include wire construction, forging, cutting, piercing, etc. (3 crs.)

+ART 260. WATERCOLOR PAINTING I. Designed to assist students in basic watercolor techniques. Emphasis is placed on both transparent and opaque water colors. (3 crs.)

ART 275. FABRICS: SURFACE TREATMENT. An exploration of surface decorative treatments of commonplace and unusual fabrics. The techniques presented include batiks, tie dying, printed and stenciled procedures, applique, cutwork, quilting, trapunto, drawn weaving, and combinations of surface methods. Design, interpretation, and craftsmanship are emphasized. (3 crs.)

ART 337. FOLK POTTERY OF SOUTHWESTERN PENNSYLVANIA. An introduction to the salt-glazed stoneware manufactured in Southwestern Pennsylvania during the second half of the nineteenth century. Lectures, slides, field trips to pottery sites, and guest lecturers and historians. Actual construction of a piece on the potter's wheel, decoration of the ware, and glazing in a kiln. (3 crs.)

ART 355. JEWELRY II. A means of providing further opportunity for study and experience in the craft of jewelry making. For the undergraduate student who, having completed Jewelry I, wishes to continue work, increase skills, and acquire further knowledge of metal techniques. (3 crs.)

ART 360. WATERCOLOR PAINTING II. A course designed to further the study of transparent watercolor; includes techniques in gouache, egg tempera and fresco painting. (3 crs.)

ART 374. ADVANCED PAINTING. (3 crs.)

DEPARTMENT OF ATHLETICS

See also Athletic Training Program and Athletic Coaching Program, under the Department of Health and Physical Education in this catalog

Assistant Professor Mosher, *chair.* Associate Professor Petrucci; Assistant Professors Biddington, Loomis

DEPARTMENT OF BIOLOGICAL AND ENVIRONMENTAL SCIENCES

BIOLOGY (BIO)

ENVIRONMENTAL SCIENCES (XES)

WATER ANALYSIS TECHNOLOGY (WAT)

RADIOLOGIC TECHNOLOGY

MEDICAL TECHNOLOGY

PRE-HEALTH PROFESSIONS

Professor Sylvester, *chair.* Professors Balling, Billheimer, Buckelew, Catalano, Gabor, Hunter, Kimmel, Lister, McCartney, C. A. Miller, Mullins, Serinko, Zadorozny. Associate Professors Bailey, Krueger, Slosky.

The Department of Biological and Environmental Sciences is housed in a modern, multi-million dollar teaching and research facility equipped with the latest in design, materials, and instrumentation. Specialized areas for student and faculty research—an herbarium, a museum, live animal colonies, a greenhouse, an electron microscope, and a radiation laboratory—all complement this fine classroom-laboratory structure.

Bachelor of Science in Biology

This is an intensive scientific curriculum which prepares students for medical school, dental school, various health related studies, 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 which best fulfills their need for future work or graduate study. Scientific theory is integrated into the laboratory portion of each course so that the student learns critical scientific thinking and attains the ability to manipulate many biological instruments and various organisms.

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

Requirements:

(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 Biology (BIO 115); Botany I - Nonvascular Plants (BIO 111); Botany II - Vascular Plants (BIO 112); Zoology I - Invertebrate Zoology

(BIO 121); Zoology II - Vertebrate Zoology (BIO 222); 21 credits of elective courses in Biology (chosen to include certain courses in gentics, botany, zoology, physiology, cell and molecular and field biology); General Chemistry I (CHE 101) and II (CHE 102); Organic Chemistry I (CHE 331) and II (CHE 332); Introductory Physics I - Biology (PHY 111) and II (PHY 112); Calculus I (MAT 281); Statistics (MAT 215); Pre-Calculus (MAT 199).

Bachelor of Science in Education: Certification in Biology for Secondary Schools

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact of Technology on Society (EDU 200); 15 credits of free electives including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology: (PSY 110); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300) **or** Introduction to Guidance and Personnel Services (EDS 420) **or** The Secondary School Curriculum (EDS 456); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 210); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Teaching of Science in Secondary Schools (EDS 467) **or** Modern Methods (EDS 455); Student Teaching and School Law.

(C) **Professional Specialization:**
Required: Principles of Biology (BIO 115); Botany I: Nonvascular Plants (BIO 111); Botany II: Vascular Plants (BIO 212); Zoology I: Invertebrate Zoology (BIO 121); Zoology II: Vertebrate Anatomy (BIO 222).

Restricted Electives: General Chemistry I (CHE 101) and II (CHE 102); 7 credits in Biology Elective (with consent of advisor).

Bachelor of Science in Environmental Studies

The Environmental Studies Program prepares students for career work in environmental science and ecology related areas and 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 put theory, methodology, and instrumentation to bear on specific problems.

California University of Pennsylvania has a modern, multi-million dollar four-story building, equipped with the latest in biological and environmental science instruments. Specialized areas include an electron microscope facility, animal room, greenhouse, herbarium, plant growth facilities, radiation laboratory, museum and extensive photographic facilities. Teaching labs are equipped for the study of anatomy, botany, cytology, ecology, embryology, entomology, genetics, microbiology, parasitology, physiology, radiation biology, zoology, mammalogy, water analysis technology, ichthyology, animal behavior, biometry, ethology, environmental toxicology, environmental physiology, solid waste management, air quality monitoring and dendrology.

A senior independent research problems class is offered. The objective of the class (which limits enrollment to fewer than 10 students for more effective learning) is to give 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, 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 Health
Environmental Technology
Environmental Conservation
Environmental Resources

Requirements:

(A) **General Education:** Composition I (ENG 101) and II (ENG 102); Scientific and Technical Writing (ENG 217); Statistics (MAT 215); Computer Science I (CSC 121); Basic Programming Language (CSC 105); 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); Zoology I (BIO 121) and II (BIO 222); Botany I (BIO 111) and II (BIO 212); Introduction to Geology (EAS 150); General Chemistry I (CHE 101) and II (CHE 102); Field Biology (XES 205); Conservation of Biological Resources (BIO 206); Game and Habitat Management (XES 421); Wildlife Techniques (XES 422); Dendrology (BIO 442); Ecosystems Ecology (BIO 316) **or** Biotic Communities (BIO 308); Biometry (BIO 466); Seminar (XES 494). 22 credits of the following recommended Electives (at least 16 credits must be 300 and 400 level courses): Ornithology (BIO 337); Entomology (BIO 445); Ichthyology (BIO 435); Biotic Indicators of Water Quality (BIO 321); Ethology (BIO 441); Mammalogy (BIO 400); Plant Ecology (BIO 314); Plant Taxonomy (BIO 336); Soil Science (BIO 334); Environmental Physiology (BIO 486); Environmental Chemistry (PHS 136); Environmental Geology (EAS 231).

(C) **Environmental Health Track:** Principles of Biology (BIO 115); Zoology I (BIO 121) and II (BIO 222); Botany I (BIO 111) and II (BIO 212); General Chemistry I (CHE 101) and II (CHE 102); Organic Chemistry I (CHE 331) and II (CHE 332); Physics - Medical Technical (PHY 105); Human Anatomy (BIO 306); Human Physiology (BIO 328); Environmental Toxicology (BIO 443); Microbiology (BIO 326); Clinical Microbiology (BIO 426); Entomology (BIO 445) **or** Parasitiology (BIO 327); Mammalogy (BIO 400); Biometry (BIO 466); Water Treatment Facilities (WAT 355); Techniques in Waste Water Analysis (WAT 341); Seminar (XES 494). Strongly Recommended courses: Parasitology (BIO 327); Radiotaion Biology (BIO 408); Planning and Developing Areas and Facilities (XUA 416); Community Action and Neighborhood Government (XUA 173); Environmental Regulations (XES 431); Air Quality Monitoring (XES 430).

(D) **Environmental Resources Track:** Introduction to Geology (EAS 150); Man and His Environment (XES 100); Seminar (XES 404); 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); Pertology (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 - Meterology (EAS 241); Climatology (EAS 242); Hydrology (EAS 202); Air Quality Monitoring (XES 430). GROUP B - Geomorphology (EAS 343); Sedimentology (EAS 421); Solid Waste Management (XES 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 (XES 432); Statistical Cartography (EAS 373).

(E) **Environmental Science Track:** Principles of Biology (BIO 115); Zoology I (BIO 121) and II (BIO 222); Botany I (BIO 111) and II (BIO 212); Introduction to Geology (EAS 150); Ecosystems Ecology (BIO 316); Environmental Physiology (BIO 486); Biometry (BIO 466); Environmental Resource Problems (XES 459); General Chemistry I (CHE 101) and II (CHE 102); Organic Chemistry I (CHE 331) and II (CHE 332); Physics - Medical Technology (PHY 105). 21 credits from the following Animal Ecology and/or Plant Ecology Cores: ANIMAL ECOLOGY CORE: Vertebrate Anatomy (BIO 305); Ornithology (BIO 337); Entomology (BIO 445); Ichthyology (BIO 435); Biotic Indicators of Water Quality (BIO 321); Ethology (BIO 441); Mammalogy (BIO 400); Parasitology (BIO 327); Herpetology (BIO 433). PLANT ECOLOGY CORE: Plant Anatomy (BIO 307); Plant Physiology (BIO 335); Plant Ecology (BIO 314); Plant Taxonomy (BIO 336); Soil Science (BIO 334); Microbiology (BIO 326); Dendrology (BIO 442); Biotic Communities (BIO 308).

(F) **Environmental Technology Track:** Principles of Biology (BIO 115); Zoology I (BIO 121) and II (BIO 222); Botany I (BIO 111); Introduction to Geology (EAS 150); General Chemistry I (CHE 101) and II (CHE 102); Analytical Chemistry I (CHE 261); Organic Chemistry I (CHE 331); Physics -Medical Technology (PHY 105); Field Biology (XES 205); Soil Science (BIO 334); Biotic Indicators of Water Quality (BIO 321); Biometry (BIO 466); Air Quality Monitoring (XES 430); Solid Waste Management (XES 431); Water Treatment Facilities (WAT 355); Techniques in Waste Water Analysis (WAT 341); Environmental Regulations (XES 432); Seminar (XES 494). 7 credits from the following (with approval of advisor): Environmental Chemistry (PHS 136); Environmental Geology (EAS 231); Analytical Chemistry II (CHE 262); Organic Chemistry II (CHE 332); Ecosystems Ecology (BIO 445); Ichthyology (BIO 435); Mammalogy (BIO 400); Plant Taxonomy (BIO 336); Dendrology (BIO 442).

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.

Required:

Man and His Environment (XES 100). Must complete two of the following: Environmental Chemistry (PHS 136), Environmental Biology (BIO 105), Environmental Geology (EAS 235). Must complete at least one in each of the following areas: 1. Laboratory Science: Ecosystem 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. Outdoors Activities: Conservation and Biological Resources (BIO 206), Game and Habitat Management (XES 421), Wildlife Technology (XES 422), Environmental Interpretation (XES 300), Conservation and Outdoor Living (XES 210); 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 occured 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 (A.M.A.) 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. On the completion of the clinical or internship year the student will be granted a Bachelor of Science degree from California University of Pennsylvania as well as a certificate in medical technoloty 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
McKeesport Hospital	McKeesport, PA
Mercy Hospital	Pittsburgh, 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 our 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 the emerging field of nuclear medicine, as well as in supervisory positions in laboratories.

Requirements:

(A) **General Education:** 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); Botany I (BIO 111); Zoology I (BIO 121) and II (BIO 222); Human Anatomy (BIO 306); Microbiology (BIO 326); Human Physiology (BIO 328); Genetics (BIO 318); Clinical Microbiology (BIO 426); Instrumentation (BIO 430); General Chemistry I (CHE 101) and II (CHE 102); Organic Chemistry I (CHE 331); Analytical Chemistry I (CHE 361); College Algebra (MAT 181) **or** higher mathematics course); Physics - Medical Technology (PHY 105). The following courses are strongly recommended by the Hospital Schools of Medical Technology: English Composition II (ENG 102); Organic Chemistry II (CHE 302); Parasitology (BIO 327); Mycology (BIO 407); Radiation Biology (BIO 408); Biochemistry I (CHE 441); Statistics (MAT 215). Approved Medical Technology (29 credits).

Bachelor of Science in Radiologic Technology

The Radiologic Technology program is designed for students who have completed their hospital clinical training and are certified radiologic technologists. The two-year program provides the opportunity for the technologist to complete the academic requirements for a Bachelor's Degree in Natural Science with an options in Radiologic Technology.

The program emphasis is placed on a carefully planned liberal arts education to support the technological training received in the hospital laboratory program.

The science and mathematics courses are designed to provide a background in theoretical and practical relationships of biology, chemistry and physics. The radiologic technology program integrates the basic sciences so that the student will have a comprehensive understanding of the principal effects of radiation in humans. Attention is given to the concepts of atomic and nuclear physics underlying the production and application of x-rays in diagnosis and radio-isotope effects in biological systems.

The degree program leads to a better understanding of radiological sciences and human relations and provide training that should lead to more responsible employment opportunity.

The Radiologic Technology program requires the completion of 128 credits for graduation. Certified radiologic technologists will be awarded 60 credits for their clinical training.

Requirements:

(A) **General Education:** Oral Communications (SPE 101); Scientific and Technical Writing (ENG 217); Elements of Economics (ECO 100); Accounting I (BUS 111); Principles of Management (BUS 201); General Psychology (PSY 100); 3 credits in Humanities; 3 credits in Social Sciences; 3 credits in Natural Sciences; 6 credits of free electives.

(B) **Professional Education:** Principles of Biology (BIO 115); Zoology I (BIO 121) and II (BIO 222); Radiation Biology (BIO 408); General Chemistry I (CHE 101) and II (CHE 102); Introduction to Physics I—Biology (PHY 111) and II (PHY 112); Precalculus (MAT 199); Human Anatomy (BIO 306); Human Physiology (BIO 328); Philosophy (PHI 100); Principles of Sociology (SOC 100); College Algebra (MAT 181). Approved Radiologic Technology Certification (60 credits).

Bachelor of Science in Water Analysis Technology

The protection of the environment is of concern to both private citizens and to the government. Through environmental legislation and the work of regulatory agencies, coordinated approaches are now being made at federal, state and local levels toward meeting desired environmental quality objectives. As a part of this movement toward meeting desired environmental quality objectives. As a part of this movement toward a safer, cleaner environment, technically trained men and women are needed as specialists to fill professional positions in the water quality field.

This program prepares the graduate for employment in such fields as environmental counselling, water quality monitoring, water treatment facilities management, wastewater analysis, and government service.

Requirements:

(A) **General Education:** Composition I (ENG 101) and II (ENG 102); Logic and Language (PHI 115); Basic Programming Language (CSC 105); Computer Science I (CSC 121); Statistics (MAT 215); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **Professional Education:** Man and His Environment (XES 100); Principles of Biology (BIO 115); Biotic Indicators of Water Quality (BIO 321); Techniques in Water and Wastewater Analysis (WAT 341); Water Treatment Facilities (WAT 355); Lab Instrumentation (BIO 430); Environmental Research Problems (XES 459); Introduction to Geology (EAS 150); Meteorology (EAS 241); Elements of Economics (ECO 100); General Chemistry I (CHE 101) and II (CHE 102); Analytical Chemistry I (CHE 463); Organic Chemistry I (CHE 331) and II (CHE 332); General Physics - Med Tech (PHY 105). 21 credits of the following courses selected with Advisor's Approval: Zoology I (BIO 121) and II (BIO 222); Environmental Physiology (BIO 486); Environmental Taxicology (BIO 443); Geochemistry (CHE 255); Analytical Chemistry II (CHE 464); Hydrology (EAS 202); Solid Waste Management (XES 431); Environmental Regulations (XES 432); Air Quality Monitoring (XES 430); Ichthyology (BIO 435); Soil Science (BIO 334); Biometry (BIO 466).

PRE-HEALTH PROFESSIONS

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 social and natural sciences, provide 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 the career plans.

Bachelor of Science Degree in Mortuary Science

In today's world the expansion of knowledge occurs at such a rapid rate the average person cannot keep pace with information that effects 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

Well qualified individuals can be successful as a member of a well established mortuary firm or in an individualized firm. Opportunity for teaching in mortuary schools, sales 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 will be 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 college courses and 28 credits for the institute year at and approved mortuary science institute.

Requirements:

(A) **General Education:** Composition I (ENG 101) and II (ENG 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); Botany I (BIO 111); Zoology I (BIO 121) and II (BIO 222); Human Anatomy (BIO 306); Human Physiology (BIO 328); Microbiology (BIO 326); General Chemistry I (CHE 101) and II (CHE 102); Organic Chemistry I (CHE 331); College Algebra (MAT 101); Accounting I (BUS 111); Ethics (PHI 220); Psychology of Adjustment (PSY 315); Social Psychology (PSY 320); Principles of Sociology (SOC 100); Introduction to Political Science (POS 100); Basic Programming Language (CSC 105); Sculpture I (ART 220); 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 Communications (SPE 101); Animal Histology (BIO 325); Parasitology (BIO 327); Organic Chemistry II (CHE 332).

BIOLOGICAL SCIENCES (BIO)

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

BIO 102. INTRODUCTION TO BIOLOGY (LABORATORY). Laboratory experiences related to ecological awareness, nature study, cellular and microscopic studies, molecular and physiological processes, as well as more classical descriptive anatomy and classification. Three laboratory hours weekly. (2 crs.)

+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. The course is intended 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 introduced to techniques that will make the growing and caring of plants, indoors and out, less complicated and more fun. (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 acquatic and tripospheric systems; (2) other pollutants in human ecosystems; (3) human population dynamics in relation to disease, malnutrition, genetics, and food. Lecture, possibly supplemented with various field trips. Prerequisite: BIO 103. Three lecture hours weekly. (3 crs.)

BIO 107. HEREDITY AND HUMAN AFFAIRS. A study of the basic principles of classical and molecular genetics and how these are applied to contemporary biological problems. 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 those fundamental concepts which are requisite to entrance into BIO 115. Three hours lecture weekly. (3 crs.)

BIO 111. BOTANY I: NONVASCULAR PLANTS. An analysis of the biology of lower plants encompassing the origin of plant life on earth, modes of increasing structural complexity, the nature and meaning of sexuality, the nature of motility, the evolutionary processes and ecology, especially as manifest in the algae and fungi. Prerequisite: BIO 115. Three hours lecture and three hours laboratory weekly. (4 crs.)

BIO 115. PRINCIPLES OF BIOLOGY. Structures and function 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 hours lecture and three laboratory hours weekly. (4 crs.)

BIO 121. ZOOLOGY I: INVERTEBRATE ZOOLOGY. A comprehensive phylogenetic survey of the invertebrate animals, with emphasis on evolutionary changes and their relationship to man. Laboratory studies of representative members of the major phyla. Prerequisite: BIO 115. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 205. FOUNDATIONS OF BEHAVIOR. Primarily, a survey of basic ethological and psychological principles of animal behavior, along with a discussion of the morphology and physiology of the vertebrate nervous system. For both biology and psychology majors. Prerequisite: a course in biology or a course in psychology. Three hours of lecture weekly. (3 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 111, 115, 212. Three hours lecture and a three-hour field trip are required weekly. (4 crs.)

BIO 212. BOTANY II: VASCULAR PLANTS. The origin and evolution of the land flora, emphasizing the origin of leaf, shoot, seed, and flower in a progression of change from ferns and fern allies to the flowering plants. Prerequisites: BIO 111 and 115. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 222. ZOOLOGY II: VERTEBRATE ZOOLOGY. A comprehensive phylogenetic study of the Phylum Chordata with emphasis on the evolutionary changes and the inter-relationship of animals of the different classes with their environment. Prerequisites: BIO 115 and 121. Three hours lecture and three laboratory hours weekly. (4 crs.)

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, 121, and 222. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 306. HUMAN ANATOMY. A basic study of the structures of the human body. Prerequisites: BIO 115, 121, and 222 or permission of the instructor. Three hours lecture and three laboratory hours weekly. (4 crs.)

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 111, 115, and 212. Three hours lecture and three laboratory hours weekly. (4 crs.)

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 111, 115, 121, and 212. Three hours lecture and three hours of laboratory-field experience weekly. (4 crs.)

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 111, 115, and 212. Three hours lecture and three hours laboratory weekly. (4 crs.)

BIO 315. CYTOLOGY AND CYTOGENETICS. A detailed study of microscopic and submicroscopic components of plant and animal cells, with emphasis on modern research into the morphology and function of various organelles. Mitosis, meiosis, chromosomal basis of heredity, and chromosomal abberations in various organisms, including humans. Special attention is given to experimental cytology, cytological and cytogenetical theories, and cytological techniques. Prerequisites: BIO 111, 115, 121, and 222. Three hours lecture and three laboratory hours weekly. (4 crs.)

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 111, 151, 121, 212, and 222. General Chemistry I and II and College Algebra recommended. Three hours lecture and three hours of laboratory-field experience weekly. (4 crs.)

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, 121, and 222. Three hours lecture and three laboratory hours weekly. (4 crs.)

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 111, 115, 121, and 222. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 321. BIOTIC INDICATORS OF WATER QUALITY. A survey of biotic indicators of pollution, with emphasis on relating these indicators to the chemical and physical characteristics of various polluted waters. Practical exercises include field problems as well as laboratory experiments. Prerequisites: BIO 115, 121, CHE 101, 102. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 325. ANIMAL HISTOLOGY. The study of cellular differentiations in tissue, tissue identification, and special functions, especially in the mammals. Prerequisites: BIO 115, 121, and 222. Three hours lecture and three laboratory hours weekly. (4 crs.)

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 and pursued in the laboratory. Prerequisites: BIO 111, 115, CHE 101, 102 or permission of the instructor. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 327. PARASITOLOGY. A study of the etiology, epidemiology, and biology of some common human and animal parasites. Prerequisites: BIO 115, 121, and 222. Three hours lecture and three laboratory hours weekly. (4 crs.)

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, 121, 222 or permission of the instructor. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 330. ANATOMY AND PHYSIOLOGY I. (4 crs.)

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 will be 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, 102. Three hours lecture and three hours laboratory per week. (4 crs.)

BIO 335. PLANT PHYSIOLOGY. The physio-chemical foundations of plant functions will be 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 111, 115, and 212, CHE 101, 102. Three hours lecture and three hours laboratory per week. (4 crs.)

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 111, 115, and 212. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 337. ORNITHOLOGY. The study of bird life. Classification, anatomy, behavior, and recognition of birds, with emphasis on local species and their relationships to man and the ecological balance with other organisms. Prerequisites: BIO 115, 121, and 222. Three hours lecture weekly and three laboratory hours or field activity weekly. (4 crs.)

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. Prerequisites: Three biology or environmental courses with a minimum of one field-oriented course. (2-4 crs.)

BIO 344. ENVIRONMENTAL TOXICOLOGY. A study of the types of environmental pollution and how pollutants affect organismic physiology, population dynamics, and food chains. Prerequisites: BIO 222, CHE 332. (3 crs.)

BIO 360. ANATOMY AND PHYSIOLOGY II. (4 crs.)

BIO 370. METABOLISM. (3 crs.)

BIO 400. MAMMALOGY. 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, 121, 222; BIO 308 or BIO 316 or XES 300. (4 crs.)

BIO 405. HUMAN GENETICS. Chromosomal abnormalities, Mendel's Laws, and the effect of chance of gene action of Mendelian ratios. Other topics: sex-related inheritance, random mating, consanguinity, allelism, mutations, and maintenance of polymorphism. Prerequisites: BIO 115, 121, 222, and 318. Three hours lecture weekly. (3 crs.)

BIO 406. MOLECULAR GENETICS. A detailed account of the relationship between nucleic acids and the proteins for which the code was determined. Gene control mechanisms, mutation mechanisms, genetic repair, and recombination in procaryotic and eucaryotic cells, Prerequisites: BIO 115, 121, 222, and 318. Three hours lecture and three laboratory hours weekly. (4 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 111, 115, 212, and 326. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 408. RADIATION BIOLOGY. Biophysical processes involved in absorption of radiation by living systems. Production, properties, and measurement of ionizing radiation and radiosotopes; safety, and biological effects. This course provides necessary background for special certification as a civil defense radiation instructor. Prerequisites: BIO 111, 115, 121, 222, Physics I & II. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 409. INTRODUCTION TO RESEARCH. Given a problem in biology (or choosing one) the student surveys the literature, organizes a program that might lead to its solution, and undertakes experiments. Prerequisites: Biology majors in junior or senior year, others by approval of department. The number of hours spent on the course per week is by arrangement. (Variable credit)

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. Prerequisites: BIO 111, 115, and 212 (or 121 and 222), 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 111, 115, and 326 and CHE 101, 102. Three hours lecture and three laboratory hours weekly. (4 crs.)

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 111, 115, 121, 212, and 222; CHE 101, 102; Organic Chemistry I and II recommended. (4 crs.)

BIO 428. ANIMAL SYSTEMATICS. Collective and study of animal species from the various major phyla of animals; use of keys in determining taxonomic groupings of animal collected. Prerequisites: BIO 115, 121, and 222. (4 crs.)

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 lab reports and designing experiments. Prerequisites: BIO 111, 115, 121, 222, PHY 102, CHE 261, or permission of instructor. (4 crs.)

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 111, 115, 121, 222 and 212. CHE 331, 332. A molecular biology course and/or consent of instructor. (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, 121, and 222. Three hours lecture and three hours laboratory 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, 121, 222. Three hours lecture and three hours laboratory 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: Principles of Biology; Botany I & II. (3 crs.)

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, 121, 222; BIO 308 or BIO 316 or XES 300. Three hours lecture and three hours laboratory weekly. (4 crs.)

BIO 445. ENTOMOLOGY. A specialized study of insects: identification and classification developmental phases; physiological characteristics, economic importance, disease vectors. Prerequisites: BIO 115, 121 and 222. Three hours lecture and three laboratory hours weekly. (4 crs.)

BIO 449. BIO. MED. TECH. 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, micro-biology, parasitology, immunology, urinalysis, and biochemistry. This course covers the first term of two required terms. (15 crs.)

BIO 459. BIO. MED. TECH. 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 will be included. Prerequisites: MAT 215, a field biology course, and consent of instructor. Three hours lecture and three hours laboratory weekly. (4 crs.)

BIO 478. EVOLUTION. An advanced course pertaining to the mechanisms which 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 will be 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 hours lecture weekly. (3 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. (3 crs.)

BIO 495. SEMINAR IN BIOLOGY. Roundtable discussion of selected topics in biology, reports from original literature both current and classical. Prerequisites: Biology majors in junior or senior year. Two hours lecture weekly. (2 crs.)

ENVIRONMENTAL STUDIES (XES)

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

+XES 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. (3 crs.)

XES 200. ENVIRONMENTAL CONSERVATION. (3 crs.)

XES 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. (3 crs.)

XES 300. INTERPRETATION. To acquaint students with opportunities, through practical work in the field, for the interpretation of natural and physical phenomena. Explores the environments of plants and animals in the complex interrelationships of nature. The study of the conservation and horticulture practices necessary in the preservation and maintenance of our environmental resources. Covers the four seasons of the year. Prerequisites: BIO 111, 121. Four class hours per week. (3 crs.)

XES 421. GAME HABITAT MANAGEMENT. Application of historical and economic aspects of game problems to present-day conditions. Field and laboratory studies with demonstrations of basic game management. Prerequisites: BIO 111, 121 and Interpretation. Five class hours per week. (3 crs.)

XES 422. WILDLIFE TECHNIQUES. Field studies in basic techniques necessary in the study and use of fish, wildlife, and outdoor recreation skills, with emphasis on use in conservation and outdoor education programs. Methods in observation, area studies, collecting, field data, habitat evaluation and relationships, and basic program methods and procedures. Prerequisites: BIO 111, 121, Ecology, Interpretation. Four class hours each week. (3 crs.)

XES 430. AIR QUALITY MONITORING. The technologies involved in the abatement of emissions from mobile and stationary sources, monitoring techniques, and air quality standards. Prerequisites: Organic Chemistry I, Analytical Chemistry I, Physics, Statistics. (3 crs.)

XES 431. SOLID WASTE MANAGEMENT. The fundamental techniques involved in the collection, processing, and disposal of urban, industrial, and agricultural wastes. Prerequisites: Organic Chemistry I, Analytical Chemistry, Physics. (3 crs.)

XES 432. ENVIRONMENTAL REGULATIONS. A review of environmental laws and regulations and the institutions and instrumentalities that deal with the problems. Prerequisites: Senior status as an Environmental Studies major. (3 crs.)

XES 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. (Variable credit, but not to exceed 8 credits within one's total curriculum.)

XES 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.)

XES 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 man and his institutions to the environment. It also has a large how-to-do component. (Variable)

WATER ANALYSIS TECHNOLOGY (WAT)

WAT 341. TECHNIQUES IN WASTEWATER ANALYSIS. A thorough study of the chemical testing of water in wastewater plants, streams, and drinking water sources. Emphasis will be placed on learning acceptable levels of chemicals in the different types of water. Samples of water from sources of concern will be analyzed in the laboratory portion of the course. (3 crs.)

WAT 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. (3 crs.)

WAT 365. SEMINAR IN WASTEWATER TREATMENT. (3 crs.)

WAT 419. WATER ANALYSIS TECHNICAL INTERNSHIP. (Variable)

DEPARTMENT OF BUSINESS AND ECONOMICS

BUSINESS (BUS)

ECONOMICS (ECO)

Professor Chawdhry, *chair;* Assistant Professor Blosel, *assistant chair.* Professors Omarzai, Park, Tarullo; Associate Professors Delisi, Hashemi, Kania, Kopko, Similo, Zeffiro.

The Business and Economics Department offers a number of future oriented degree programs and specialized options. Great emphasis is given to the development of *fundamental skills* which will be beneficial to graduates in both their professional and private lives. The keys to future success are flexibility and adaptability. Our programs prepare students to function in a rapidly changing world.

The Bachelor of Science in Business Administration program is a broad-based curriculum that prepares students for a wide range of careers in business, industry and government. Mathematical models and computer technology have joined the more traditional areas of study to make this curriculum a passport to the future. Students may choose from the following specialized options: Accounting, Marketing, Finance, Management, Business Economics, and General.

The Bachelor of Arts in Economics is a multipurpose program, 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 student, in becoming an economist, begins to be concerned with the processes by which human wants are satisfied through productive activities. In order to understand the relationships among social, political and economic institutions, it is necessary to study broadly in the social sciences. This program is an excellent preparation for graduate study in Economics, Business Administration, Hospital Administration, Law, Public Administration and Urban Planning. Many students choose to bypass graduate school and enter the labor market immediately following graduation. The objectives of the Economics program are to provide a general background in the liberal arts and to develop 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.

The department offers the prospective accounting student the additional option of completing a two-year Associate Degree program in Accounting. It prepares the student for entry level accounting positions as well as providing background for further study in four-year business programs.

Another alternative for students who do not wish to make a four-year commitment is the two-year Associate Degree program in Administration and Management. It provides sufficient background in basic management skills to qualify graduates for entry-level supervisory positions in business and industry. In addition, all of the course work in this program is transferable to the several four-year curricula.

The Business and Economics Department recognizes the accomplishments of its students in several ways. Membership is open to successful students in Omicron Delta Epsilon (Economics Honorary), the Economics 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 our outstanding graduating seniors are recognized by the following four awards:

Alfred Zeffiro Award for excellence in the study of Business Management

Z. G. Gabriel Award for outstanding achievement in the study of Business

H. R. Block Award for excellence in the study of Management

Pennsylvania Institute of Certified Public Accountants Award for high scholastic achievement in the study of Accounting.

Bachelor of Arts in Economics

Requirements:

(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); Mathematical Economics (ECO 320); 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: Mathematics of Finance (MAT 171) **or** Computer Science I (CSC 121); Statistics (MAT 215) **or**Business Statistics (MAT 225); an additional mathematics course approved by one's advisor. Related Courses: Accounting I (BUS 111) and Accounting II (BUS 112); a course in each of Psychology, Political Science, and Sociology; three related courses approved by one's advisor.

Bachelor of Science in Administration and Management

Requirements:

(A) **General Education:** Composition I (ENG 101) and 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); Principles of Market Management (BUS 321); Collective Bargaining (BUS 355); Accounting I (BUS 111) and II (BUS 112); Intermediate Accounting I (BUS 312) and II (BUS 312) **or** Cost Accounting I (BUS 315) **or** Managerial Accounting (BUS 216); Principles of Management (BUS 201); Financial Management (BUS 332); Computer Science I (CSC 121) and Computer Science II (CSC 221) **or** Cobol I (CSC 208); Mathematics of Finance I (MAT 171); Statistics (MAT 215) **or** Business Statistics (MAT 225); Mathematical Economics (ECO 320); Managerial Economics (ECO 322); Oral Communication: Management (SPE 103); Advanced Writing (ENG 375); Business Writing I (ENG 211); Social Psychology (PSY 320) **or** Mental Health/Psychology of Adjustment (PSY 310); Industrial Psychology (PSY 326).

Bachelor of Science in Business Administration

The business world has grown increasingly complex in recent years. Mathematical models and computer technology have joined the more traditional areas of study in making up 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, 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.

Requirements:

(A) **General Education:** Composition I (ENG 101) and II (ENG 102); Group Discussion: Management (SPE 102); 6 credits in Mathematics; 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 (BUS 212) **or** Advanced Writing (ENG 375); Oral Communication: Management (SPE 103); Computer Science; Industrial Psychology (PSY 326); Elements of Economics (ECO 100) **or** ECO Elective); Introductory

Microeconomics (ECO 201); Introductory Macroeconomics (ECO 212); Money and Banking (ECO 304); Labor Economics (ECO 311) **or** Managerial Economics (ECO 322); Introduction to Business (BUS 100 or Business Elective); Accounting I (BUS 111) and II (BUS 112); Cost Accounting I (BUS 315); Principles of Management (BUS 201); Principles of Market Management (BUS 321); Financial Management (BUS 332); Collective Bargaining (BUS 355); Business Law I (BUS 241) **or** Business Policy (BUS 408).

(1) **For option in Accounting:** Intermediate Accounting I (BUS 311); Intermediate Accounting II (BUS 312); 9 credits of additional upper-level Accounting courses (no internship credits); 11 credits in Business **or**Economics courses 200 level or above (Recommended: Mathematical Economics (ECO 320) and Applied Econometrics (ECO 421).

(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; Computer Science course; Psychology course.

(3) **For option in Finance:** 11 credits of the following (3 to 6 of which may be 200 level or above Business or Economics Electives): Portfolio Management; Financial Markets and Institutions; Bank Management (BUS 531); Applied Econometrics (ECO 421); International Economics (ECO 431); International Business; Industrial Organization (ECO 401); Public Finance (ECO 405); Real Estate Fund (BUS 365); Real Estate Practicum (BUS 366).

(4) **General:** Computer Science course; Psychology (**or** Sociology **or** Social Science) course 200 level or above; Principle of Production (GCT 475); 17 credits of Business or Economics Electives 200 level or above.

(5) **For option in Management:** 21 credits from the following (3 to 9 of which may be other upper level Management courses—no internship credits): Business Policy (BUS 408); Computer Science course; Personnel Management (BUS 351); Organizational Behavior (BUS 303); Psychology (**or** Sociology **or**Social Science) course 200 level or above.

(6) **For option in Marketing:** Salesmanship (BUS 221); Sales Management (BUS 323); Business, Society, and Government (BUS 342); 6 credits of additional upper level Marketing courses (no internship credits). 11 credits of the following (three to six of which may be 200 level or above Business or Economice Electives): Industrial Organization (ECO 401); Real Estate Fund (BUS 365); Real Estate Practicum (BUS 366); Insurance and Risk Management (BUS 361); Applied Econometrics (ECO 421); International Economics; Personal Money Management (ECO 204).

Associate of Science in Administration and Management

The Department of Business and Economics offers this two-year associate degree to provide students with the basic instruction to 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 in business and government, including sales, purchasing, employee relations, and general management.

Requirements:

(A) **General Education:** English Composition I (ENG 101); General Psychology (PSY 100); College Algebra (MAT 181) **or** Technical Mathematics I (MAT 182); 10 credits of free electives.

(B) **Area of Concentration:** Introduction to Business (BUS 100). 6 credits from the following Economics courses: Elements of Economics (ECO 100); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Current Economics Issues (ECO 200). Accounting I (BUS 111) and II (BUS 112); Principles of Management (BUS 201); Business Writing I (ENG 211); Computer Science course; Principles of Sociology (SOC 100). 18 credits of Restricted Electives to be chosen from the following list with consent of advisor: 9 to 15 credits of 200 level or above Business/Economic electives;

Industrial Psychology (PSY 326); Principles of Production (GCT 475); Mathematics of Finance I (MAT 171); Business Statistics (BUS 225); Sociology, Social Science, or Psychology elective.

Associate of Science 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 proposed 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.

Requirements:

(A) **General Education:** English Composition I (ENG 101); General Psychology (PSY 100); College Algebra (MAT 181) *or* Technical Mathematics I (MAT 182); 10 credits of free electives.

(B) **Area of Concentration:** Introduction to Business (BUS 100). 6 credits from the following Economics courses: Elements of Economics (ECO 100); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Current Economics Issues (ECO 200). Accounting I (BUS 111) and II (BUS 112); Cost Accounting I (BUS 315); Principles of Management (BUS 211); Computer Science Course; 6 credits of Accounting electives — to be chosen with consent of advisor. 12 credits of Restricted Electives to be chosen from the list below with consent of advisor: at least 6 credits of Business/Economic electives; Industrial Psychology (PSY 326); Principles of Production (GCT 475); Mathematics of Finance I (MAT 171); Business Statistics (MAT 225).

BUSINESS (BUS)

BUS 100. INTRODUCTION TO BUSINESS. The internal and functional setting of business enterprise, its organization and control. (3 crs.)

BUS 111. 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 comprise the major topics of this course. (3 crs.)

BUS 112. ACCOUNTING II. A continuation of basic accounting principles with an emphasis on partnership and corporate accounting. Prerequisite: BUS 111. (3 crs.)

BUS 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.)

BUS 216. MANAGERIAL ACCOUNTING. For non-accounting majors; emphasizes the uses of accounting data in the decision-making process of a business enterprise. Topics covered will be cost-volume relationships; manufacturing costs and analysis; relevant cost analysis; master and flexible budgets and related variances; responsibility accounting and cost allocation; job and process systems; overhead application. Prerequisites: BUS 111 and BUS 112. (3 crs.)

BUS 218. FEDERAL INCOME TAX I. An introduction to individual federal income tax accounting. (3 crs.)

BUS 219. 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: BUS 218. (3 crs.)

BUS 221. SALESMANSHIP. Basic principles underlying all types of selling, practical application of these principles to various selling situations and the legal aspects of selling. Prerequisites: ECO 201 and ECO 202. (3 crs.)

BUS 241. BUSINESS LAW I. A study of commercial law as it relates to contracts, agency, partnership and property. Prerequisites: ECO 100 and at least sophomore standing. (3 crs.)

BUS 242. BUSINESS LAW II. A continuation of Business Law I. Basic legal concepts of sales, commercial paper, credit and related topics. Prerequisite: BUS 241. (3 crs.)

BUS 243. BUSINESS LAW II. A continuation of Business Law I. Basic legal concepts of sales, commercial paper, credit and related topics. Prerequisite: Business Law II (BUS 242). (3 crs.)

BUS 301. 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 base management systems, data communication, systems analysis, systems design, general accounting application, materials control application, management information processing, systems planning, operations management, performance review. Prerequisites: CSC 121, BUS 201, BUS 112. (3 crs.)

BUS 303. 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: BUS 201 or consent of instructor. (3 crs.)

BUS 311. INTERMEDIATE ACCOUNTING I. A review of basic accounting principles and concepts. A preparation for advanced courses in accounting and for the theory and practice sections of the uniform CPA exam. Prerequisite: BUS 112. (3 crs.)

BUS 312. INTERMEDIATE ACCOUNTING II. A continuation of the review of basic accounting principles and concepts including financial statement analysis. A preparation for advanced courses in accounting and for the theory and practice sections of the uniform CPA examination. Prerequisite: BUS 311. (3 crs.)

BUS 315. 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: BUS 112. (3 crs.)

BUS 317. MANAGEMENT CONTROL 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: BUS 216 or BUS 315. (3 crs.)

BUS 321. PRINCIPLES OF MARKETING. An introduction to basic principles of marketing management. Other topics covered are selected target markets; developing marketing mixes; marketing management in action. Prerequisite: ECO 100 or ECO 201 and BUS 201. (3 crs.)

BUS 323. SALES MANAGEMENT. The role of sales manager, both at the headquarters and field, in managing people, resources, and selling functions. An analysis of the problems involved in the management of sales force: recruiting, selection, training and evaluation of the selling performance of salesmen; collection and analysis of relevant marketing data and controlling function. Prerequisites: ECO 201, ECO 202 and BUS 201. (3 crs.)

BUS 332. FINANCIAL MANAGEMENT. The study of financial analysis, planning and control including working capital management, decisions involving long-term assets, sources and forms of long-term financing and other selected subjects. Advanced techniques of financial analysis are employed. Prerequisites: BUS 112, ECO 201 and MAT 225 or MAT 171. (3 crs.)

BUS 335. 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 106 or permission of instructor. (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: ECO 100 or equivalent. (3 crs.)

BUS 351. PERSONNEL 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: BUS 201. (3 crs.)

BUS 408. BUSINESS POLICY. The integrated decision making of general management. Topics covered include corporate strategy and implementing corporate strategy. Prerequisites: BUS 201, ECO 322 or consent of instructor. (3 crs.)

BUS 410. AUDITING. A critical evaluation of financial statements. Prerequisite: BUS 312. (3 crs.)

BUS 412. ADVANCED FINANCIAL ACCOUNTING. Special topics in accounting. Mergers and acquisitions, consolidated financial reports, accounting for international operations, etc. Prerequisite: BUS 312. (3 crs.)

BUS 415. COST ACCOUNTING II. A survey of special topics in the field of industrial accounting. Prerequisites: BUS 111, BUS 112 and BUS 315. (3 crs.)

BUS 421. MARKETING MANAGEMENT. Description and analysis of the nature, strategies and techniques of marketing management. Prerequisite: Principles of Marketing (BUS 321). (3 crs.)

BUS 428. MARKETING RESEARCH. Description of behavioral and statistical tools for designing and implementing research projects. Prerequisites: Principles of Marketing (BUS 321), Marketing Management (BUS 421) and Business Statistics (MAT 225).

BUS 491. ACCOUNTING INTERNSHIP. Practicum with Public Accounting firms, government, or industry. Prerequisites: 18 credits in Accounting and consent of instructor. (Variable)

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 live problems in a real business environment. Prerequisite: Senior standing or permission of instructor. (Variable)

BUS 495. SEMINAR IN BUSINESS. An intensive examination of selected subjects from the general field of business. Prerequisite: Consent of instructor. (3 crs.)

The following course may be taken only by seniors and with the permission of the instructor.

BUS 531. BANK MANAGEMENT. Detailed analysis of operational decisions faced by bank managers in the areas of loans, investments, sources of funds, and liability management.

ECONOMICS (ECO)

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

+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.)

ECO 200. CURRENT ECONOMIC ISSUES. An application to contemporary economic problems of economic principles. Current readings in economics are examined. Prerequisite: ECO 100 or ECO 201. (3 crs.)

+ECO 201. INTRODUCTORY MICROECONOMICS. An introduction to the market mechanism at work in a modern mixed economy; supply and demand analysis is applied to consumer markets as well as resource markets. Prerequisite: ECO 100 recommended. (3 crs.)

+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. The efficacy of wage and price controls is analyzed. Prerequisite: ECO 100 or ECO 201. (3 crs.)

+ECO 204. PERSONAL MONEY MANAGEMENT. A guide to personal finance to best meet one's objectives and make financial decisions easier. Prerequisite: ECO 100 or equivalent. (3 crs.)

ECO 225. MONETARY THEORY AND POLICY. A theoretical treatment of the influence of money and financial markets on economic activity and prices, and of the effects of

monetary policy on the markets for goods and services; the role of money in the Classical and Keynesian macrosystems; monetary and fiscal policy. Prerequisites: ECO 304, MAT 225. (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 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.)

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.)

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 operation and functions of commercial banking system, as related to questions of economic stability and public policy. Prerequisites: ECO 201, ECO 202. (3 crs.)

ECO 307. STATE AND LOCAL FINANCE. Principles and problems of financing state and local governments. Topics to be covered 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.)

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, maximazation 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.)

ECO 322. MANAGERIAL ECONOMICS. A survey of analytical techniques available to the modern business manager. Topics to be covered include economics for managers; business forecasting; cost and production functions; industrial pricing; profit planning; business decision making. Prerequisites: ECO 201, ECO 202, ECO 320. (3 crs.)

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. Prerequisite: ECO 100 or ECO 201 or 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. Prerequisite: 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 201, ECO 202. (3 crs.)

ECO 379. SPECIAL PROBLEMS IN ECONOMICS. This is designed to meet the changing interests of students and staff. Topics vary in response to those interests. Prerequisites: ECO 201, ECO 202 or permission of instructor. (Variable)

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 covered 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, theory of identification, autocorrelation and simultaneous equations. Prerequisites: MAT 225 and ECO 320. (3 crs.)

ECO 422. INPUT/OUTPUT ANALYSIS. (3 crs.)

ECO 431. INTERNATIONAL ECONOMICS. A descriptive and theoretical analysis of international trade, balance of payment accounts, comparative costs, mechanism of international financial relations. Prerequisites: ECO 201, ECO 202. (3 crs.)

ECO 433. ECONOMICS OF GROWTH AND DEVELOPMENT. To provide an 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. (Variable).

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. Prerequisites: Senior standing or college degree. (Variable).

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 their 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. (Variable)

ECO 495. SEMINAR IN ECONOMICS. An intensive examination of selected subjects from the fields of Economics, Management, Business and Labor Relations. Prerequisite: Permission of instructor. (3 crs.)

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. (1 cr.)

CCU 190. CHORAL ENSEMBLE. (1 cr.)

CCU 196. GLEE CLUB. (1 cr.)

CCU 197. UNIVERSITY BAND. (1 cr.)

CCU 198. UNIVERSITY CHOIR. (1 cr.)

CCU 292. STUDENT GOVERNMENT. (1 cr.)

CCU 293. PUBLICATIONS: NEWSPAPER (1 cr.)

CCU 294. PUBLICATIONS: YEARBOOK. (1 cr.)

CCU 295. PUBLICATIONS: "PEGASUS" (1 cr.)

CCU 379. IN-RESIDENCE HALL COUNCIL. (1 cr.)

COMMUNICATION

The faculty and courses for this program may be found in the listings for the Departments of English, Speech, 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 communication of the affective 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 clearly and write critically, 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.

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

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact of Technology on Society (EDU 200); 15 credits of free electives (including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (EDF 110); Educational Media (EDF 304); Problems of Secondary Education (EDS 300) **or** Introduction to Guidance and Personnel Services (EDS 420) **or** Secondary School Curriculum (EDS 456); Educational Tests and Measurements (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 100); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Teaching of Communications (EDS 437) **or** Modern Methods (EDS 455); Student Teaching and School Law.

(C) **Specialization:**

I. Core Requirements

Communication Core (9 credits): English Grammar and Usage (ENG 345) **or** Introduction to Linguistics (ENG 347); Oral Communication (SPE 101) **or** Advanced Speech Course; Introduction to Television Production (SPE 240).

Theatre Core (6 credits): Stagecraft I (THE 151) **or** Fundamentals of Acting (THE 130) **or** Fundamentals of Directing (THE 200) **or**Workshops.

Writing Core: Qualification in Composition II (ENG 102); Advanced Writing (ENG 375) **or** Teaching of Writing (EDS 436) **or** Journalism I (ENG 311).

Literature Core: Literature for Adolescents (ENG 305); 6 credits from the following: English Literature I (ENG 301) **or** English Literature II (ENG 302) **or** any 300 or 400 level literature course.

II. Areas of Concentration

(1) **For concentration in Linguistics:** 9 credits in English Linguistic courses 300 level or above; Chaucer (ENG 415); Survey of Old and Middle English (ENG 310) **or** Studies in Old and Middle English Literature (ENG 481); 6 credits in Writing electives.

(2) **For concentration in Literature:** 9 credits in English Literature courses 300 level or above (at least one of which must be before 1800 and one after); Introduction to Linguistics (ENG 347); a Literary Criticism course; 6 credits of English electives.

(3) **For concentration in Speech Communication:** 3 credits: Oral Interpretation Workshop: Forensic Workshop; Radio and Television Workshop. 6 credits from the following 100 level courses: Survey of Radio, Television, and Film (SPE 105); Fundamentals of Discussion (SPE 107); Introduction to Communication Theory (SPE 108); Introduction to Oral Interpretation (SPE 111); Voice and Articulation (SPE 121). 3 credits from the following 200 level courses: Advanced Oral Interpretation (SPE 212); Persuasion (SPE 220). Enrichment Requirement: (3 credits from the following) Appreciation of Television (SPE 270); Appreciation of Film (SPE 360); Radio and Television in a Free Society (SPE 445). Production Requirement: Introduction to Radio Production (SPE 245). Analysis: Language and Behavior (SPE 315) **or** Speech Criticism (SPE 460).

(4) **For concentration in Theatre:** Production, Rehearsal, and Performance (THE 392); 6 credits of Theatre History or Literature; 12 credits of theatre electives.

(5) **For concentration in Non-Print Media:** Advanced Television Production (SPE 340); Advanced Layout and Graphic Design (ART 208). 6 credits in Workshops (**or** Special Problems) which must come from at least two of the following: art, film, music, photography, radio, television, or theatre. 9 credits of Non-Print Electives.

(6) **For concentration in Writing:** 6 credits of Creative Writing courses; Teaching of Writing (EDS 436); Journalism I (SPE 307); Introduction to Linguistics (SPE 347); 6 credits of free electives.

DEPARTMENT OF COUNSELOR EDUCATION AND SERVICES

Professor Parnell, *chair*. Professors R. Brown, S. Little, Madden.

Although this department does not offer an undergraduate major, the services of its faculty are made available to the student body through the Counselling Center, which is described in the first section of this catalog.

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. This meets the certification requirements for the public schools of Pennsylvania.

Requirements:

I. Dental Hygiene license, earned at an approved institution of higher education.

II. Professional Education: Foundations of Education (EDF 100)- 3 credits; Educational Psychology (PSY 110)- 3 credits; Developmental Psychology (PSY 207)- 3 credits; Introduction to Educational Media (EDF 305 - 2 credits)

III. General Education (minimum of 18 credits): 9 credits in Humanities; 9 credits of Social Sciences; free electives as needed to complete the required 128 credits for graduation and the 30-credit residency requirement.

DEPARTMENT OF EARTH SCIENCES

EARTH SCIENCES (EAS)

GEOGRAPHY

GEOLOGY (GEO)

INTERNATIONAL STUDIES

PETROLEUM TECHNOLOGY (PET)

See also Slavic/Soviet Studies under Foreign Languages in this catalog.

Associate Professor Moses, *chair.* Professors Procasky, Thompson; Associate Professors Conte, Orsag

Bachelor of Science in Earth Sciences

This program provides the student with a varied selection of courses and experiences. The flexibility of the program enables the student, working closely with an advisor, to acquire training in depth in this major area of interest. The earth scientist, using a variety of tools and disciplines concerning the earth and its processes, is knowledgeable in the areas of geology, astronomy, meteorology, oceanography, and physical geography and makes use of the tools of mathematics, chemistry, and physics. At present, most earth science students continue their education in specialized areas in graduate school, but many others obtain employment in the public or private sector in positions commonly defined as applied earth science.

Requirements:

(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 Geology (EAS 150); Historical Geology (EAS 200); Meteorology (EAS 241); Climatology (EAS 242); Introduction to Oceanography (EAS 163); Astronomy (PHS 145); Earth Resources (EAS 232); General Chemistry I (CHE 101);

General Physics (PHY 104); Statistics (MAT 215); 34 credits of electives in related fields, at least 18 of which must be at the 300 level or above, and all with the approval of the advisor.

Bachelor of Science in Education: Certification in Earth Science for Secondary Schools

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact of Technology on Society (EDU 200); 15 credits of free electives (including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300)- **or** Introduction to Guidance and Personnel Services (EDS 420) - **or** The Secondary School Curriculum (EDS 456); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 210); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Teaching of Earth Science in the Secondary School (EDS 447) **or** Modern Methods (EDS 455); Student Teaching and School Law.

(C) **Professional Specialization:**

Required: Introduction to Geology (EAS 150); Meteorology (EAS 241); Introduction to Oceanography (EAS 163); Astronomy (PHS 145); General Chemistry I (CHS 101); Statistics (MAT 215) **or** College Algebra (MAT 181) **or** Trigonometry (MAT 191).

Restricted Electives (12 credits of the following): Any geology course; Physical Geography (EAS 160); Climatology (EAS 242); Cartography (EAS 271); Map and Air Photo Interpretation (EAS 272); Earth Science Workshop (EAS 493); Field Methods (GEO 445); Hydrology (EAS 202); Field Mapping (EAS 372); Human Ecology (GEO 240); Introduction to Biology (BIO 102); Field Work Hydrology (EAS 302); Field Work Meteorology (EAS 341); Geology of Pennsylvania (EAS 373); Geomorphology (EAS 343); Coastal Geomorphology and Marine Resources (EAS 363)—other courses with approval of Advisor.

Bachelor of Arts in Geography

The geography program provides students a varied selection of courses and geographic experiences, including the human, physical, political and economic dimensions of the discipline. The program's flexibility permits the student, working with an advisor, to get training in depth in the interest. Presently, most geography students continue their education in specialized areas in graduate school. Many others, however, move into employment with the federal government. The Geography major is designed to give all students maximum freedom in coordinating their college program with desired objectives.

The geography program also allows the student to participate in internships in industry, government, and social agencies while receiving college credit.

Geography affords the graduate the opportunity to work in the public and private sectors in jobs commonly defined as applied geography. Graduates may work for government agencies, industries, and regional or urban planning offices as cartographers, economic geographers, regional specialists, resource managers, location analysts, or demographers. Recent published projections of existing trends show that geography will continue to offer its graduates a wide variety of career opportunities.

Requirements:

(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); Physical Geography (EAS 160); Urban Geography (GEO 210); Economic Geography (GEO 200); Cartography (EAS 271); Seminar (EAS 496) **or** Research Project; 11-23 credits of Geography electives. 27-39 credits of related courses, with advisor's approval.

Bachelor of Science in Geology

The Geology program, offered in the Department of Earth Sciences, offers a wide range of courses that allows the student maximum freedom to pursue a program leading to the Bachelor of Science. The Geology staff and students work closely with the departments of Physical Science and Biology and Environmental Sciences, and other interdisciplinary programs.

Besides the course work offered on campus, the university's membership in cooperative groups allows our students access to some unique learning and research opportunities. Most prominent is the Penn Soil Conservation Education Center at Sandy Lake, Pennsylvania.

A major in geology allows the student to move immediately into employment with government and environmental agencies. Many industries employ geologists as permanent consultants. Our graduates have also obtained employment with cement companies, highway departments, sand and gravel operations, and in mining, water analysis and coastal surveys.

Graduate scholarships are readily available to students with high academic achievement. More than half of our graduates go on to graduate school.

Requirements:

(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 Geology (EAS 150); Historical Geology (EAS 200); Mineralogy (EAS 331); Pertrology (EAS 332); Structural Geology (EAS 425); Geomorphology (EAS 343); General Chemistry I (CHE 101) and II (CHE 102); General Physics (PHY 104); College Algebra (MAT 181); 12 credits of electives in the major; 17 credits of related electives, including at least 6 credits of mathematics and one course in Biology.

Bachelor of Arts in International Studies

(See also the program in Slavic/Soviet Studies in this catalog.)

Given the physical and cultural complexities of the modern world, individuals who bridge the difficulties posed by environment, language and culture are needed if we are to live together as a world community. Two kinds of specialists ideally suited to apply their skills to the above tasks are geographers and linguists: geographers because they seek to describe, relate and explain natural and man-made things that distinguish places on the earth's surface, linguists because their knowledge of languages and culture makes possible the effective communication of ideas.

The program provides career opportunities in the federal government, in the Foreign Service, in the Peace Corps, in the military, and in business firms operating outside the United States.

Requirements:

(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:**
In Geography: Economic Geography (GEO 200); Political Geography (GEO 345); Regional Science, Map and Aerial Photography Interpretation (EAS 272); and Geographic Area Studies.

In a foreign language: the two intermediate courses in that language; the two conversation and composition courses in the language, a course in the culture and civilization of the appropriate country; and 3 additional credits.

In Restricted Electives: a minimum of three credits in each of Economics, English, History, Management, Mathematics, Political Science, and Psychology. Eleven additional credits of related electives (which may include internships).

Bachelor of Science Degree in Petroleum Technology

The energy crisis and the need for national independence from foreign sources of oil have created a shortage of trained personnel and an increasing need for technically skilled men and women to engage in the search for and production of petroleum. The Petroleum Technology program provides students with an interdisciplinary academic background, which includes extensive study of geology, chemistry, physics and mathematics surrounding a core of petroleum geology courses.

In addition to preparing the student for graduate studies, this program provides career opportunities in such fields as field geology, well logging, surveying, field geology, well management, exploration planning, consulting services, and government service.

Requirements:

(A) **General Education:** Composition I (ENG 101) and II (ENG 102); Scientific and Technical Writing (ENG 217); College Algebra (MAT 181); Calculus I (MAT 281) and II (MAT 282); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **Technical Education:** Introduction to Geology (EAS 150); Historical Geology (EAS 200); Mineralogy (EAS 331); Petrology (EAS 332); Sedimentology (EAS 421); Stratigraphy (EAS 422); Micropaleontology (EAS 350); Structural Geology (EAS 425); Geomorphology (EAS 343); Petroleum Geology (EAS 321); Reservoir Evaluation (PTE 455); General Chemistry I (CHE 101) and II (CHE 102); College Physics I (PHY 101) and II (PHY 102); Geochemistry (CHE 255); Geophysics (PHY 235); Statistics (MAT 215); Computer Science I (CSC 121); Cartography (EAS 271); Elements of Economics (ECO 100); 11 credits of related electives.

EARTH SCIENCE (EAS)

EAS 100. INTRODUCTION TO EARTH SCIENCE. An introduction to the four general areas of Earth Science: astronomy, geology, meteorology, and oceanography. Although no laboratory time is designated as such, some class time is devoted to the study of rocks and minerals, topographic maps and weather maps and charts. (3 crs.)

EAS 150. INTRODUCTION TO GEOLOGY. A survey for the non-major and a basic course for the geology major. Topics include the physical make-up of the earth, internal and external processes, rocks and minerals, fossils, and the earth's origin and evolution. Laboratory is an integral part of the course. (4 crs.)

EAS 160. PHYSICAL GEOGRAPHY. The study of the physical aspects of human environment, including climate, soils, water, vegetation, and topography. Maps and map making are also treated. (3 crs.)

EAS 163. INTRODUCTION TO OCEANOGRAPHY. An introductory study of marine geology (basin formation, tectonics, sedimentation, geomorphology), physical and chemical oceanography (air-sea interaction, salinity, density, temperature, ocean circulation, chemistry of sea water), and marine biology (neritic and pelagic). (3 crs.)

EAS 200. HISTORICAL GEOLOGY. The geologic history of the earth and of the succession of major groups of plants and animals as based on the geologic interpretation of the rock and fossil record. Some field work, and weekly laboratory work to emphasize the lecture sessions. Prerequisite: Introduction to Geology. (4 crs.)

EAS 202. HYDROLOGY. A basic survey of water as a resource. Topics include the hydrologic cycle, droughts, water tables, water budgets, water management, aquifers and aquicludes, and water hazards. Students learn stream gauging and will study one area water problem. Field trips are an essential part of the course. (3 crs.)

EAS 231. ENVIRONMENTAL GEOLOGY. The interaction between man and his geologic environment. It is intended as an introductory survey and the student needs only a limited background in geology. Topics include erosion, floods, sediments and pollution, medical geology, soils, earthquakes, mass movements, volcanoes, groundwater, and man as a geologic agent. (3 crs.)

EAS 232. EARTH RESOURCES. The first half deals with the identification and description of rocks and minerals, the origin and classification of soils, and water as a resource; the second half with the distribution of geologic origin of the economically important metals, nonmetals, and fossil fuels. (3 crs.)

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.)

EAS 242. CLIMATOLOGY. 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. Meteorology is a recommended prerequisite to the course. (3 crs.)

EAS 271. CARTOGRAPHY. A laboratory course on the history of maps and mapping; the interpretation of globes, cartograms, and geographic diagrams; the nature and function of maps, including concepts of scales and cartographic symbols; and the use of cartographic tools and equipment in map construction. (3 crs.)

EAS 272. MAP AND AERIAL PHOTOGRAPHY INTERPRETATION. A utilization of maps and aerial photographs as a source of information to aid in landscape analysis. The principles of data collection and acquisition of information from map and aerial photographs are considered in a manner that does not require previous background. (3 crs.)

EAS 302. FIELD WORK IN HYDROLOGY. A follow-up course in hydrology, with practical work concerning water and water budgets. Students work with problems concerning storage of water, stream measurements, and evaporation problems. (3 crs.)

EAS 321. PETROLEUM GEOLOGY. The first of a two-semester sequence intended primarily for petroleum technology majors. Topics considered include petroleum reservoir properties, petroleum traps, the origin and migration of oil and natural gas, geological, geochemical, and geophysical exploration techniques; lithofacies analysis, computer application, well log analysis; secondary and tertiary recovery techniques; and major oil fields of the U.S. and selected areas of the world. (3 crs.)

EAS 322. PETROLEUM GEOLOGY II. The second half of the petroleum sequence, this course considers such topics as geological, geochemical, and geophysical exploration techniques; lithofacies analysis; computer applications; well log analysis; secondary and tertiary recovery techniques; and major oilfields of the U.S. and selected areas of the world. (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. Presupposes a basic knowledge of geology and chemistry. (3 crs.)

EAS 332. PETROLOGY. A detailed examination of the three major rock groups: igneous, sedimentary, and metomorphic. Particular emphasis is placed on the origin of individual rock types as well as the several bases of classification. Laboratory work includes both

hand specimen and this section identification. It is urged that the student have mineralogy prior to taking this course. (3 crs.)

EAS 341. FIELD WORK IN METEOROLOGY. A field-oriented course designed as follow-up course to meteorology. The measurement of weather conditions, plotting these conditions, and predicting the weather. Other weather problems and library research are part of the course. (3 crs.)

EAS 343. GEOMORPHOLOGY. An advanced course in the origin, description, and classification of surface features (landforms). Particular emphasis is placed on the evolution of landscapes as related to underlying geologic factors and the climatic regime. Laboratory times is devoted to the examination of landforms as displayed on topographic maps. (3 crs.)

EAS 350. MICROPALEONTOLOGY. The essential biological and geological principles basic to all paleontological studies. Most attention is devoted to the study and identification of various microfossil groups, particularly the foraminifera and the ostracodes. The use of microfossils by the petroleum industry for stratigraphic and paleoenvironmental interpretation is also considered. (3 crs.)

EAS 351. INVERTEBRATE PALEONTOLOGY. A detailed analysis of each of the invertebrate phyla as well as consideration of the more important of these as stratigraphic index fossils. Some consideration is also given to vertebrates and important local plant fossils. Of interest to biology as well as geology students. (3 crs.)

EAS 363. COASTAL GEOMORPHOLOGY AND MARINE RESOURCES. A study of the physical processes that shape coastal landforms and of the pelagic and neritic resources of the oceans. Topics include longshore transport, wave action, swash zone dynamics, estaurine and deltaic geomorphology, ferromanganese and petroleum resources, and beach structures. Prerequisite: Introduction to Oceanography or permission of the instructor. (3 crs.)

EAS 366. GEOLOGY OF PENNSYLVANIA. This is a survey of the geology, geologic history, and mineral resources of Pennsylvania's seven physiographic provinces. Includes field trips to western Pennsylvania's points of geologic interest. Prerequisite: Introduction to Geology or permission of the instructor. (3 crs.)

EAS 372. FIELD MAPPING. Actual on-site exercises. Using field equipment and the processes and problems involved in mapping. Emphasis is on cartographic techniques, layout, and design of maps from field data. Prerequisites: Map and Air Photo Interpretation, Cartography, or permission of the instructor. (3 crs.)

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 421. SEDIMENTOLOGY. All aspects of sediments and sedimentary rocks. Topics covered include sedimentary textures and structures, classification, the chemical and mineralogical composition of sediments, the origin and deposition of sediments, and the use of sedimentary rocks in interpreting earth history. This course is highly individualized with major emphasis on independent laboratory work. (3 crs.)

EAS 422. STRATIGRAPHY. Major emphasis on the temporal and spatial relationships of layered rocks. The use of guide fossils is stressed and the stratigraphy of Pennsylvania is examined in detail. Students become involved in local and regional stratigraphic problems of individual interest. (3 crs.)

EAS 425. STRUCTURAL GEOLOGY. An examination of the dynamic nature of the earth. Topics considered include the response of rocks to deforming forces, fold systems, fault systems, and the tectonic history of the earth. Modern theories of continent drift, sea-floor spreading, and sub-crustal convection are examined. (3 crs.)

EAS 436. FIELD MAPPING IN EARTH SCIENCE. Designed to provide majors with 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. Designed to provide geology and petroleum technology majors with a knowledge of problems encountered in field work and techniques utilized to solve these problems. The course consists of planned trips to areas of geologic interest. The student is expected to write summary reports. (3 crs.)

EAS 463. SEMINAR IN OCEANOGRAPHY. For advanced department majors who have completed all or nearly all of the required courses for the major. Students are guided through a series of research topics across the spectrum of ocean studies. Students prepare written responses on each of the topics. A major research paper is presented to the class by each student, who will also defend the data, research methods, and conclusions. (3 crs.)

EAS 493. EARTH SCIENCE WORKSHOP. A field and laboratory oriented course designed to give the student a wide range of practical experiences in the methods and instruments of the earth sciences. Field trips to the National Weather Service's upper air and radar station, to the Allegheny County Air Pollution Center, and to locales of geologic interest enhance knowledge gained through the student's individual project. Prerequisites: Introduction to Earth Science and Meteorology. (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 is also tailored to meet the needs of individual students. Permission of the staff is required. (Variable)

EAS 495. SEMINAR IN EARTH SCIENCE. For majors who have completed all or nearly all of the required courses in this major. Students are required to select research topics which are discussed by the class and approved by the instructor. Students make available a copy of their written research reports to all members of the class. Students present and defend before the class their research reports. (Variable)

EAS 496. SEMINAR IN GEOLOGY. Designed to give students of advanced standing in geology a chance for group discussion and involvement in a wide variety of geoscience topics. In addition, students are to write detailed papers on some subject of particular interest to them. The content and approach of seminars may vary somewhat depending on the competencies of the various staff members involved. (Variable)

EAS 498. PRACTICUM 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)

GEOGRAPHY (GEO)

GEO 100. INTRODUCTION TO GEOGRAPHY. Presents the scope of geography, some methodology and the geographer's approach to investigating the landscape. Topics such as climate, landforms, population, economic activities serve as the framework for investigation. (3 crs.)

GEO 105. HUMAN GEOGRAPHY. Insights into the existing group patterns and the spatial distribution of the occupants of the earth. Broad lines and mankind's evolution, and recent economic and demographic changes are also emphasized. (3 crs.)

GEO 200. ECONOMIC GEOGRAPHY. The geographical bases for the production, manufacture, and distribution of the earth's resources and the relationships arising as man engages in making a living. (3 crs.)

GEO 210. URBAN GEOGRAPHY. An investigation of city environments. Topics investigated and analyzed about cities include their classification, location, distribution, function, growth, types, and patterns of land use. Emphasis toward urban planning is incorporated. (3 crs.)

GEO 217. DEMOGRAPHIC ANALYSIS. Introduction to demographic processes. The determinants and consequences of population trends. Emphasis is placed on distribution patterns and environmental ramifications. (3 crs.)

GEO 220. GEOGRAPHY OF THE UNITED STATES AND PENNSYLVANIA. The physiography, climate, vegetation, population, land utilization, production, and trade of the various regions of the United States and the Commonwealth of Pennsylvania. The importance of Pennsylvania is stressed. (3 crs.)

GEO 240. HUMAN ECOLOGY. A social science approach dealing with the relationship between man and his organic environment. Emphasis is placed upon the physical, biological, and cultural basis of man's adaptation to his environment. (3 crs.)

GEO 275. CONTEMPORARY GEOGRAPHIC PROBLEMS I. Various physically and human-oriented courses based on the application of geographic techniques and concepts to selected problems of spatial interaction. Specific course topics and course numbers are available at each registration. (3 crs.)

GEO 276. CONTEMPORARY GEOGRAPHIC PROBLEMS II. (3 crs.)

GEO 306. MARKETING GEOGRAPHY. The spatial patterns associated with the consumption of retail goods, especially the collection and subsequent distribution of these goods to consumers. (3 crs.)

GEO 315. URBAN TRANSPORTATION. The characteristics of urban functions, structure, location, and internal patterns as they are associated with spatial variation in transportation systems. Urban problems as they relate to transportation are especially emphasized. (3 crs.)

GEO 317. LAND USE ANALYSIS. An analysis of the structure of urban and rural areas with emphasis on the analysis of patterns and trends in land use. Methods for analysis are developed so that land use can be effectively understood.

GEO 318. GEOGRAPHY OF CHINA. The geography of one-fourth of humanity. 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. Europe's natural and political regions, emphasizing the complexity of the continent's natural and cultural landscapes and the effect they have had on the occupants' past and present. (3 crs.)

GEO 326. GEOGRAPHY OF PENNSYLVANIA. A regional analysis of Pennsylvania, emphasizing man's cultural and economic response to environmental factors. (3 crs.)

GEO 328. GEOGRAPHY OF LATIN AMERICA. The effects of the physical environment of Latin America upon the activities of man. Effects of the historical background, types of governments, and ethnic backgrounds of the peoples upon the development of the natural resources of Latin America. 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 these factors responsible for the current position of the Soviet Union as a major world power and on potential future development. (3 crs.)

GEO 337. GEOGRAPHY OF AFRICA. A regional study of Africa, showing the social and economic development of these lands in relation to their physical environment. The importance of Africa to the world, and the effect thereon of emergent nationalism in an Africa torn by strife are studied. (3 crs.)

GEO 340. HISTORICAL GEOGRAPHY. A study of the interrelationships between the natural environment and the historical development of the United States. (3 crs.)

GEO 345. POLITICAL GEOGRAPHY. The problems of state, internal and external, as influenced by the human and natural resources. (3 crs.)

GEO 370. MAP INTERPRETATION. A non-technical laboratory course designed to develop competence in map use and evaluation. Interpretation of cartograms and graphs along with the theory of map construction and mapping techniques is included. (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 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. (Variable)

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)

PETROLEUM TECHNOLOGY (PTE)

PTE 450. APPLIED GEOPHYSICS. Emphasis on the actual application of geophysical instrumentation to the solving of geological problems. While the major thrust is in the area of petroleum exploration, other problems of mineral resource exploration, and assessment are also considered.

PTE 455. RESERVOIR EVALUATION. Detailed analysis of rocks which serve for the storage and ultimately for the production of petroleum. The characteristics of these rocks are studied in hand specimen, in thin section, in cores, and in terms of their responses to various "down hole" geophysical surveys (well logs). Laboratory work and problem solving are emphasized.

EDUCATION (EDU)

EDU 200. IMPACT OF TECHNOLOGY OF SOCIETY. An inter-disciplinary study of the impact technology has on society from the perspectives of history, economics, religion, education, politics, medicine, environment, and philosophy. The rapid growth of technology, the rapidity of change, human development and social values, and cultural mores are also discussed. Implications for the ability of humankind to control technology, adapt, cope, and plan for the future are additional concerns explored. Teaching-learning activities include lecture, class discussion, role-playing, and a case study. (3 crs.)

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.)

EDU 449. STUDENT TEACHING - SPECIAL EDUCATION. (Variable)

EDU 459. STUDENT TEACHING - ELEMENTARY EDUCATION. (Variable)

EDU 469. STUDENT TEACHING - SECONDARY EDUCATION. (Variable)

DEPARTMENT OF EDUCATIONAL STUDIES

EDUCATIONAL STUDIES (EDF)
SECONDARY EDUCATION (EDS)

Professors Aldstadt, Crowley, D. Edwards, Lebois, Messinger, Moreschi, J. Nelson, Orlandi, Reid; Associate Professor Butler

The department is responsible for the Secondary Education Programs, the Professional Education components of programs in the College of Education, the Graduate School, the Certified Registered Nurse Anesthetist program (Department of Counselor Education and Services) and the Nurse Anesthesia program (Department of Biology), and a diversity of services to the University.

For the Secondary Education Curriculum the department offers a Bachelor of Science in Education degree (B.S. in Ed.) in the following Certification areas: Athletic Training, Biology, Chemistry, Communications, Earth Science, English, Mathematics, Modern Foreign Language, Physics, and Comprehensive Social Sciences. Accordingly, this curricular function is the responsibility of the Educational Studies Department in cooperation with the appropriate academic departments.

Therefore, each student who is a Secondary Education major functions under a system of dual advisement whereby the student's advisor from the

Educational Studies Department assists the student in satisfying completely her or his Certification, while an advisor from the student's chosen discipline guides the student in the area of specialization. Thus in each case final advisement is with the student's advisor from the Educational Studies Department.

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.

Students enrolled in the College of Education, regardless of major, may also enroll in one or more endorsement programs. Endorsement programs enable a person to teach in an additional area. Presently there are four endorsement programs; General Science, Driver's Education and Safety, Environmental Education, and Athletic Training.

The following is a list of current career opportunities available to graduates who have majored in the secondary education programs:

Teacher (Junior High School)

Teacher (Senior High School)

Overseas Teaching Positions

Department of Defense Overseas Dependent Schools

Graduate Studies

Also, there are many other career opportunities which are specific to the area of specialization chosen by the student.

SECONDARY EDUCATION (EDS) AND EDUCATIONAL FOUNDATIONS (EDF)

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, 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.)

EDF 206 INSIDE MYSELF AND WITH OTHERS. Gives students an opportunity to study and examine values and principles concerning themselves, what they believe, and how they relate to others: as individuals, in the family, and in various group situations. Multimedia techniques and large group, small group, and individually tailored sessions will be used to achieve class objectives. (3 crs.)

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 exposure experience of two classes per week for nine weeks in the local secondary schools is a requirement of the course. Prerequisite: EDF 100.

EDF 301. COMPUTERS FOR TEACHERS. Includes both theory and practice and acquaints the learner with computers and their uses as an instructional tool. The learner will develop and document an instructional program that includes a tutorial, drill and practice, and a test/evaluation strategy employing the programming language BASIC. Laboratory assignments using this University's computer facilities are designed to provide generalizable and transferrable competencies using the programming language

BASIC. Therefore, although the learners are using a main-frame computer, the competencies gained are also applicable to microcomputers. (3 crs.)

EDF 304. INTRODUCTION TO EDUCATIONAL MEDIA. This course, for prospective and practicing teachers from various levels of education, i.e., 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) and 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 308. LEARNING RESOURCES AND INSTRUCTIONAL TECHNOLOGY. (3 crs.) The study of principles of selection and utilization of a variety of learning resources and most commonly recognized audiovisual formats, with emphasis on modern technologies of instruction. Competencies and skills developed will be applied by the students in the design and completion of individual projects. Useful local production techniques will also be considered. (3 crs.)

EDF 310. MASS COMMUNICATION IN EDUCATION. A study of mass media and telecommunications technologies as they relate to education, and the development of competencies and skills in the selection, utilization, and evaluation of the effects of print and electronic media. Production techniques for media software and practice in operation of media hardware will be provided. Students will develop a critical awareness about the problems and processes of mass communication in education. (2 crs.)

EDF 318. FOUNDATIONS OF DEATH AND DYING. The phenomenon of death and dying in the areas of anthropology, psychology, philosophy, education, literature and song. (3 crs.)

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.)

EDF 380. VALUES CLARIFICATION IN TEACHING. The process of values clarification and ways that the process may be used in various subject matter areas. Procedures to be used in the course include paper and pencil exercises, verbal or discussion exercises, self-analysis exercises, and role-practicing exercises. Ample opportunity provided for active participation by all class members. The instructor frequently functions as a class member and little course work will be required outside of the class period. (3 crs.)

EDF 411. PHOTOGRAPHIC COMMUNICATIONS. For advanced undergraduates. 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 412. PREPARATION OF INEXPENSIVE TEACHING MATERIALS. For advanced undergraduates. The principles, techniques and skills associated with, and necessary for, 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, mock-ups, flannel boards, magnetic boards, electric boards, diorama stages, and effective bulletin boards. (3 crs.)

EDF 413. TELEVISION PRODUCTION FOR TEACHERS. For advanced undergraduates. A study of the techniques for producing and directing effective televised instruction. Exercises in planning, designing and preparing graphics for, and teaching short television lessons are included, and effective utilization techniques considered. (3 crs.)

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 420. INTRODUCTION TO GUIDANCE AND PERSONNEL SERVICES. For C.R.N.A. only. The principles of guidance in the post-secondary school setting with emphasis on basic concepts of individual and group counseling as applicable to the role of the C.R.N.A. as an instructor and in dealing with the sick and dying. Educational Psychology is not a prerequisite. (3 crs.)

EDS 425. INTRODUCTION TO INSTRUCTION. Principles of instruction as they are related to major learning theories. Students are acquainted with the relationships between instructional strategies and educational objectives, commonly used instructional materials, principles of accountability and the evaluation of instructional outcomes. (3 crs.)

EDS 430. EDUCATIONAL TESTS AND MEASUREMENTS IN SECONDARY SCHOOLS. This course is 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.)

EDS 435. SCHOOL AND COMMUNITY. The development of classroom techniques which lead to cooperative understandings between school and community is a chief objective of this course. Considerable attention is given to the structure of the community, its groups, and their goals. The school is viewed in its role as a public relations laboratory. (3 crs.)

EDS 436. TEACHING OF WRITING. (3 crs.)

EDS 437. TEACHING OF COMMUNICATION. A specially designed methods course team taught by instructors from the departments of English, Speech Communication, and Theatre who have had teaching experience in secondary schools is available for Communication teaching candidates. 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.)

EDS 445. TEACHING OF SOCIAL STUDIES IN SECONDARY SCHOOLS. Methods which may be used in teaching the 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.)

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. An analysis of the functions of secondary education and of classroom problems, followed by the presentation of techniques for the solution of such problems as indicated by recent literature in the field. (3 crs.)

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 459. STUDENT TEACHING. Observation and participation in all teaching and activities related to the performance of a teacher's work, in the area of the student's specialization. Prerequisite: A general quality point average of C or 2.00 and 2.00 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)

EDS 460. TEACHING MATHEMATICS IN SECONDARY SCHOOLS. The mathematical abilities of the secondary student are diagnosed. Methods of mathematical teaching are discussed and presented. Results of mathematical education according to recent research are studied and trends are indicated. The control and use of the visual aids pertaining to mathematics, and a study of student, teacher, administration and community problems with proper methods of instruction are considered. 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.)

EDS 465. DEVELOPMENTAL READING IN THE SECONDARY SCHOOL. Intended to help the prospective teachers of the Secondary academic subject areas develop an understanding and appreciation of the necessary 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 will be stressed. (2 crs.)

EDS 466. TEACHING MODERN LANGUAGES (K thru 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 thru 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.)

EDS 469. INDEPENDENT STUDY IN SECONDARY EDUCATION. (Variable)

EDS 470. ISSUES AND INNOVATIONS IN SECONDARY EDUCATION. (3 crs.)

EDS 475. SEMINAR IN NEGOTIATIONS FOR TEACHERS, ADMINISTRATORS, AND SCHOOL DIRECTORS (*Summer Workshop*). Trains teachers, administrators, and school directors in collective bargaining. (3 crs.)

EDS 490. PROFESSIONAL PRACTICUM AND SCHOOL LAW. Primary consideration is given to the general techniques and principles of teaching with particular emphasis to techniques that are pertinent to the student's special field. Pennsylvania school law relevant to the work of the classroom teacher as well as the problems encountered by the students in their student teaching experiences are considered. (2 crs.)

EDS 491. HONORS SEMINAR IN SECONDARY EDUCATION. (Variable)

EDS 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.)

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, 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 will consider 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 will be encouraged to seek out subjects that interest them. They will plan and execute individual projects in communicating thoughts or feelings to others. Applications to problems of instructional communication and instructional development will be encouraged, and emphasis will be 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)

EARLY CHILDHOOD/ELEMENTARY EDUCATION

See Also: SPECIAL EDUCATION in this catalog, for dual majors in Early Childhood & Special Education and Elementary Education & Special Education

Professor Pavlak, *chair.* Professor Jacobs, *assistant chair.*Professors Aiken, Christ, Frickert, Kennedy, J.G. Martin, McIlwain, Orr, Parker, Rogers, Saludis; Associate Professors Campbell, Vargo; Assistant Professor Scarmazzi.

Bachelor of Science in Education: Elementary Education

The Elementary Education program offers small class size, individual advising, field trips and field work that enhance students' theoretical backgrounds. In addition, California University of Pennsylvania offers a professional semester during which students may enroll in most of their methods courses.

Students may conduct research in the Manderino Library and the Elementary Department's children's literature library. The department also offers summer employment in its remedial reading camp, held annually on campus.

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.

The College of Education is accredited by the National Council for Accreditation of Teacher Education; certification in Pennsylvania extends to all fifty states. The Placement Office aids students seeking teaching positions locally and out-of-state.

Recently the number of students entering and graduating with education majors has dropped dramatically; large surpluses of teachers no longer exist. This condition promises increased employment possibilities for graduates. California University of Pennsylvania has maintained a high percentage of placement.

The objectives of the Elementary Education program are to help students:

—Acquire the knowledge and skills essential to becoming a member of the teaching profession.

—Acquire knowledge and understanding of educational theory, enabling them to develop a rationale for using and creating a good learning environment

—Develop an awareness of the role which parents and the community play in planning for the education of elementary-age children

—Expand and enrich specific educational interests

Requirements:

(A) **General Education:** 9 credits in Humanities including Oral Communication (SPE 101); 9 credits in Natural Sciences; 9 credits in Social Sciences (including General Psychology (PSY 100); 3 credits in Health of Physical Activities; Impact of Technology in Society (EDU 200); 19 credits of free electives, including Composition I-11 (ENG 101-102).

(B) **Professional Education:** Foundations of Education (EDF 100); Teaching in a Multi-Cultural Society (EDU 100); Educational Psychology (PSY 110); Child Psychology (PSY 205); Introduction to Education Media (EDF 304); Introduction to Philosophy and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Procedure and Parent Interview (ESP 304); Curricular and Methods Strategies (ESP 404); Student teaching and School Law (EDE 490).

(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); Teaching of Reading (EDE 301); Children's Literature I (EDE 311); Field Experiences in Early Childhood (ECE 202); Observation and Conference (EDE 409); Math 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); 11 credits of Education Electives.

Bachelor of Science in Education: Early Childhood

The Early Childhood Education program provides the academic background and field work needed for teaching certification from nursery school through third grade. Upon completion of the program, the prospective teacher will receive a Bachelor of Science degree and a Pennsylvania Instructional I Certificate. The College of Education is accredited by the National Council for Accreditation of Teacher Education, and certification in Pennsylvania extends to all fifty states. Our Placement Office is active in aiding students seeking teaching positions locally and out of state.

Students are offered extensive field work, small classes and individual advising before progressing to the required semester of student teaching. Augmenting their background will be the Professional Semester, wherein most methods courses are incorporated into one semester.

California University of Pennsylvania has had exceptionally high placement of its Early Childhood graduates, and given the small 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

Requirements:

(A) **General Education:** 9 credits in Humanities including Oral Communication (SPE 101); 9 credits in Natural Sciences; 9 credits in Social Sciences, including General Psychology (PSY 100); 3 credits in Health or Physical Activities; Impact of Technology on Society (EDU 200); 19 credits of free electives including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Teaching in a Multi-Cultural Society (EDU 100); Educational Psychology (PSY 110); Child Psychology (PSY 205); Introduction to Educational Media (EDF 304); Introduction to Philosophy and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification, Diagnostic Procedures, and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Student Teaching and School Law.

(C) **Professional Specialization:** Laboratory Experiences in Nursery-Kindergarten (ECE 201); Field Experiences in Early Childhood (ECE 202); Art for Early Childhood (ECE 215); Music for Early Childhood (ECE 217); Health and Physical Education in Early Childhood (ECE 218); Reading Experiences in Early Childhood (ECE 301); Children's Literature I (ECE 311); Math Content in Early Childhood (ECE 315); The Child in His Social and Physical Environment (ECE 316); Science for Early Childhood (ECE 317); Communicative Arts in Early Childhood (ECE 318); Early Childhood Seminar (ECE 405); 8 credits in Education Electives.

Bachelor of Science in Education: Early Childhood/ Elementary—(dual major)

Requirements:

(A) **General Education:** 9 credits in Humanities including Oral Communication (SPE 101); 9 credits in Natural Sciences; 9 credits in Social Sciences including General Psychology (PSY 100); 3 credits in Health or Physical Activities; Impact of Technology in Society (EDU 200); 19 credits of free electives including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Teaching in Multi-Cultural Society (EDU 100); Educational Psychology (PSY 110); Child Psychology (PSY 205); Introduction to Educational Media (EDF 304); Introduction to Philosophy and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Procedures and Parent Interviews (ESP 304); Curricular and Methods Strategies (ESP 404); Student Teaching and School Law.

(C) **Professional Specialization:** Lab Experiences in Nursery/Kindergarten (ECE 201); Field Experiences in Early Childhood (ECE 202); Art for Early Childhood (ECE 215); Music for Early Childhood (ECE 217); Health and Physical Education for Early Childhood (ECE 218); Reading Experiences in Early Childhood (ECE 301); Children's Literature (ECE 311); Math Content in Early Childhood (ECE 315); Child in Social and Physical Environment (ECE 316); Science for Early Childhood (ECE 317); Communicative Arts in Early Childhood (ECE 318); Early Childhood Educational Seminar (ECE 405); Teaching of Reading (EDE 201); Math Content and Methods (EDE 305); Teaching Social Studies (ECE 306); Teaching Language Arts (ECE 308); Professional Lab Experiences (ECE 409).

Bachelor of Science in Education: Elementary/Early Childhood—(dual major)

Requirements:

(A) **General Education:** 9 credits in Humanities including Oral Communication (SPE 101); 9 credits in Natural Sciences; 9 credits in Social Sciences including General Psychology (PSY 100); 3 credits in Health or Physical Activities; Impact of Technology in Society (EDU 200); 19 credits of free electives including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Teaching in a Multi-Cultural Society (EDU 100); Educational Psychology (PSY 110); Child Psychology (PSY 205); Introduction to Educational Media (EDF 304); Introduction to Philosophy and Legal

Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Procedures and Parent Interviews (ESP 304); Curricular and Methods Strategies (ESP 404); Student Teaching and School Law.

(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); Teaching of Reading (EDE 301); Children's Literature I (EDE 311); Field Experience Early Childhood (ECE 202); Professional Lab. Experience (EDE 409); Math Content and Methods (EDE 305); Teaching of Social Studies (EDE 306); Science for Elementary Teachers (EDE 307); Teaching Language Arts (EDE 308); Lab Experiences in Nursery/Kindergarten (ECE 201); Reading Experiences in Early Childhood (ECE 301); Math Content in Early Childhood (ECE 315); Child in Social and Physical Environment (ECE 316); Communicative Arts in Early Childhood (ECE 318).

Associate of Science in Early Childhood Education

The Department of Elementary Education offers this two-year associate degree (A.S.) to provide training in early childhood education. This program is particularly valuable for Day Care and Head Start aides.

Requirements:

(A) **General Studies:** Oral Communication (SPE 100); General Psychology (PSY 100); Diagnostic and Remedial Techniques in Mathematics (MAT 161) or Technical Mathematics (MAT 182).

(B) **General Studies Electives:** Three credits in each of the Humanities, Social Sciences, and Natural Sciences, and five credits of free electives, chosen with the advisor's approval.

(C) **Professional Education:** 11 credits: Teaching in a Multicultural Society (EDU 210); Educational Psychology (PSY 110); Child Psychology (PSY 205); Introduction to Educational Media (EDF 304).

(D) **Area of Concentration:** 30 credits: Development of the Preschool Child (ECE 493); Fundamentals of Day Care Education (ECE 491); Communication Arts for Early Childhood (ECE 318); The Child's Physical and Social Environment (ECE 316); Music for Early Childhood (ECE 217); Science in Early Childhood (ECE 317); Art in Early Childhood (ECE 215); Children's Literature I (ECE 311); Reading Experiences in Early Childhood (ECE 301); Mathematics Content in Early Childhood (ECE 315).

ELEMENTARY EDUCATION (EDE)

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. (3 crs.)

EDE 103. THE PLX APPROACH TO READING READINESS. The purpose of this course is to teach the Picture Language Experience (PLX) approach to beginning reading to Early Childhood staff. (3 crs.)

EDE 205. ART FOR 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 MUSIC IN THE ELEMENTARY GRADES. Techniques of teaching music to children. Includes the study of much source materials and its proper application in the classroom. Covers procedures in grades kindergarten through six in such activities as the use of rhythm instruments, records, part singing, singing games, dances, and creative work. Undergraduates develop proven techniques and procedures through actual teaching experiences in a typical classroom situation. (3 crs.)

EDE 209. LABORATORY EXPERIENCES. (1 cr.)

EDE 210. ELEMENTARY MUSIC WORKSHOP. (3 crs.)

EDE 215. TUTORING DISABLED LEARNERS. (Variable)

EDE 301. TEACHING OF READING. A basic course in reading instruction, elementary grades. Content deals with current theory of learning as it relates to reading, instructional practices and examination of materials used for reading instruction. (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. Opportunities to develop informal diagnostic tools and to assist in developing instructional plans for disabled readers are provided through on-site tutoring in the local schools.

EDE 303. PRACTICUM IN READING INSTRUCTION. Provides opportunities for students to identify and remediate reading difficulties of children. Formal and informal diagnostic testing procedures are used. Prerequisite: EDE 301, EDE 302. (3 crs.)

EDE 304. READING AND LANGUAGE ARTS SEMINAR. Technique in research writing is emphasized. The student conducts research on a current topic reading and language arts and presents a written paper in Turabian style. The student prepares an oral presentation of the findings. Prerequisite: EDE 301. (3 crs.)

EDE 305. MATHEMATICAL CONTENT AND METHOD IN THE ELEMENTARY SCHOOL. Emphasis is on understanding cognitive development and mathematical perception of children. Students and the professor work with small groups of children. Analysis of recent materials and texts follows. (3 crs.)

EDE 306. TEACHING OF SOCIAL STUDIES. Approaches are examined as to both content and rationale. Teaching strategies are studied. Emphasis is given to current trends and present status of programs. Different types of materials are examined. Particular attention is given to lesson plans and resource units. (3 crs.)

EDE 307. SCIENCE IN THE ELEMENTARY GRADES. Provides students in the Elementary curriculum with the skills and strategies necessary for developing children's competency in the sciences. (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. (3 crs.)

EDE 309. FIELD EXPERIENCES. (2 crs.)

EDE 311. CHILDREN'S LITERATURE I. Acquaints the undergraduate with literature available for children and various techniques that may be employed in elementary classrooms to stimulate interest in reading story and poem. (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: Children's Literature I. (3 crs.)

EDE 313. SEMINAR IN CHILDREN'S LITERATURE. The limited size of a seminar is conducive to the in-depth considerations of areas and topics in children's literature singled out as being of special interest to particular students, or a timely social adjustment. (3 crs.)

EDE 325. NEW METHODS IN SCIENCE FOR ELEMENTARY TEACHERS. This course is designed to provide the student with a background beyond that of Science in the Elementary School. New programs and methods will be investigated and evaluated. Students will be provided with field experiences relevant to new methods. (3 crs.)

EDE 327. MAKING AND USING SCIENCE MATERIALS. An opportunity for students in elementary education to engage in creative experiences in science. Provides an opportunity for the students to construct a variety of teaching devices or models. (3 crs.)

EDE 335. READING IN AN 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.

EDE 336. CHORAL READING IN THE ELEMENTARY SCHOOL. Acquaints students with methodology for conducting choral speaking in an elementary school classroom. Stress is placed upon student creativity within the framework of the mechanical technique of

traditional choral speaking. The techniques learned are the basis upon which creativity in choral speaking develops. Thus the future elementary school teacher may provide an opportunity for developing various language patterns and speech habits by means of a poetic and creative approach in a particular classroom. (2 crs.)

EDE 337. POETRY FOR THE ELEMENTARY SCHOOL CHILD. Intended to familiarize prospective teachers with methods which may be used with children engaged in the study of poetry. Emphasis is placed on poetic experience. The student gains experience in reading, writing, and discussing poetry. (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 459. 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. Besides 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 the student in their student teaching experiences. Teaching opportunities are identified and discussed on a weekly basis. Prerequisites: completion of the Professional Semester; admission to Teacher Education; approval of Teacher Education Committee. (12 crs.)

EDE 490. PROFESSIONAL PRACTICUM AND SCHOOL LAW. 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 the student in the student teaching experiences. Teaching opportunities are identified and discussed on a weekly basis. Prerequisites: Elementary Education 459 to be taken concurrently with this course (EDE 459). (2 crs.)

EDE 495. ECONOMIC EDUCATION WORKSHOP. (3 crs.)

EDE 496. SOCIAL STUDIES EDUCATION WORKSHOP. (3 crs.)

EDE 497. READING WORKSHOP. A workshop designed for the pre-service or in-service teacher who has had at least one basic course in reading methods. Course intent is improvement of classroom reading programs with emphasis on adaptation and development of instructional materials. (3 crs.)

EDE 498. INNOVATIVE TECHNIQUES AND EXPERIENCES IN THE ELEMENTARY SCHOOL. Acquaints students with modern teaching techniques and innovations in elementary education. Opportunities are provided for students to present innovative techniques to the class. (3 crs.)

EARLY CHILDHOOD EDUCATION (ECE)

ECE 201. LABORATORY EXPERIENCES IN NURSERY-KINDERGARTEN. This course provides the student with an introduction to working with preschool children through experiences in Day Care Centers, Headstart, Nursery School, and Kindergarten. Lesson preparation and activity development are stressed. Prerequisite: Sophomore standing. (3 crs.)

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 and interest in working with young children. (3 crs.)

ECE 206. MOVEMENT EDUCATION IN EARLY CHILDHOOD. The prospective teacher of children age three through eight years is provided with a working knowledge of the most modern approach to teaching gross motor activity in an instructional physical education program. An attempt is made to emphasize the importance of helping the child develop a positive concept for self and an awareness of spatial relationships. (2 crs.)

ECE 217. MUSIC FOR EARLY CHILDHOOD. Students are provided with 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 movements and creative music activities. (3 crs.)

ECE 218. HEALTH AND PHYSICAL EDUCATION IN EARLY CHILDHOOD. The health, physiology, and motor growth and development of the child from age three through eight are studied. Program planning for the health and physical education from nursery school through grades three is explored. (2 crs.)

ECE 301. READING EXPERIENCES IN EARLY CHILDHOOD. This course prepares students for instruction of pre-reading and beginning reading skills for the young child in preschool through grade 3. Content deals with concepts of readiness and the introduction of reading skills in the primary grades. (3 crs.)

ECE 315. MATHEMATICAL CONTENT IN EARLY CHILDHOOD. The student is introduced to the teaching quantitative measurement to young students with emphasis on known concrete operations. Teaching for the development of the concepts of size, shape and number is an integral part of the course. (3 crs.)

ECE 316. THE CHILD IN A SOCIAL AND PHYSICAL ENVIRONMENT. This course provides the college student with skills necessary for developing children's awareness in their social and physical world. Teaching strategies are developed and evaluated as they pertain to early childhood aged children. (3 crs.)

ECE 317. SCIENCE ACTIVITIES FOR EARLY CHILDHOOD. Physical materials are selected, made, and then used to observe and study developing science concepts in young children. (3 crs.)

ECE 318. COMMUNICATIVE ARTS IN EARLY CHILDHOOD. The beginning of early language patterns in childhood are studied as they can be fostered and furthered in a creative manner. Tools and techniques are developed for teaching the language arts to individuals and to groups of children from preschool through grade three. (3 crs.)

ECE 405. EARLY CHILDHOOD EDUCATION SEMINAR. This course emphasizes the relationship between the academic and theoretical background of the student and its practical application. Child development theories child-parent relationships and curriculum planning are stressed and related to planning creatively for classroom experience. (3 crs.)

ECE 491. FUNDAMENTALS OF DAY CARE EDUCATION. Introduces the student to fundamentals of setting up a Day Care center. This course provides the student with actual practice in designing a comprehensive plan for establishing a Day Care center. (3 crs.)

ECE 492. DAY CARE EDUCATION WORKSHOP. Explores the complex issues which have influenced the formulation and implementation of Day Care programs. Day Care is studied from historical, social, psychological, and education perspectives. (3 crs.)

ECE 493. DEVELOPMENT OF THE PRESCHOOL CHILD. Traces the development of the child from conception to five years of age. The areas of development to be explored are sensory-motor, social-emotional, language, and intellectual. Techniques for enhancing development are emphasized. (3 crs.)

ECE 495. EARLY CHILDHOOD EDUCATION WORKSHOP. This workshop emphasizes the design and construction of Early Childhood Education materials. Based on Early Childhood Education theories, material for individual differences such as those of the slow learners, gifted, and the physically handicapped are developed. In addition, material which reflect unique cultural differences are included. (3 crs.)

ECE 497. ALTERNATIVE EDUCATION WORKSHOP. This course will involve a series of field trips to a variety of preschool settings. Emphasis will be on identifying the unique characteristics of each program and how these programs meet differing needs. (1 cr.)

DEPARTMENT OF ENGLISH

ENGLISH (ENG)

LITERATURE (LIT)

See Also: COMMUNICATION in this catalog

Associate Professor Lizak, *chair.* Assistant Professor McVey, *assistant chair.* Professors Bloemker, Dillon, Goodstein, Hanchin, Nucci, Rider, Rockwood, Thomas, D. Wilson; Associate Professors Blayney, Cicconi, Ferris, Halboth, Herron, Korcheck, Lapisardi, Lawrence, Maatta, Rea, Wodock; Assistant Professors Beardsley, Bennett, Forsythe, Grimes, Knight, Murdick, G. R. Smith.

The English Department encourages and rewards academic achievement in several ways.

The Eleanore C. Hibbs Writing Award is given annually to a student in Composition I or Composition II. An applicant for the award must submit an essay that was written for that class 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 distinguishes himself 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 $300, both awarded at a luncheon usually in April.

The English Faculty Award is given annually to the student in English whose development as a student showed a remarkable change over four years. A student who began indifferently and later distinguished himself in his junior and senior years or a student who began with an ordinary selection of courses and later chose one with considerable rigor might well be a candidate for the award. A departmental committee reviews the academic record of prospective candidates to identify the one whose turn-around is most remarkable. The recipient receives a certificate of merit, a small prize, and an inscribed book, all awarded at the senior dinner in May.

Sigma Tau Delta is the National English Honor Society. Its purpose is to confer distinction upon undergraduates, graduates, scholars, and professional writers who contribute to the literature of the English language. Through chapters at more than 200 colleges and universities the Society affords select students the opportunity to study language and literature through organized discussion, the opportunity to develop in creative and critical writing, and the opportunity to meet those who have similar minds and hearts.

The California University Chapter Delta Theta was chartered February 9, 1959 and is the oldest chapter in the state system. Membership in Sigma Tau Delta is open not only to English majors but to all those who have English as an interest, those who have at least a 3.0 average in their English courses, rank in the highest 35% of their class in general scholarship, complete at

least three semesters of college, and complete at least two courses in literature in addition to freshman English.

Bachelor of Science in Education: Certification in English for Secondary Schools

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact Technology on Society (EDU 200); 15 credits of free electives including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300) - **or** Introduction to Guidance and Personnel Services (EDS 420) - **or** The Secondary School Curriculum (EDS 456); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 210); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Teaching of English in Secondary Schools (EDS 440) - **or** Modern Methods (EDS 455); Student Teaching and School Law.

(C) **Professional Specialization:**
Required: Advanced Writing (ENG 375) - **or** Teaching of Writing (EDS 436); History of English Language (ENG 346); English Grammar and Usage (ENG 345); Practical Criticism (ENG 448) - **or** History of Literary Criticism (ENG 348); Literature for Adolescents (ENG 305); Advanced Speech Course.

Restricted Electives: Two American Literature Survey courses; three English Literature courses (300 - 400 level — one of which must be before 1800 and one after); 9 credits of other major electives (one at the 300 - 400 level and two at the 400 level); Directed Projects in English.

Bachelor of Arts in English

The English program provides the basis for a liberal education and prepares majors for advanced graduate work, literary scholarship, and careers in a number of diverse fields.

The Department of English feels that a student majoring in English should have a broad acquaintance with other fields of human interest. Basic courses in philosophy, history, the social and natural sciences, fine arts, and foreign languages and literature contribute to this acquaintance. The Department recommends that its majors elect further courses in several of these fields.

The freedom of this undergraduate program allows for much personal initiative; yet the more flexibility one has in constructing a program, the more he is responsible to himself for planning an integrated and meaningful course of study. One must ask himself, "What do I want from my undergraduate education?" As in the case of choosing a school, the student should select a program that offers the greatest intellectual rewards and challenges. When the choices are difficult, a faculty advisor can help him, but for the most part the responsibility is his.

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 that of a newspaper reporter, magazine editor, writer, public information assistant,

advertising researcher, communications specialist, radio and television editor, and employment interviewer.

Requirements:

(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:** 33 semester hours in English at the 300 - 400 level, including at least one course in each of English literature before 1800, English literature after 1800, and American literature, Independent Studies in English. Related electives: 32 credits.

PROFESSIONAL WRITING PROGRAM

The Professional Writing Program is designed to prepare students to enter the professional writing field in one or more of five areas: Business and Commercial Writing, Creative Writing, Journalism, Radio-Television, and Scientific and Technical Writing. The program allows students to specialize in one of these writing areas and allows them sufficient opportunity to acquire additional skills in related subject matter. In the interest of academic balance, the curriculum is designed to make certain that students receive a broad education. Within the area of concentration requirements, provisions for internship credits, electives in a related discipline, and distributed electives allow students to plan a program suited to his particular career goals.

The program allows students who have completed work at a community college to apply basic writing credits to the program, thus permitting them to complete the program within two years. The provision for some hours of internship credits will also facilitate this transition, especially for the student who has been employed in some capacity involving writing responsibilities in addition to some prior formal study.

This Professional Writing Program sees students as individuals who must become aware of those qualities of clarity, conciseness, and style that constitute competent writing. They must also be able to master basic writing formats and the intricacies and jargon of their chosen field of concentration, be it professional writing in business, journalism, radio-television, or creative writing.

Students will get a broad liberal education and thorough professional instruction. The highest professional standards are maintained in the classroom. In addition to sound educational background, faculty members have had extensive professional experience in all areas of writing.

In each of the tracks, internship of from one to 16 credits may be taken as part of the credits in electives.

Requirements:

(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.

Emphasis on Business and Commercial Writing

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 from the following courses: 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); and the following courses in Business: Introduction to Business (BUS 100); Accounting I (BUS 111); Introductory Microeconomics (ECO 301); Introductory Macroeconomics (ECO 302);

Principles of Market Management (BUS 321); Salesmanship (BUS 221); Principles of Management (BUS 201); 11 credits of related electives.

Emphasis on Creative Writing

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 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). 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.

Emphasis on Journalism

Area of Concentration: Advanced Writing (ENG 375); Writing for Publication (ENG 496); Journalism I (ENG 307) and II (ENG 311) and III (ENG 312); Article Writing (ENG 435); Advertising (ENG 437); Studies in Writing (ENG 352); and Research for Writers (ENG 308). Twoof the following: Playwriting (THE 250); Radio and Television Writing: News and Commercial (SPE 330); Adaptation of Literary Materials (ENG 430); Publishing the Magazine (ENG 351); Copywriting (ENG 401). One of the following: Business Writing I (ENG 211); Scientific and Technical Writing (ENG 217); Creative Writing: Fiction (ENG 376) **or** Poetry (ENG 377); Great Books (ENG 203); Sixteen credits in a related discipline; 16 credits of electives from any area.

Emphasis on Radio-Television Media

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). Media Core: Introduction to Television Production (SPE 240); Radio and Television Writing: News and Commercials (SPE 330); Radio and Television Writing: Drama (SPE 335); Radio Workshop I (SPE 196) and II (SPE 296) and III (SPE 396) **or** Television Workshop I (SPE 195) and II (SPE 295) and III (SPE 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 (SPE 246); Appreciation of Television (SPE 270); Advanced Television Production (SPE 340); and Special Problems in Speech Communication (SPE 429). Three to 15 credits of literature electives from among: Great Books (ENG 203); Shakespeare I (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.

Emphasis on Scientific and Technical Writing

Area of Concentration: Advanced Writing (ENG 375); Directed Projects in English (ENG 478); Seminar in Writing (ENG 495); Scientific and Technical Writing (ENG 217); Business Writing I & II (ENG 211, 212); Article Writing (ENG 435); Advertising (ENG 437); Studies in Writing (ENG 352). Six hours of restricted electives from among: Creative Writing: Fiction (ENG 376); Creative Writing: Poetry (ENG 377); Journalism I (ENG 397); Playwriting (THE 250); Publishing the Magazine (ENG 351); and a writing elective. Sixteen hours in a related discipline in the Natural Sciences or Science & Technology programs, approved by the department of this related interest and academic advisor. Electives (with advisor's approval): 0-16 hours. Internship: 0-16 hours.

ENGLISH (ENG)

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

+ENG 099. WRITING CLINIC. A service of the English Department for anyone who needs assistance in writing, the Writing Clinic is located in Dixon 116. It is open from 9:00 a.m. to 4:00 p.m., Monday through Friday, and is staffed by English faculty and graduate assistants. Any teacher or administrator in need of editorial assistance should call 938-4436 for an appointment. Any student should simply drop in, preferably no later than 3:30 p.m. (Non-credit.)

+ENG 100. ENGLISH LANGUAGE SKILLS. This course is a basic study of spelling, vocabulary, punctuation, usage, and grammar. Once a student masters these items, they become tools to construct sentences, the keys to good writing, and compositions in miniature. Having learned how to make sentences, the student can easily learn how to develop larger units in writing. (3 crs.)

+ENG 101. ENGLISH COMPOSITION I. Composition I is a natural sequel to English Language Skills. It reviews the construction of sentences and leads the student to arrange sentences into well-formed paragraphs. In essence, its business is threefold: to review sentence structure, to oversee the use of effective diction, to instruct in how to write a paragraph. (3 crs.)

+ENG 102. ENGLISH COMPOSITION II. The sequence of Composition I, Composition II has as its principal business teaching the student to write a multi-paragraph paper. The course includes instructions in writing a topic sentence, in using transitions, and in choosing an appropriate expository methods. The major piece of writing in Composition II is a short research paper. (3 crs.)

+ENG 103. ENGLISH COMPOSITION III. The complement to Composition II, Composition III instructs the student in writing autobiographical essays, letters of application, and resumes. Further, it instructs him in the manifold procedures for writing a research paper. In sum, this course emphasizes some practical applications of writing. (3 crs.)

+ENG 106. INTRODUCTION TO POETRY. This course consists of an intensive study of selected poems. Each selection entails consideration of the personal background of the author and his literary techniques. (3 crs.)

+ENG 107. INTRODUCTION TO FICTION. An introduction to the short story, novelette, and the novel, and as a writing-about-literature course. It provides a foundation for judging and appreciating good fiction, and broadens the student's general cultural background. Emphasis is placed upon an author's methods as well as his thoughts. (3 crs.)

+ENG 108. INTRODUCTION TO DRAMA. Dramatic masterpieces written during the Greek Classical Period, the Middle Ages, the Renaissance, the Restoration and the Modern Era. Such writers as Aeschylus, Sophocles, Jonson, Moliere, Chekhov, Synge, Eliot, and others, and their most representative works will be discussed in relation to the basic and essential elements of drama (character, action, conflict, dialogue, setting, theme, etc.) and the specific characteristics (cultural, historical, philosophical, political, etc.) of the age which produced the drama. (3 crs.)

+ENG 155. BLACK LITERATURE. An introduction to the writings of Black Americans in poetry, fiction, and drama, ranging from the Harlem Renaissance of the 20's to the contemporary productions of Leroi Jones and Ishmael Reed. (3 crs.)

+ENG 191. STUDENT PUBLICATIONS WORKSHOP. The college newspaper and yearbook 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 seven selections from among the most highly regarded literature of the Western World. The range will be from the classical Greek era to the twentieth century. Two papers required. (3 crs.)

+ENG 205. WORLD LITERATURE TO 1600. Greek, Roman, Hebrew, Northern European, Early German, and Early Italian works are examined for their literary merit and national characters. Works are read in translation. (3 crs.)

+ENG 206. WORLD LITERATURE FROM 1600. The novel and short story, and their chronological development in Spain, France, Germany, Italy, and Russia. The works of such writers as Cervantes, Dostoevsky, Tolstoy, Pirandello and Kafka are examined for their literary merit and their national characteristics. (3 crs.)

ENG 211. BUSINESS WRITING I. An introduction to the analysis, writing, and oral presentation of formal and semi-formal documents considered essential to the business communities. 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. (3 crs.)

ENG 217. SCIENTIFIC AND TECHNICAL WRITING. 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 265. THE AMERICAN EXPERIENCE IN LITERATURE: 19TH CENTURY. A survey of selected works which (1) were very popular; (2) were influential in the course of American history; (3) reveal facets of American life in the 19th century. Lectures on background; discussion of works read. (3 crs.)

ENG 266. THE AMERICAN EXPERIENCE IN LITERATURE: 20TH CENTURY. A study of selected literature of 20th century America in the context of major social, historical, economic, and intellectual trends. In addition to the treatment of standard 20th 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 the 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 303. NINETEENTH-CENTURY AMERICAN LITERATURE. (3 crs.)

ENG 304. TWENTIETH-CENTURY AMERICAN LITERATURE (3 crs.)

ENG 305. LITERATURE FOR ADOLESCENTS. Acquaints prospective teachers in English with sufficient literature (poems, short stories, novels, plays) to teach both general and academic classes—grades 7 to 12. Emphasis is placed on making literature meaningful for the student. Poems, short stories, etc. which students can relate to are examined and ways for presenting these selections are studied. (3 crs.)

ENG 307. JOURNALISM I. Basic instruction and training in newspaper journalism. The student is given practical experience by writing news stories in a simulated newsroom. Writing conforms to accepted newspaper style. Instruction includes the procedure of gathering news, covering meetings and events, interviewing witnesses and personalities, and in standard method of copyreading. (3 crs.)

ENG 308. RESEARCH FOR WRITERS. For students in each of the Professional Writing tracks. Beginning with basic library techniques, the course projects beyond readily available on-campus resources to government documents, public and private archives, research libraries, and advanced techniques of interviewing, document analysis, etc. (3 crs.)

ENG 310. SURVEY OF OLD & MIDDLE ENGLISH LITERATURE. A study of English literature from the 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 Malory), and selections from Chaucer's *Canterbury Tales.* Most of the writing is read in Modern English versions. Attention is paid to historical and social backgrounds. (3 crs.)

ENG 311. JOURNALISM II. Continues the principles and methods of objective reporting established in Journalism I. Students are taught how to write new stories, editorials, reviews, features, headlines, and captions. In all, students must demonstrate their ability to edit and revise their work to accord with the recommendation of the *Associated Press Style Book.* (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 316. MYTHOLOGY I. An exploration of the origins of mythology and various myths through a study of samples from Greek, Roman, Nordic, Oriental, African, and American Indian mythologies. The roles of gods and heroes in the indicated cultures are also studied. (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 analyse 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 the nondramatic prose and poetry chosen from such writers as Wyatt, Surrey, Sackville, Skelton, Sidney, Spenser, Shakespeare, and 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 nondramatic prose and poetry of England in the seventeenth century from the works of Donne, Jonson, Herrick, Herbert, Milton, and Vaughan. Emphasis on the three schools of poetry of this century. (3 crs.)

ENG 331. RESTORATION AND EIGHTEENTH CENTURY: DRYDEN THROUGH POPE. A concentrated study of the major literary figures of the late seventeenth and early eighteenth centuries, including Dryden, Congreve, Addison, Steele, Defoe, Swift, Gay, and Pope. (3 crs.)

ENG 332. RESTORATION AND EIGHTEENTH CENTURY: RICHARDSON THROUGH BURNS. An examination of the work of Richardson, Fielding, Smollett, Sterne, Gray, Cowper, Burns, Johnson, Walpole, Goldsmith, and Sheridan. (3 crs.)

ENG 341. ROMANTIC LITERATURE. An intensive study of selected works by such Romantic poets as Blake, Wordsworth, Coleridge, Shelley, Keats and 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 Tennyson, Browning, Carlyle, Arnold, Rossetti, Hopkins, Mill, Ruskin, Newman, Huxley, and Pater. (3 crs.)

ENG 345. ENGLISH GRAMMAR AND USAGE. A practical study of traditional and modern approaches to grammar. Required of all Secondary English and Communications majors. (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. Required of all Secondary English majors. (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 on their place in literary history. (3 crs.)

ENG 351. PUBLISHING THE MAGAZINE. Students in this course publish a regional magazine, *Old Main.* They solicit contributors, finance the magazine through advertising, market it through a state wide network, establish editorial policy, and, if need be, write such materials as are necessary to produce a top quality magazine. (3 crs.)

ENG 352. STUDIES IN WRITING. Develops awareness of the modern, critical approaches to literature, e.g., the mimetic, expressive, objective, and affective. Through analysis of select critical essays and works of literature, the student will apply and evaluate critical theories, ultimately identify and even predict fashion in criticism. (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 Defoe, Richardson, Smollett, and 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 Dickens, the Brontes, Thackeray, George Eliot, Conrad, Joyce, and Woolf. (3 crs.)

ENG 357. 20TH CENTURY BRITISH LITERATURE TO WORLD WAR II. A study of fiction, drama, and poetry with emphasis on Yeats, Lawrence, Shaw, Joyce, Conrad, Woolf, Forster, and 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 Bellow,

Mailer, Vonnegut, Fowles, Lowell, Kesey, Updike, Durrell, Malamud, Roth, Plath, Gunn, Pasternak, Beckett, Genet, Ionesco, and Brecht. (3 crs.)

ENG 365. SURVEY OF AMERICAN LITERATURE TO 1865. A study of the writings of the Colonists, the Federalists, the Romantics, the Trascendentalists, and others, with emphasis on the Puritan ethic, early American social history, and the implicit conflicts in American culture. (3 crs.)

ENG 367. SURVEY OF AMERICAN LITERATURE SINCE WORLD WAR I. A study of the literature from 1914 to present, concerned with such writers as Hemingway, Frost, Faulkner, Thomas, Wolfe, Fitzgerald, Sandburg, Roth, Dickey, Stevens, Updike, Plath, and Bellow. (3 crs.)

ENG 375. ADVANCED WRITING. A presentation of the theories of expository, persuasive, and specialized report writing, and the opportunity for the student to practice these under editorial supervision. 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 so students will be able to apply those techniques that are studied 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 are studied and such elements as developing character through dialogue and action are discussed so students will be able to render their own perceptions in a dramatic form. (3 crs.)

ENG 401. COPYWRITING. Not for beginners. Students who have already taken the basic Advertising course will be 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 will write at least two usable advertisements for off-campus clients and one advertisement for a campus program or organization. (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 college credit. (All details of the course are to be worked out with the Director of Professional Writing. Credits vary according to assignment.)

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 his versatility and writing ability by tailoring his 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 method 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 478. DIRECTED PROJECTS IN ENGLISH. An opportunity to pursue a specific interest in literature or linguistics under the direction of a member of the English faculty. Students must submit a one-page summary of intent and method to the department chair in the term prior to the one in which they plan to take the course. (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 30's, Irish literature, twentieth-century 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 a 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 (LIT)

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

The courses listed under the LIT prefix are all introductions to literature, with emphasis on the subject indicated in the title. They are aimed at the general student and may not be counted as English requirements by English majors.

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. It emphasizes recent archeological and philological discoveries that shed light on this persuasive book. This course makes a concerted effort to show how deeply this oriental book affected the western mind. (3 crs.)

+LIT 118. THE AMERICAN HERO. An examination of the development of the American hero in fiction, with specific emphasis on the nature of the hero, his character, and his 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 126. SURVEY OF SLAVIC LITERATURE. An introduction to the literature of Czechoslovakia, Russia, and Yugoslavia. The course deals with some of the preoccupations of Slavic literature, with the concept of pan-Slavism, and with the causes of the "Slavic mentality." (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. A discussion, applied to a variety of literary works, of atheism, and atheistic and theistic 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. A survey of the great American pastime in fiction and news reporting. This course includes sufficient history of baseball to affirm Barzun's observation that "to know America, one must know baseball." The student learns to convert statistics and box scores to prose, to write heads and leads for articles, to interview meaningfully, and to read significantly in a specialized area. (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 toward the American earth as an organic entity of protection from exploitation. (3 crs.)

+LIT 168. SOVIET LITERATURE. An introductory survey of major Russian writers from the Russian Revolution of October 1917 to the present. Examines the changes wrought on Russian life and literature by the violent upheaval of the revolution and the establishment of the first Marxist society in history. (3 crs.)

+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 feeding a student's natural curiosity about words. (3 crs.)

ENGLISH FOR FOREIGN STUDENTS (EFS)

EFS 101. SPEAKING AND LISTENING SKILLS. For international students who have an insufficient command of spoken American English. Enables students to both comprehend and use oral language in formal and informal situations. (3 crs.)

EFS 102. READING AND VOCABULARY DEVELOPMENT. Enables international students to broaden their awareness of English vocabulary, idiom, and levels of usage correctly, both orally and in writing. (3 crs.)

EFS 103. IDIOMATIC ENGLISH. (3 crs.)

EFS 104. WRITING IN ENGLISH. (3 crs.)

DEPARTMENT OF FOREIGN LANGUAGES AND CULTURES

FRENCH (FRE)

GERMAN (GER)

GREEK (GRE)

HUNGARIAN (HUN)

ITALIAN (ITA)

POLISH (POS)

RUSSIAN (RUS)

SERBO-CROATIAN (SCR)

SLAVIC AND SOVIET STUDIES (XSS)

SPANISH (SPN)

Associate Professor Santee, *chair.* Professors Krueck, Weston; Associate Professor Parascenzo; Assistant Professor Demetrakis.

The Foreign Languages Program offers concentrations in French, German, or Spanish. A student may study one or a combination of languages. A limited number of courses are available in languages other than the three major offerings. The program stresses that the primary function of language is to communicate, first through listening and speaking, then through reading and writing. This emphasis on understanding and speaking in no way lessens the traditional value of foreign language study as a key to greater humanistic development. The program is also designed to develop an awareness and appreciation of other people and cultures. Competence in language skills is developed within the context of the arts, economics, geography, history, and the way of life of the people who speak that particular language.

Historically, the language barrier has hindered efforts to exchange ideas; it remains a major obstacle to greater international harmony. Yet, language is a key to better human understanding. In recent years, American participation in world affairs—political, economic, industrial, social, and cultural—has increased to such an extent that the need for many Americans to be able to communicate directly in other languages has become evident to the public at large. Less striking, but no less an important need for Americans, is contact with another culture through its language. Learning that there are many ways of doing things and not merely our way, is highly desirable in educating our youth for the world of today and tomorrow.

Knowledge of a foreign language can open the door to many career opportunities. Language is a basic requirement for careers here at home and for dealing with other peoples and other cultures. Learn a modern language and prepare yourself for a career in:

Airlines and Travel Industry
Bilingual Administration
Bilingual Secretarial Fields
Business
Church-Related Work
Communications
Government and Foreign Service
Graduate School Preparation
International Trade
International Banking and Financing
Interpreting
Medicine
Peace Corps
Science and Technology
Social Work
Study or Teaching Abroad
Teaching at Home
U.S. Import-Export Organizations

Bachelor of Science in Education: Certification in Foreign Language Teaching for Grades K-12 (French, German, or Spanish)

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact of Technology on Society (EDU 200); 15 credits of free electives including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300)- **or** Introduction to Guidance and Personnel Services (EDS 420)- **or** The Secondary School Curriculum (EDS 456); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 210); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Teaching Modern Languages K thru 12 (EDS 466) **or** Modern Methods (EDS 455); Student Teaching and School Law.

(C) **Professional Specialization:** Intermediate I (203) and II (204); Conversation and Composition I (311) and II (312); Culture and Civilization (295: 6 cr.); Survey of Literature I (421) and II (422); 9 credits of electives in major field.

Bachelor of Arts in French

Requirements:

(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 (FRE 203) and II (FRE 204); French Conversation, Composition, and Phonetics I (FRE 311) and II (FRE 312); Studies in French Culture (6 credits - FRE 295); Survey of French Literature I (FRE 421) and II (FRE 422); History of the English Language (ENG 346) **or** Introduction to Linguistics (ENG 347); European Life and Society to 1815 (HIS 121); European Life and Society Since 1815 (HIS 122). Six credits in another language; 3 credits in each of Philosophy, Sociology, Psychology, and Speech Communication. Seventeen credits of electives from any area, with the adviser's approval.

Bachelor of Arts in German

Requirements:

(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 German I (GER 203) and II (GER 204); German Conversation and Composition I (GER 311) and II (GER 312); Studies in German Culture (6 credits - GER 295); Survey of German Literature I (GER 421) and II (GER 422); History of the English Language (ENG 346) **or** Introduction to Linguistics (ENG 347); European Life and Society since 1815 (HIS 122); Geography of Europe (GEO 325); six credits in another language; at least three credits in each of Philosophy, Sociology, Psychology, and Speech Communication; 17 credits of electives from any area, with the adviser's approval.

Bachelor of Arts in Spanish

Requirements:

(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); two courses in Studies in Hispanic Culture (SPN 295); Survey of Spanish Literature (SPN 421); Survey of Spanish-American Literature (SPN 422); Introduction to Linguistics (ENG 347); Geography of Latin America (GEO 328); History of Latin America (HIS 145). Six credits in other languages; at least three credits in each of Philosophy, Sociology, Psychology, and Speech Communication. Seventeen credits of electives from any area, taken with the advisor's approval.

Bachelor of Arts in Interdisciplinary Studies, with a specialization in Soviet Studies

The Soviet Studies Program is interdisciplinary and is administered by the Slavic and Eastern European Studies Committee. It is of particular interest to those who plan to work in government, journalism or international trade. A large number of electives make the program relevant to both the Soviet Union and Eastern Europe.

The program offers career opportunities with the United States State Department, with various U.S. intelligence agencies, in foreign trade, whether banking or industry, in overseas journalism, as a translator or writer, and prepares one for graduate study, whether in Soviet Studies or in a number of related fields.

Requirements:

(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 Russian I (RUS 203) and II (RUS 204); Geography of the Soviet Union (GEO 330); History of Russia (HIS 245); Literature of the Soviet Union (LIT 168); Philosophy of Marxism (PHI 270); Comparative Economic Systems (ECO 351); Slavic Studies Seminar (XSS 499); 12 credits of electives; and 32 credits of related courses.

FRENCH (FRE)

Introductory level courses are indicated by a plus (+)

+FRE 101. ELEMENTARY FRENCH I. For the student without previous knowledge of French. The development of the fundamentals of correct idiomatic French. Basic sound patterns and sentence structures: hearing and speaking, then reading and writing. Classroom instruction is supplemented by laboratory study and practice. Three class hours each week and one hour language per week. (3 crs.)

+FRE 102. ELEMENTARY FRENCH II. A continuation of French 101. Three class hours each week and one 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. For students who have completed French 101 and 102 or two years of high-school French. A review of essential French grammar. Development of audio-lingual comprehension and 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. After a short review of grammar, structural patterns are further developed through reading and discussion of selected prose by modern authors. Three class hours and one hour language laboratory each week. Prerequisite: French 203 or equivalent. (3 crs.)

FRE 295. STUDIES IN FRENCH CULTURE. The course is conducted in English and may be repeated for credit provided the subjects of the courses are different. The subjects, which are generally historical, include: (1) The Middle Ages and the Renaissance; (2) The Seventeenth Century and the Classical Age; (3) The Eighteenth Century and the Enlightment; (4) The French Revolution and the Napoleonic Empire (1789-1815); (5) From Waterloo to the Franco-Prussian War; (6) From the Franco-Prussian War to the First World War; (7) The Inter-War Years; (8) From 1945 to the Present. (3 crs.)

FRE 311. FRENCH CONVERSATION, COMPOSITION, AND PHONETICS I. Cultural themes as a basis for idiomatic conversation and discussions; written compositions are assigned to teach the student how to write correct French. Three class hours and one hour language laboratory per week. Prerequisite: French 204. (3 crs.)

FRE 312. FRENCH CONVERSATION, COMPOSITION, AND PHONETICS II. Continuation of French 211 on a more advanced level as reflected in conversation. Three class hours and one hour language laboratory per week. Prerequisite: French 204. (3 crs.)

FRE 421. SURVEY OF FRENCH LITERATURE I. A general survey of French literature from the Middle Ages to 1800. Three class hours each week. Prerequisite: Twelve hours of French beyond French 102. (3 crs.)

FRE 422. SURVEY OF FRENCH LITERATURE II. A general survey of French literature of the 19th and 20th centuries; the principal novelists, poets, and dramatists of the romantic, realist and modern periods. Three class hours each week. Prerequisite: 12 hours of French beyond French 102. (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 (GER)

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

+GER 101. ELEMENTARY GERMAN I. For those 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 basic sound patterns and sentence structure. Language laboratory is used in conjunction with this and the following courses. Three class hours and one hour language laboratory per 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 understanding, speaking, reading, and writing on a more advanced level. A review of the structural principles covered in German 101 and German 102 and additional structural material, idioms, etc. More emphasis on both speaking and reading. Three class hours and one language laboratory per 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. Three class hours and one language laboratory per week. Prerequisite: German 203. (3 crs.)

GER 311. GERMAN CONVERSATION, COMPOSITION, AND PHONETICS I. Concentrates on the further development of knowledge and skill in speaking and writing, based upon a relatively small amount of reading particularly well adapted to this purpose. Three class hours and one hour language laboratory per week. Prerequisite: German 204. (3 crs.)

GER 295. STUDIES IN GERMAN CULTURE. Designed as a Humanities elective, this course requires no knowledge of German and may be repeated for credit. Topics vary, and include: (1) From Tacitus to Luther (A.D. 0 - 1550); (2) German Baroque (1550-1750); (3) The Age of Goethe: Part I: Enlightment (1749-1796); (4) The Age of Goethe: Part II: Romanticism (1796-1832); (5) Richard Wagner and His Times: The German Biedermeier (1832-1870); (6) The Wilhelminian Era (1870-1918); (7) The Weimar Republic (1919-1933); (8) German Culture Under the National Socialists (1933-1945); (9) German Culture in Exile (1933-1949 and after); (10) Postwar Germany to the Present: BRD and DDR (1945 - present); (11) Austria from the Babenbergs to the Congress of Vienna (800-1815); (12) Austria from the Congress of Vienna to the Treaty of Versailles (1815-1918); (13) Austria: First Republic—*Heim ins Reich*—Second Republic (1918-present); (14) Switzerland. (3 crs.)

GER 312. GERMAN CONVERSATION, COMPOSITION, AND PHONETICS II. Continuation of German 211, conducted on a more advanced level. Three class hours and one hour language laboratory per week. Prerequisite: German 211 or the completion of German 204 with the grade A or B. (3 crs.)

GER 421. SURVEY OF GERMAN LITERATURE I. Background for study of the history of German literature, presenting a foundation in literary definition (style, form, period) with examination of appropriate examples from the works of leading German-speaking authors. Three class hours each week. Prerequisite: 12 hours of German beyond German 102. (3 crs.)

GER 422. SURVEY OF GERMAN LITERATURE II. Continuation of German 321. Three class hours each week. Prerequisite: 12 hours of German beyond German 102. (3 crs.)

GER 469. STUDIES IN GERMAN LITERATURE. Designed to meet special problems or needs. Prerequisite: 18 hours of German. (Variable)

GREEK (GRE)

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

+GRE 101. ELEMENTARY GREEK I. Introduces the student to basic Greek grammar and vocabulary, with the aim of developing reading skills in ancient Greek as rapidly as possible. Selections from such authors as Plato, Euripides, and Lysias. In explaining the structure of the Greek language, the instructor will make use of comparative linguistics. (3 crs.)

+GRE 102. ELEMENTARY GREEK II. A continuation of Greek 101. Prerequisite: Greek 101. (3 crs.)

GRE 203. INTERMEDIATE GREEK I. A continuation of the study of grammar; selections from Plato's Dialogues and the *Apology* will be read; composition from Greek into English and English into Greek with translations from Plato. (3 crs.)

GRE 204. INTERMEDIATE GREEK II. A continuation of the study of grammar; selections from Homer's *Iliad;* translations from the Greek into English and English into Greek. (3 crs.)

HUNGARIAN (HUN)

HUN 469. SELF-INSTRUCTIONAL HUNGARIAN. Students teach themselves, chiefly with tapes. Student must provide their own cassette or tape player and blank tapes. A weekly meeting with a native speaker is held, and grading is based on an examination at the end of the semester. (3 crs.)

ITALIAN (ITA)

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

+ITA 101. ELEMENTARY ITALIAN I. For the student without previous knowledge of Italian. Develops the fundamentals of correct idiomatic Italian through basic sound patterns and sentence structure. Three class hours and one hour language laboratory per week. (3 crs.)

+ITA 102. ELEMENTARY ITALIAN II. Continuation of Italian 101. More reading, and more advanced speaking. Three class hours and one hour language laboratory per week. Prerequisite: Italian 101 or one year of high-school Italian. (3 crs.)

ITA 295. STUDIES IN ITALIAN CULTURE. A Liberal Arts elective; no knowledge of Italian required. The topics change from semester to semester. The subjects may be significant personalities or movements in literature, painting, sculpture, architecture, music, philosophy or science. As long as the topic remains different, the course may be taken for credit more than once. Three class hours per week. No prerequisites. (3 crs.)

POLISH (POL)

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

+POL 101. POLISH I. Classroom use of audio-lingual methods. Students must provide cassette or tape players and blank tapes. Students with a grade of B or better may continue their study through Polish 469. (3 crs.)

RUSSIAN (RUS)

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

+RUS 101. ELEMENTARY RUSSIAN I. For students without previous knowledge of Russian. The fundamentals of correct idiomatic Russian. The student is made aware of basic sound patterns and sentence structures, with emphasis on reading. (3 crs.)

+RUS 102. ELEMENTARY RUSSIAN II. A continuation of Russian 101. Prerequisite: Russian 101 or one year of high-school Russian. (3 crs.)

+RUS 203. INTERMEDIATE RUSSIAN I. Continued study of Russian with emphasis on reading historical material. Prerequisite: Russian 101 or 102. Three class hours each week and one hour language laboratory per week. (3 crs.)

RUS 204. INTERMEDIATE RUSSIAN II. To develop a reasonable control of spoken Russian through dialogue and oral practice. Prerequisite: Russian 203. (3 crs.)

+RUS 295. STUDIES IN RUSSIAN CULTURE. A course which covers three periods, the Golden Age of Russian Culture, (1800-1880), the Silver Age (1881-1917), and the Soviet Period (1917 to present). Slides, films, and records are used to cover art, music, and certain aspects of history, literature, and intellectual life. Lecture and discussion is the chief method for dealing with history, literature and intellectual life. All readings are primary sources—chiefly literature. (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)

SERBO-CROATIAN (SCR)

SCR 469. STUDIES IN SERBO-CROATIAN LITERATURE. Independent readings in Serbo-Croatian literature. The instructor and the student arrange a program of study according to the student's needs and desires. (Variable)

SLAVIC STUDIES (XSS)

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

XSS 100. AMERICA'S SLAVIC HERITAGE. The lives and cultures of the people of Czechoslovakia, Bulgaria, Hungary, Poland, Russia, the Ukraine, and Yugoslavia in their homelands and in this country. Consideration of the major factors that shaped Eastern Europe politically and culturally, with emphasis on the great writers, artists, composers and on folk culture as well. The causes of immigration to this country and the various adaptations of Old World Culture in the New World. Films, slides, music, and locally gathered oral history interviews are used extensively. (3 crs.)

XSS 499. SOVIET STUDIES SEMINAR. This seminar surveys and brings together the separate courses studied in the Soviet Studies Program and addresses current issues in the Soviet Union and Soviet Studies. (3 crs.)

SPANISH (SPN)

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

+SPN 101. ELEMENTARY SPANISH I. For the student without previous knowledge of Spanish who wishes to achieve a sound basis for an active command of the language. The development of the fundamental speech skills, 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 structures 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 through dialogue and oral, reading, and writing practice from reading of modern authors. Three class hours and one hour language laboratory per week. Prerequisites: Spanish 203. (3 crs.)

SPN 295. STUDIES IN HISPANIC CULTURE. The course is conducted in English and may be repeated for credit, provided the subjects of the courses are different. The subjects include: (1) The Hispanic Mentality; (2) The Individual and Society; (3) The Social Structure; (Spanish Art, Architecture, Music, Drama, Literature, and Folk Art; (5) Spanish Festivals, Sports, and the Art of Bullfighting; (6) Spain under General Francisco Franco (1936-1976); (7) The Traditional Spain (1492-1936) and the Changing Spain (1976-); (8) The Ancient Civilizations of Spanish America and Their Influence on Modern Latin America; (9) Spanish America Since Independence (1820 to the present); (10) Mexico, Our Neighbor in the South. (3 crs.)

SPN 311. SPANISH CONVERSATION, COMPOSITION, AND PHONETICS I. Intensive practice based on modern prose to provide models of natural, spontaneous speech which includes cultural themes and colloquialisms and up-to-date dialogues on which to base class discussions. Written compositions using orthographic rules and an introduction to written Spanish. Three class hours and one hour language laboratory per week. Prerequisite: Spanish 204. (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 that confront the student with new ways of writing and thinking that prepare him for the Spanish culture and civilization courses. Three class hours and one hour language laboratory per week. Prerequisite: Spanish 204. (3 crs.)

SPN 400. ADVANCED SPANISH GRAMMAR. An intensive grammar review and a detailed study of the Spanish language and shades of difference in the meanings of words and sentences as used in oral and written expressions. Prerequisite: Spanish 204. (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: the Pastoral, Chivalric, and Picaresque novels. Prerequisite: Spanish 321 or Spanish 322. (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), byric verse, the short story, and selections from novels and dramas. Prerequisite: Twelve hours of Spanish beyond Spanish 102. (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. Prerequisite: Twelve hours of Spanish beyond Spanish 102. (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, how it changed under political and cultural influences with attention to comparison and contrast with changes in the other Romance languages. Prerequisite: Twelve hours of Spanish beyond Spanish 102. (3 crs.)

SPN 469. STUDIES IN SPANISH LITERATURE. For the benefit of teachers in service or to meet special problems or deficiencies. Prerequisite: Eighteen hours of Spanish. (Variable)

GENERAL SCIENCE CERTIFICATION

The College of Education offers an endorsement program for a student who has already received certification but seeks also to be qualified as a teacher of General Science in a Secondary school. In order to fulfill the requirements of this program the student must complete twenty-seven semester hours. The courses required are: 8 credits of Biology; General Chemistry I (CHE 101) and II (CHE 102); College Physics I (PHY 101) and II (PHY 102); and 3 credits of Earth Science Electives.

GERONTOLOGY

GERONTOLOGY (XGE)

Associate Professor Hornung, *director.* Instructor, M. Hart. The following faculty members of other departments teach major electives in this interdisciplinary program: Barber, Coode, Knill, Maatta, Maruskin, Orlandi, T. Scott, Uher.

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.

Bachelor of Arts in Gerontology

This program is dedicated to providing the student with a broad range of academic and practicum experience 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 University Model Senior Center, located only a block from campus, allows students a chance to receive actual experience under the supervision of a trained gerontologist.

Students are involved in the various recreation, education, nutrition, information and referral and transportation components of the multi-purpose Senior Center. Specifically, students may deliver Meals-on-Wheels, visit a homebound older person weekly, escort older people to evening campus activities, plan form educational classes like Personal Health, Loom Weaving, or Local Flora, edit a bimonthly newsletter, or develop an outreach prgram. Since the Senior Center is within a block of campus, it offers accessible, invaluable, and practical experience in a real-life setting.

Requirements:

(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 Gerontology (XGE 101); Aging in American Society (XGE 102); Aging Policies and Services (XGE 201); Health and Physiology of Aging (XGE 305); Seminar (XGE 439); plus 21 credits in major electives selected from the following: Middle Years of Life (XGE 202); Media Library Resources Aging (XGE 205); Selected Topics (XGE 349); Historical Perspectives on Aging (HIS 204); Literature and Aging (ENG 215); Demographic Analysis (GEO 217); Sociology of Aging (SOC 225); Fundamentals of Death and Dying (EDF 318); Planning and Public Management (XUA 215); Recreation and Socialization for Elderly (XUA 221); Program Planning (XUA 326); Music in Human Services I (MUS 111) and II (MUS 112); Delivery of Services (SOW 365); Emergency Medical Technician (HPE 405); Principles of Management (BUS 201). The major electives are divided into four categories: (a) Aging Awareness; (b) Human Services; (c) Counseling; (d) Administration. Students must, in consultation with the gerontology advisor, achieve some strength in at least one of these areas. Required field experience XGE 449. 16 - 32 credits of related electives selected in consultation with the gerontology advisor.

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, Urban Parks and Recreation) 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 in gerontology. The Aging Specialist Certificate is 18 hours of course work in gerontology including a three-hour practicum experience. Students with significant practical experience in the field of aging will be permitted to use that experience toward the three hours of required practicum. Such students will register for the practicum experience and write a paper detailing and analyzing their work experience.

Requirements:

Six credits in Gerontology: Introduction to Gerontology (XGE 101); Aging in American Society (XGE 201) plus nine credits minimum of selected Gerontology courses chosen consultation with the advisor of the gerontology program. Required three credit practicum course (XGE 449).

GERONTOLOGY (XGE)

XGE 101. INTRODUCTION TO GERONTOLOGY. An introduction to the field of aging for majors and nonmajors. A general overview of the psychosocial, biological, cultural, and behavioral aspects of late life. (3 crs.)

XGE 102. AGING IN AMERICAN SOCIETY. Introduction to Gerontology II. Examination of psychosocial aspects of work, retirement, leisure, institutionalization and death as experienced in contemporary America. Examination of roles and adjustments in late life. Prerequisite: XGE 101. (3 crs.)

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 is the Older Americans Act and amendments. Prerequisite: XGE 101, 205. (3 crs.)

XGE 202. MIDDLE YEARS OF LIFE. Multidisciplinary life cycle approach to middlescence. Relationship of middle-aged to family, work, and community examined. Adult developmental tasks and stages emphasized. (3 crs.)

XGE 205. MEDIA AND LIBRARY RESOURCES IN AGING. Introduction to print and nonprint aging materials. Students learn how to locate and use different types of materials. Prerequisite: XGE 101. (3 crs.)

XGE 305. HEALTH AND PHYSIOLOGICAL 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.)

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 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, 305. (3 crs.)

XGE 449. GERONTOLOGY PRACTICUM. Opportunity to apply theoretical knowledge to practice through placement in agency or institution serving older people. Practicum sites include: senior centers, housing developments, nursing homes, area agencies on aging, recreational programs or social welfare agencies. Prerequisite: Permission of instructor and extensive course work. (Variable credit.)

The following courses are taught in other departments of the University than Gerontology but nevertheless are an integral part of this multidisciplinary program.

BUS 201. PRINCIPLES OF MANAGEMENT. Survey of management theories from the classical behavioral and management perspective. Emphasis placed on human, economic, and technological factors affecting management. Prerequisite: PSY 100 or permission of instructor. (3 crs.)

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.)

GEO 217. DEMOGRAPHIC ANALYSIS. Demographic processes and the determinants and consequences of population trends. Emphasis placed on distribution patterns and environmental ramifications. (3 crs.)

HIS 205. HISTORICAL PERSPECTIVES ON AGING. A chronological survey of aging in historical perspective emphasizing the changing social, cultural and economic conditions which have affect on the aging population. (3 crs.)

HPE 405. EMT — EMERGENCY MEDICAL TECHNICIAN. Prepares students to become certified as Emergency Medical Technicians. The course includes extensive classroom and practical laboratory experiences along with ten hours of in-hospital observation. (3 crs.)

MUS 111. MUSIC IN HUMAN SERVICES I. This course will emphasize creative, recreational, musical activities for clients from various agencies, organizations, or institutions. Also covered will be basics of music, theory, appreciation, accompaniment, choral techniques, and repetoire.

MUS 112. MUSIC IN HUMAN SERVICES II. Emphasis on advanced creative, recreational, musical activities for clients from various agencies, organizations, or institutions. Topics include advanced rhythmic and recreational musical activities.

SOC 225. SOCIOLOGY OF AGING. An examination of aging in its social and societal context. Emphasis is placed on work, retirement, leisure, and institutionalization. (3 crs.)

SOW 365. DELIVERY OF SERVICES. The primary goal of the course is to help the student become sensitive and emphathetic towards people seeking social services. Students are required to become involved in a consumer concern. (3 crs.)

XUA 215. PLANNING AND PUBLIC MANAGEMENT. A survey of the policy system in urban affairs including A) the contexts of the institutions in which social policy decisions regarding urban problems are made, and B) factors influencing these decisions. (4 crs.)

XUA 221. RECREATION AND SOCIALIZATION OF THE ELDERLY. Prepares students to provide meaningful leisure time activities for older adults. Laboratory and field experiences are required. (4 crs.)

XUA 326. PROGRAM PLANNING. Introduction to programming principles including goals, objectives, program planning and evaluation, and organizational structures. (3 crs.)

DEPARTMENT OF HEALTH, PHYSICAL EDUCATION AND SAFETY

HEALTH AND PHYSICAL EDUCATION (HPE)

DRIVER EDUCATION (HSD)

ATHLETIC COACHING ENDORSEMENT (CPE)

ATHLETIC TRAINING PROGRAM (TPE)

Associate Professor Witchey, *chair.* Professor Wilseck; Associate Professors Donna Johnson, Katusa, T. Scott, Tselepis, Uher, Vulcano; Assistant Professors Knill, M. Martin, McConnell, McMahon, Shuler; Instructor Ervin.

Bachelor of Science in Education: Athletic Training Education

The Athletic Training program provides interested students with the opportunity to develop the leadership and special skills necessary for a career as a certified athletic trainer. The basic concept of athletic training involves the prevention, care, and rehabilitation of athletic injuries. The program leads to a Bachelor of Science degree. The Athletic Training education program is an NATA (National Athletic Trainers Association) approved curriculum and is supported by the Department of Health and Physical Education;

training rooms are located in Hamer Hall and Adamson Stadium. The California University of Pennsylvania intercollegiate athletic program is composed of 14 varsity sports which enable student trainers to gain valuable experience as a student trainer.

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 bachelor's degree. Job opportunities for certified athletic trainers have increased substantially and the employment potential for trainers should continue to increase. The ultimate goal to this program is to prepare graduates for certification by the National Athletic Trainers Association and for careers in athletic training. Many high schools now employ certified athletic trainers who are also faculty members. Many more high schools will hire trainers to help provide better health care for their interscholastic athletic programs. In addition, four year colleges and universities, junior and community colleges as well as women's intercollegiate programs provide significant possibilities for employment. Positions with professional teams exist; however, they are fewer in number than those associated with school athletic programs. Sports medicine clinics also provide some measure of employment for athletic trainers.

A limited number of students are selected for admission into the Athletic Training Program. Applications for the athletic training curriculum are taken during the second semester of the freshman year; a screening committee will, at that time, select those individuals who will pursue degrees in Athletic Training. Criteria for selection are available from the Director of the Athletic Training Program or the school of Education.

Requirements:

(A) **General Education:** Humanities, including Oral Communication (SPE 100): 9 credits; Natural Sciences: 9 credits; Social Sciences: 9 credits; Physical Activities: 2 credits; Introduction to Educational Media (EDF 304), 20 credits of free electives, including Composition I-II (ENG 101-102).

(B) **Area of Concentration:** Human Anatomy of the Extremities I-II (TPE 23, 260); Co-Educational Health (HPE 100); Psychology: 2 courses; Kinesiology (CPE 305); Physiology of Exercise (CPE 315); Athletic Training I (TPE 310); Principles of Biology (BIO 115); Physical Education for the Exceptional Child (HPE 338); Human Physiology (BIO 328); Nutrition for Sports (TPE 320); Emergency Medical Technician (HPE 405); Modality Principles and Techniques (TPE 410); Therapeutic Exercise (TPE 460); Athletic Training II (TPE 320); Practicum in Athletic Training I, II, III, IV (TPE 220, 250, 400, 450). Clinical experience: a minimum of 800 hours.

Bachelor of Science degree in Education: Dual Major, with Athletic Training

The dual major in Athletic Training and Education enables interested students to pursue the education and training necessary for a dual career as seffective teachers and athletic trainers. The requirements listed below are for the Athletic Training component alone. Students interested in this program should consult the Dean of the College of Education for other requirements.

Requirements:

Human Anatomy of the Extremities (TPE 230, 260); Co-Educational Health (HPE 100); Psychology: 2 courses; Kinesiology (CPE 305); Physiology of Exercise (CPE 315); Athletic Training I (TPE 310); Principles of Biology; Physical Education for the Exceptional Child

(HPE 338); Human Physiology (BIO 328); Nutrition for Sports (TPE 320); Emergency Medical Technician; Modality Principles and Techniques (TPE 410); Therapeutic Exercise (TPE 460); Athletic Training II (TPE 320); Practicum in Athletic Training I, II, III, IV (TPE 220, 250), 400, 450). Clinical experience: a minimum of 800 hours.

Athletic Coaching Program

The Department offers an Athletic Coaching Program. In order to complete the program, the student must obtain a minimum of 18 credits. Twelve of these hours are required as a basic core of the curriculum. The remaining six are to be selected from the elective Theory and Technique courses of specific sports.

Driver Education Endorsement Program

The Department offers an endorsement 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 twelve semester hours. Six of the twelve hours are required in the program (HSD 300 Introduction to Safety and HSD 305, Driver Education and Traffic Safety).

The same twelve hours required in the Driver Education Endorsement Program can be used a "free electives" in the thirty-hour free elective block. For further information concerning the program, contact the Chairperson of the Health, Physical Education and Safety Department in Hamer Hall.

ATHLETIC COACHING (CPE)

CPE 205. FOUNDATIONS OF ATHLETICS. The application of data and principles from psychological and sociological fields is covered as they apply to athletics, coaches and sports activities. Organization and planning procedures of sports are also covered as well as other areas to aid the prospective coach to be more cognizant of player, school and community relationships. (2 crs.)

CPE 305. KINESIOLOGY. This course emphasizes the biomechanics of motor performance; a study of the myological and mechanical aspects in order to prepare the prospective coach with the ability to identify and analyze movements in order to better teach, correct, or improve these athletic skill movements. (3 crs.)

CPE 315. EXERCISE PHYSIOLOGY. The course is designed to teach the prospective coach the significance of human body functions in regard to motor activity. Covered are the scientific theories and principles underlying strength, muscular endurance, cardiovascular endurance, flexibility, training and conditioning in sports. (3 crs.)

CPE 325. MEDICAL ASPECTS OF COACHING. This course deals with the basic concepts and techniques in the prevention, treatment and rehabilitation of athletic injuries and related athletic infirmities. Laboratory experiences provided to facilitate instruction. (2 crs.)

CPE 306. THEORY AND TECHNIQUE OF BASEBALL COACHING.
CPE 307. THEORY AND TECHNIQUE OF TRACK & FIELD, CROSS COUNTRY COACHING.
CPE 316. THEORY AND TECHNIQUE OF BASKETBALL COACHING.
CPE 326. THEORY AND TECHNIQUE OF FOOTBALL COACHING.
CPE 336. THEORY AND TECHNIQUE OF GOLF COACHING.
CPE 366. THEORY AND TECHNIQUE OF TENNIS COACHING.
CPE 386. THEORY AND TECHNIQUE OF WRESTLING COACHING.

Each of these courses is specific to the particular sport. Courses are designed to acquaint the prospective coach with the theories, knowledges, coaching aids, and general

mechanics of the coaching and instructing of competitive teams and individuals. Laboratory experiences emphasizing coaching techniques and use of coaching aids provided. (2 crs.)

ATHLETIC TRAINING (TPE)

TPE 220. PRACTICUM ATHLETIC TRAINING I. This course deals with basic mechanical techniques of athletic training, such as taping, transportation, C.P.R. etc. 1 hour lecture. Offered fall semester. (1 cr.)

TPE 230. HUMAN ANATOMY OF THE EXTREMITIES I. This course entails the study of the structures and functions of the human body. It will deal with the development of the cell, tissues, integumentary system, ligaments and articulations, and the skeletal system. 3 hours lecture. Offered fall semester. (3 crs.)

TPE 250. PRACTICUM ATHLETIC TRAINING II. This course is a continuation of Practicum Athletic Training I and deals with taping, evaluation, etc. Prerequisites: TPE 220. 1 hour lecture. Offered spring semester. (1 cr.)

TPE 260. HUMAN ANATOMY OF THE EXTREMITIES II. This course entails the study of the structures and functions of the human body. It will deal with the development and function of the muscular system, nervous system, circulatory system, lymphatic system, digestive, urinary, and respiratory systems. Prerequisites: TPE 230. 3 hour lecture. Offered spring semester. (3 crs.)

TPE 310. ATHLETIC TRAINING I. This course entails the study of basic care and prevention of athletic injuries. The student will be able to demonstrate and understand how to develop conditioning programs, basic evaluation of injuries, transportation, and related topics pertaining to sports medicine. Prerequisites: TPE 220, 250. 3 hour lecture. Offered fall semester. (3 crs.)

TPE 320. NUTRITION FOR SPORTS. This course entails the study of basic concepts of nutrition that further allow the students to apply it within a lifetime. It includes some principles of chemistry and molecular biology that build a firm foundation from which the ever changing science of nutrition may grow. The course is designed to develop the student's awareness so that sound decisions may be made concerning all aspects of nutrition. Prerequisites: TPE 220, 230, 250, 260, 310, HPE 100, BSC 100. 3 hour lecture. Offered fall semester. (3 crs.)

TPE 330. ADMINISTRATIVE ASPECTS OF ATHLETIC TRAINING. This course deals with the study of the administrative functions, litigation, staff relationships, ethics, budget and supplies, inventory, facility design, maintenance, safety assessment, and student trainer organization. Prerequisites: TPE 220, 250, 310. Open to approved curriculum students only. 1 hour lecture. Offered spring semester. (1 cr.)

TPE 400. PRACTICUM ATHLETIC TRAINING III. This course consists of laboratory and demonstration exercises in a clinical setting that provides a review of the preventive and treatment techniques learned in Practicum I. Students enrolled will be involved in practical demonstrations to lower level students and will participate under the direct supervision of the instructors. Prerequisites: TPE 220, 230, 250, 260, 310. Open to approved curriculum students only. 1 hour lecture. Offered fall semester. (1 cr.)

TPE 410. MODALITY PRINCIPLES AND TECHNIQUES. This course consists of lectures and laboratory exercises that explain the use and theory of physical therapy modalities which are used in the sports medicine clinical setting. Prerequisites: Must be a junior or better and open to approved curriculum students only. 3 hours lecture and 1 hour lab. Offered fall semester. (4 crs.)

TPE 420. MODALITY LAB. This course must be taken in conjunction with TPE 410. 0 credits.

TPE 450. PRACTICUM ATHLETIC TRAINING IV. This course consists of laboratory demonstration exercises in a clinical setting that provide a review of the prevention, evaluation, treatment, and rehabilitation techniques learned in Practicum II. Students enrolled will be involved in practical demonstrations to lower level students and will participate under the direct supervision of the instructors. Prerequisites: TPE 220, 230, 250, 260, 310, 400. Open to approved curriculum students only. 1 hour lecture. Offered spring semester. (1 cr.)

TPE 460. THERAPUTIC EXERCISE. This course consists of lectures and laboratory exercises that explain the use and theory of theraputic exercise and equipment which is used for rehabilitation in the sports medicine setting. Prerequisites: Must be a junior or better and open to approved curriculum students only. 3 hour lecture and 1 hour lab. Offered spring semester. (4 crs.)

TPE 470. THERAPUTIC EXERCISE LAB. This course must be taken in conjunction with TPE 470. (0 cr.)

TPE 480. ATHLETIC TRAINING II. This course entails the study of the spine and its extremities and will deal with the evaluation techniques that are used to determine the degree of injury found in the clinical setting. Prerequisites: Must be a junior or better and open to approved curriculum students only. 3 hours lecture. Offered spring semester. (3 crs.)

TPE 490. SPECIAL TOPICS IN SPORTS MEDICINE. This course deals with research and/or practical experimentation in the field of sports medicine and athletic training. Prerequisites: Open

DRIVER EDUCATION (HSD)

*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.)

*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.)

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. The advantages and disadvantages of a correlated, intergraded or separate subject approach are analyzed. (3 crs.)

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.)

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 300. (3 crs.)

HSD 406. VISUAL AND OTHER AIDS IN SAFETY. The course places emphasis on visual, psychomotor and other sensory aids that can be employed for testing and teaching in various areas of safety. (3 crs.)

HSD 408. PROBLEMS IN DRIVER AND TRAFFIC SAFETY. Current problems in many areas of driver and traffic safety. Federal Highway Safety Program Standards are analyzed. (3 crs.)

**Required Courses for Driver Education Endorsement Program.*

HEALTH AND PHYSICAL EDUCATION (HPE)

HPE 100. HEALTH. Provides the student with a critical analysis of many health problems facing many today. Topics studied include communicable diseases, chronic diseases, alcohol and drugs, mental and emotional health, sex and reproduction, nutrition, fatigue, exercise, and consumer education with a focus on health products and services. (2 crs.)

HPE 211. SWIMMING AND BOWLING. Instruction and practice in the fundamentals of swimming and bowling. Emphasis is placed on the practical application of the two activities. (1 cr.)

HPE 216. ARCHERY AND BEGINNING GOLF. Instruction and practice in the fundamentals of golf and archery. The curriculum includes analysis, practice and application of a variety of golf strokes, of game rules, and of etiquette. Archery activities include target archery, different types of competition and bare bow hunting. (1 cr.)

HPE 240. APPARATUS AND GYMNASTICS. A course in which emphasis is placed on the development of fundamental skills in tumbling, balance beam, rings, trampoline, horizontal bar, and uneven bars. The importance of spotting techniques is stressed along with the learning of skills. No prerequisite. 2 hours combined lecture-lab. Offered fall and spring. (1 cr.)

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. (1 cr.)

HPE 242. INTERMEDIATE SWIMMING. Advanced beginner and sub-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.)

HPE 246. INTERMEDIATE ARCHERY AND GOLF. An opportunity is provided for the student to advance beyond the beginner level and acquire a greater degree of skill through advanced analysis of techniques and strategy. (1 cr.)

HPE 247. FOLK DANCE. A progressive course in international folk dance with emphasis on circle and lines. (1 cr.)

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-lab. Offered fall and spring. (1 cr.)

HPE 256. CONDITIONING AND MOVEMENT EDUCATION. Encourages an appreciating of the ability and capacity to control and direct the movements of the body with skill and intelligence. (1 cr.)

HPE 257. BOWLING AND POCKET BILLIARDS. Fundamental skills of bowling and game practice. The basic skills of pocket billiards and various cue games are also included. (1 cr.)

HPE 265. BADMINTON AND GOLF. Basic instruction in the rules, strategy and courtesies of both golf and badminton. (1 cr.)

HPE 266. TENNIS AND VOLLEYBALL. Fundamentals and game techniques of tennis and volleyball. Proper drills and conditioning exercises are also a part of the course. (1 cr.)

HPE 267. ARCHERY, BILLIARDS, TABLE TENNIS. Instruction in the fundamental skills of the three activities. (1 cr.)

HPE 275. VOLLEYBALL AND BASKETBALL. Instruction and practice in fundamental techniques and team play, analysis of systems of team play; study of methods, rules, and game strategy. Practical experience in officiating also provided. (1 cr.)

HPE 278. FENCING. The art of fencing is presented in a practical laboratory experience combined with lecture. The course provides instruction in basic fencing techniques including footwork, attacks, parries, rules, and directing. No prerequisite. 2 hours lecture-lab. Offered fall and spring. (1 cr.)

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 also provides a student with the methods and techniques of water safety instruction. Prerequisite: Current Advanced Life Saving Certificate. Offered spring semester. (3 crs.)

HPE 313. ADVANCED LIFESAVING. Conducted under the auspices of the American Red Cross, the course gives consideration to swimming and life saving techniques necessary to meet the requirements of water safety. American Red Cross Certification issued. Prerequisite: Water Test. (2 crs.)

HPE 314. FIRST AID AND PERSONAL SAFETY. Provides an understanding of the cause-effect, prevention and treatment of emergency situations. Special attention is given to transporting a victim, respiratory problems, severe bleeding, poisoning, burns and cardiac arrest. No prerequisite. Offered fall and spring semesters. (3 crs.)

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.)

HPE 332. 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.)

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 345. SKIN AND SCUBA. Underwater physics, medical emergencies, skin diving, and scuba diving. The student will be certified as a basic scuba diver by the Professional Association of Divers Incorporated (PADI). There is a $50.00 fee for the PADI Certification. (2 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. (1 cr.)

HPE 400. ADVANCED FIRST AID. Advanced emergency first aid techniques such as delivering babies, extricating victims from automobiles, performing C.P.R. in transport, using Hare Traction sling for open fractures, and understanding basic ambulance equipment. Offered fall term. (3 crs.)

HPE 405. 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 18. Offered fall and spring semesters. (4 crs.)

DEPARTMENT OF HISTORY AND URBAN AFFAIRS

HISTORY (HIS)

URBAN AFFAIRS (XUA)

URBAN RECREATION AND PARK ADMINISTRATION

Professor F. Edwards, *chair*. Professors J. Bauman, Coode, Folmar, Siegel; Associate Professors Buchovecky, McGrew

The Department of History and Urban Affairs offers three degree programs: History; Urban Affairs; and Urban Recreation and Parks Administration. Each major shares a General Studies curriculum affording students an opportunity to strengthen their own program from a wide range of courses in the Arts and Sciences, while training in their chosen field of concentration.

The department recognizes and encourages achievement by the following honor societies, scholarships, and awards:

Phi Alpha Theta is an international honor society established to promote the study of history and an exchange of learning among students, teachers and writers of history. Membership is composed of students and professors selected on the basis of academic achievement. The society's activities include a local chapter sponsored by the department, regional and national

meetings, awards and scholarships for its student members and a placement bureau for the benefit of its members.

The *Rho Phi Alpha* honorary professional fraternity consists of Urban Recreation and Parks Administration majors who have demonstrated superior academic achievement. A campus chapter sponsored by the Urban Affairs and Urban Recreation and Parks Administration Programs encourages activities enhancing professional growth in their respective areas.

The Edward McNall Burns Scholarship sponsored jointly by the Departments of History and Social Science awards annually a stipend of five hundred dollars to students who have demonstrated outstanding scholarly achievement in the fields of history and related social sciences.

The History Faculty Award for Academic Excellence: Formal recognition by the History Faculty of outstanding achievement in the field of history by a major within the department.

The George S. Hart Award for Academic Excellence. Established in honor of a distinguished professor emeritus and chairman of the Department of History, this award is made annually to a student in the social sciences including history.

Bachelor of Arts in History

This program is designed to prepare its graduates for a broad range of opportunities in government service, education, journalism as well as specialized applications in the business field where research and communication skills are utilized. Career counseling, personalized instruction and a curriculum organized to relate to a variety of college programs provide a strong basis for the pursuit of post-graduate studies in such areas as law and the social and behavioral sciences including history. Two distinctive choices are available for History majors wishing to broaden their vocational potential:

1. A student wishing to pursue a career in Education specializing in the Social Sciences may elect a core of History courses leading to a Bachelor of Science in Education (B.S. in Ed.)
2. Alternatively, a dual major may be pursued, making it possible for students to receive a Bachelor of Arts Degree (B.A.) in History and another discipline within the Science and Technology or Liberal Arts Colleges, correlative with their career goals.

Requirements:

(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:**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); History Seminar (HIS 495); Elements of Economics (ECO 100); Introduction to Anthropology (ANT 100); Introduction to Political Science (POS 100); American Government (POS 105). 21 credits of electives in the major field; 20 credits of related electives.

Bachelor of Arts in Urban Affairs

The Bachelor of Arts Degree in Urban Affairs is designed to provide the student with skills for functioning effectively in urban based professional positions within the areas of general public administration, planning and redevelopment, housing management and transportation. The curriculum is tailored to meet the needs of the working student or the adult in mid-career where there may be conflicts between course work.

An alternative course of study, Urban Planning, Management and Policy Analysis offers a program which is both broadly based and specialized, emphasizing land use analysis, labor relations, urban demography and regional economics. Although the curriculum core is similar to that of the general Urban Affairs Major, students intending to enter this field should consult the program director.

The student entering the program with an Associate Degree or its equivalent often can use most or all of those credits to complete the Urban Affairs Degree in five consecutive semesters. During the junior or senior year the major takes a variable credit internship (6 - 14 credits) with a city planning commission, housing authority or other local or federal agency, intended to provide a working professional knowledge of the field and to test and refine career aspirations including pursuit of an advance degree in Urban and Regional Planning, City Management or law.

Besides preparing the student for graduate work in Urban Affairs and related fields, the graduate of this program has career opportunities in such areas as urban planning, urban transportation, city management, law, suburban management, public service, and with state and federal agencies.

Requirements:

(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:**Survey of Urban Affairs (XUA 101); Contemporary Social Problems (SOC 205); Planning and Public Management (XUA 215); Community Action and Neighborhood Government (XUA 173); Urban Affairs and Policy Analysis (XUA 203); Urban Geography (XUA 210); Urban Sociology (SOC 235); Urban Transportation (GEO 315); Housing and Housing Policy (XUA 254); Urban Planning: The Historical Perspective (HIS 234); Workshop in Urban Planning (XUA 345), 18 to 26 credits of electives. An internship of from 6 to 14 credits.

Bachelor of Arts in Urban Recreation and Park Administration

The Bachelor of Arts Degree in Urban Recreation and Park Administration is designed to provide the student with the skills necessary to function competently in the urban recreation profession. There significant executive, supervisory, administrative and planning responsibilities are essential. Together with competent theoretical grounding in the field a regional internship (6 - 14 credits) assigned with local, county or state recreation or parks agency enables the major to gain practical experience in a variety of urban recreation settings. In addition the Workshop in Urban Affairs provides the student with an opportunity to enhance his professional skills through participation in joint projects concerned with redesign of municipal services including parks and recreational services.

The program offers career opportunities in such positions as those of municipal recreation director, health and welfare specialist, planning and

construction consultant; armed forces recreation specialist, commercial recreation executive, YMCA-YWCA director, Student Union director, Scouting executive, hospital recreation specialist, camp director, institutional recreation director, senior citizen center supervisor, industrial recreation director, community-school director, and resort manager.

Requirements:

(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:** Survey of Urban Affairs (XUS 101); Contemporary Social Problems (SOC 205); Planning and Public Management (XUS 215); Introduction to Public Administration (POS 220); Urban Affairs and Policy Analysis (XUS 203); Urban Geography (GEO 210); Urban Sociology (SOC 235); Urban Planning: The Historical Perspective (HIS 234); Workshop in Urban Planning (XUS 345); Recreation and Park Administration (XUS 400); Planning and Developing Areas and Facilities (XUS 416); Program Planning (XUS 326); Community Action and Neighborhood Government (XUS 173); Administration of Private and Commercial Recreation (XUS 368); State and Local Finance (ECO 307). Related electives: 7 - 19 credits. Internship: 6 to 14 credits.

HISTORY (HIS)

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

+HIS 101. HISTORY OF THE UNITED STATES TO 1877. An introductory course in American history from the Pilgrims to the age of modern industry: our colonial heritage to the American revolution; the emergence of a new nation and westward expansion; Civil War and postwar reconstruction. (3 crs.)

+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.)

+HIS 111. THE DEVELOPMENT OF MAJOR WORLD CIVILIZATION. The process and interplay of the major world cultures in their evolution. Included are the following contemporary cultures: 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 continuing to influence the direction of change among the world's cultural areas: Industrialization and urban conflict; the democratic revolution and the rise of charismatic leaders from Napoleon to Hitler; changing life styles after World War II; the family; the workplace; values. (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. The decline of monarchial Europe and the major democratic movements in Europe. (3 crs.)

+HIS 122. EUROPEAN LIFE AND SOCIETY SINCE 1815. The development of Europe from the Congress of Vienna to the 1970's with specific examination of the social, political and economic stimulations that led to the emergence of nationalism, dictatorship, and war. (3 crs.)

+HIS 145. 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 is emphasized: The struggle for social justice among diverse cultures; conflicts within Latin American political life; military dictatorships; parliamentary democracy; guerrilla warfare and counterterrorism. The continued role of influences from outside the region: The United States; western Europe; the Soviet Union. (3 crs.)

+HIS 146. HISTORY OF THE FAR EAST. The historical development of China, Japan, Southeast Asia and India emphasizing the twentieth-century emergence of those societies to modern nationhood and the increased role of western cultures in the modernization process. (3 crs.)

+HIS 147. HISTORY OF THE MIDDLE EAST. A history of the peoples of the region emphasizing the Twentieth Century interplay of cultural changes with traditional ways: Islam and modernization; Soviet-American rivalry and the politics of oil; the Arab-Israeli conflict; 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, embracing a thorough study of the cultural aspects of the Fertile Crescent and Greco-Roman civilizations. (3 crs.)

+HIS 165. HISTORY OF THE SOUTH. A survey of the political, economic, social, geographical, military and demographic history of the South from the English colonial era until contemporary developments, with particular emphasis upon the emergence of the Sun Belt. (3 crs.)

+HIS 187. FAMILY HISTORY. A survey of the techniques and processes used to trace, study and analyze family history. These include the new developments in 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 to learning. Specific topics are analyzed in order to get to know first hand the importance of local and family history at the grass roots level. Topics which may be considered are borough politics and economics, business and industry in the Monongahela Valley; as well as trade, communication, transportation, recreation, education, the arts and ethnic studies. (3 crs.)

HIS 200. HISTORY OF PENNSYLVANIA. A study of the historical development 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 204. HISTORICAL PERSPECTIVES ON AGING. A chronological survey of aging in American culture from colonial times to the present. Principal subjects for examination will be: the emergence and development of retirement programs, 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 beginnings to the present. (3 crs.)

HIS 218. HISTORY OF SPORT IN AMERICA. Presents sport as a pervasive facet of our popular culture, as a social institution, as an arena of human activity, as a drama, even spectacle. The course emphasizes the history of sport as a study of cultural values and value conflict, and also examines the relationship of sport to social change throughout American history. It investigates, among other things, the literature of sport, the economics of sport, and the influence of modern sport on our language, politics, religion, and education. It also looks at sport as amusing anecdote, illuminating incident, and even tremendous trifle. (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. A topical outline of the major developments in Europe within the last 35 years—developments which have significance in challenging and transforming many of the traditional values of this 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 the 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. Late medieval civilization, humanism, artistic Renaissance, and the growth of the middle class. The universal church, 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 re-emerging 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. Consideration of social as well as physical planning in an attempt to relate both to the process of urbanization. (3 crs.)

HIS 236. HISTORY OF URBAN AMERICA. The urban experience in America 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 238. HISTORY OF AMERICAN LABOR. A survey of American labor from early Colonial times to the present, covering various periods, problems of these periods, solutions proposed to these problems by the American worker, and the vital role American labor has played in the history of our nation from earliest 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. A survey of Russian history, culture, and institutions from the inception of the Kievan state to the present. Emphasis on the pre-Soviet periods and on 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 role of the immigrant in United States history from the eighteenth century through the contemporary period. (3 crs.)

HIS 250. AMERICAN CONSTITUTIONAL HISTORY. A general study of the growth of the American constitutional system, with special emphasis on those aspects of constitutional growth which relate closely to the fundamental structure of American government and social order. (3 crs.)

HIS 296. THE AMERICAN REVOLUTION, 1763-1789. The emergence of American nationality is examined in the light of a changing colonial culture, geography and military strategy, developing political institutions together with dominating personalities shaping independence. (3 crs.)

HIS 304. THE GREAT DEPRESSION AND WORLD WAR II. A study of the stresses and strains of the 1930-1945 period of United States history, using recent trends in teaching and 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 which make up the modern dictatorship. The elements of strength and weaknesses which either destroyed or changed the structure of the original philosophy of dictatorships of our current century in terms of their objectives, aims, and potential. (3 crs.)

HIS 350. ADOLF HITLER. An analysis of 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)

HIS 495. SEMINAR IN UNITED STATES HISTORY. A study of American historians and their writings; emphasis is on the changing interpretations of major topics in American history. (3 crs.)

URBAN AFFAIRS (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. The course is interdisciplinary in content and demonstrates how the perspectives of history, sociology, political science, geography, psychology, etc. contribute to our understanding of the city and urban life. (3 crs.)

+XUA 120. INTRODUCTION TO RECREATION SERVICES. Introduces the student to a variety of vocational opportunities in recreation. Field experience and individual study are emphasized. (4 crs.)

+XUA 151. OUTDOOR RECREATION. Lecture and laboratory sections with emphasis on existing values, programs, trends and opportunities in outdoor recreation. Students participate in hikes, outdoor cooking, and environmental education activities. (4 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, policy analysts, and those seeking careers in local voluntary or governmental agencies and institutions. The following topics are covered: Community control versus integration, local decision making processes, models of community development, community action programs, resource needs and problems, dynamics of neighborhood organization, and the like. (3 crs.)

+XUA 203. URBAN AFFAIRS AND POLICY ANALYSIS. A planning and policy-oriented analysis of the city; analysis of critical urban problems and an examination of alternative strategies for their solution; existing and proposed urban national policies and their implications for urban development and planning. The specific subjects to be covered reflect the interests of participants and may include urban poverty and poverty policies, the plight of the ghetto, the fiscal crisis of the central city, current housing issues, technological change, planning policies and the changing federal role in metropolitan affairs. Prerequisite: XUA 101. (3 crs.)

XUA 215. PLANNING AND PUBLIC MANAGEMENT. A survey of the policy system in urban affairs, with a view to illuminating (a) the contexts and the institutional settings in which social policy decisions relevant to urban problems are made, and (b) the relevant influence of various factors on these decisions. (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 221. RECREATION AND SOCIALIZATION FOR THE ELDERLY. Prepares the student of gerontology and/or recreation to provide meaningful leisure time activities for persons over fifty years of age. Emphasis is upon preparing the student to guide adults to plan and direct their own leisure life. The investigatory approach to the individualization and evaluation of programs is stressed. Laboratory and field experiences are requirements of this class. There is a weekly one-hour lecture/discussion period and a two-hour laboratory period and/or a two-hour field experience. (3 crs.)

+XUA 250. DATA ANALYSIS FOR PUBLIC DECISION. The use of statistical evidence and the analytic method in the study of policy-related questions. The student learns the

mechanics of analytical techniques and uses them to answer problems and questions, and learns to think systematically about complex problems. The main purpose is to acquaint the student with analytic methods by using those methods to examine a variety of problems in urban affairs. The course is aimed at students who contemplate careers in government service or in voluntary institutions or business. (3 crs.)

+XUA 254. HOUSING AND HOUSING POLICY. Urban housing from the sociological, economic, and historical perspective: the nature of shelter, the elements and housing, and such topics as housing and transportation, housing and the private sector, public housing, housing design, housing finance and slum creators. Main objectives of the course are to examine housing in the process of community building. (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 326. PROGRAM PLANNING. An understanding and general knowledge of the program fields in relation to programming principles, planning objectives and goal-setting, structural organization, purposes and values of types of activities, selection of program content, program planning, and evaluation. Principles of planning, organizing, and conducting workshops, institutes, conferences, clinics, and special projects in recreational settings. (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 and practices as they relate to the administration, service and delivery of recreational programs. (3 crs.)

XUA 344. PROGRAM EVALUATION AND PERFORMANCE ANALYSIS. Process of analyzing a number of plans or projects on programs with a to searching out their comparative effectiveness in meeting public objectives. Evaluation of plans is an essential component of urban planning and management. Proper evaluations have considerable potential for furnishing a much better guide than presently exists for decisions on whether specific on-going programs should be retained, modified, expanded, or dropped. Evaluation process is also a great help in testing programs before large resource commitments are made. (3 crs.)

XUA 345. WORKSHOP IN URBAN PLANNING. Provides experience in applying academic skills to specific urban and regional problems, often for actual clients. Workshop participants analyze a real or hypothetical problem, develop and evaluate alternative approaches, and recommend courses of action. Community analysis and funding, urban renewal, zoning, and other applicable areas. Prerequisite: Junior standing. (3 crs.)

XUA 350. RECREATION IN THE SCHOOLS. An overview of the administration, supervision, implementation and evaluation of community-school recreational programs. (3 crs.)

XUA 355. SCHOOL INTRAMURAL RECREATIONAL PROGRAMS. An overview of the organization and administration of intramural activities. Laboratory sessions provide an opportunity to direct intramural events. (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 368. ADMINISTRATION OF PRIVATE AND COMMERCIAL RECREATION. Survey of the scope and development of private and commercial recreation agencies, facilities, and services. An examination of effective administrative guidelines and procedures including personnel management, legal status, accounting, records and data, public relations, advertising and promotion, programming, areas and facilities, and other pertinent administrative aspects. (3 crs.)

XUA 400. RECREATION AND PARK ADMINISTRATION. An analysis of managerial and administrative practices and processes in recreation, park and agency departments, including legislation, legal liability, planning, organizing, staffing, directing, coordinating, evaluating, budgeting, finance, records, reports, research, office management, public relations, areas, facilities, and programming. Prerequisite: Junior standing. (3 crs.)

XUA 416. PLANNING AND DEVELOPING AREAS AND FACILITIES. Principles, practices, guidelines, and problems in the planning, organization, acquisition, development, and maintenance of public, private, and school-related park, retrends, surveys, land-use patterns, layouts, designs, landscapings, and functional usage of areas. The planning and realization process. Prerequisite: Junior standing. (3 crs.)

XUA 420. URBAN AND REGIONAL MANAGEMENT. An administrative-type course designed to give students in-depth training in the handling of governmental functions on the local level. Specific topics to be covered include personnel administration, budgeting and finance, public relations, legal services and regulatory procedures, communication, and decision making. (3 crs.)

XUA 449. PRACTICUM IN URBAN AFFAIRS. The student interns 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 3-17 credits, and includes cooperating agency supervision as well as performance review and evaluation by the Urban Affairs Coordinator. (Variable).

XUA 469. PROFESSIONAL PRACTICUM. Professional field experience with an approved cooperating agency or department appropriate to the student's career choice. Practical on-the-job experience in an established organization or agency. Appropriate time commensurate to credit hours. Consent of the instructor. Limited to majors with a field of specialization in Urban Recreation and Park Administration. (Variable)

DEPARTMENT OF INDUSTRIAL ARTS AND TECHNOLOGY

INDUSTRIAL ARTS (IAR)

INDUSTRIAL TECHNOLOGY (ITE)

GRAPHICS COMMUNICATION (GCT)

MANUFACTURING TECHNOLOGY (MTE)

Professor Andre, *chair;* Assistant Professor Lownsbery, *assistant chair.* Professors Birch, Helsel, Lucy, Pecosh, Schuler, D. Smith. Associate Professors Dreucci, Grim, Kneisley, LaBute, Lentz, Linton, Madia, Sanfilippo; Assistant Professors Pollock, Simpson.

INDUSTRIAL ARTS EDUCATION

California State College has one of the most respected industrial arts programs in the nation. Industrial arts has been taught at California for over 50 years; its dynamic curriculum has produced many outstanding graduates. The program provides the prospective teacher with an awareness of the potential of technology as well as a background in the teaching of laboratory skills. A Bachelor of Science Degree in Education is awarded upon completion of the program. The facilities for the program includes twenty modern, well equipped laboratories and drawing rooms for the various areas of industrial arts.

The teacher of industrial arts at the elementary and secondary school level is a unique person. The teacher needs to understand the technical knowledge of the world, as well as to be able to perform the many manual

and mechanical operations associated with the products of an industrial society and problems of daily living. As a result of their training, industrial arts teachers have no problems securing employment. Graduates of the Industrial Arts Education program receive a certificate making them eligible to teach at both the elementary and secondary levels.

Career Outlook

A shortage of industrial arts teachers exists in Pennsylvania and other states. The field is open to both men and women. In recent years more women have been entering the industrial arts teaching profession. Most graduates remain in teaching and receive additional certification as principals, superintendents, special education teachers and guidance counselors. Some graduates attend graduate school and eventually teach at the college level. In addition, many graduates have distinguished themselves in a variety of industrial employment.

Curriculum

The study of industrial arts is divided into three areas: Visual Communications, Industrial Materials and Power Technology. Students are required to take courses in the three areas, as well as, professional courses related to industrial arts education. Besides the required courses students are able to elect nine credits of laboratory courses.

The visual communications area is concerned with a study of the ways man communicates visually. The program includes study and courses in technical drawing, design and sketching, photography, screen printing, photo lithography and the graphic arts.

The industrial materials area is concerned with the technology and uses of industrial machines, tools and materials. Courses include woodworking, metalworking, metal machining, plastics, ceramics and leather working.

Power technology is the study of energy sources, conversion and control. The theoretical concepts are followed by immediate application within the laboratory. Courses in electricity, electronics, small engines, energy system, fluidics are available.

Bachelor of Science in Education: Certification in Industrial Arts for Grades K-12

Requirements:

(A) **General Education:** 9 credits in Humanities which may include Oral Communications (SPE 101); Composition I (ENG 101) and II (ENG 102). 9 credits in Natural Sciences which may include Technical Mathematics I (MAT 182) **or** College Algebra (MAT 181); General Physics and Lab (PHY 106). 9 credits in Social Sciences which may include General Psychology (PSY 100). Impact of Technology on Society (EDU 200); 15 credits of free electives.

(B) **Professional Education:** Foundations of Education (EDF 100); Teaching in a Multi-Cultural Society (EDU 100); Educational Psychology (PSY 100); Developmental Psychology (PSY 207); Developmental Reading in Secondary Schools (EDS 465); Introduction to Philosophy and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Procedures and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404).

(C) **Professional Specialty:** Introduction to Industrial Arts Education (IAR 201); Organization of Course Materials (IAR 301); Student Teaching and School Law (IAR 459).

(D) **Curriculum Specialty:** Fundamental of Woodworking (IAR 120); Fundamentals of Metal working (IAR 220); Fundamentals of Machine (IAR 225); Advanced Woodworking (IAR 320); Electric/Electricity I (IAR 226) and II (IAR 326); Power Technology (IAR 325); Drawing and Design (IAR 101); Technical Drawing I (IAR 111) and II (IAR 211); Graphic Communication I (IAR 121) and II (IAR 322); 9 credits of Industrial Arts electives.

Bachelor of Science in Graphic Communications Technology

The graphic communications industry, the third largest industry in the United States, has been growing at an annual rate of six to eight percent. Skilled professionals are needed in all areas of this rapidly growing industry. The Graphic Communications program prepares students for careers in the printing, publishing, and allied communications industries by offering a curriculum of technical studies at the process and product-design level, the production level, the management level, and the sales and service level. Students in the Graphic Communications Technology program are provided a multidisciplinary program comprised of general education courses, professional specialty courses, and occupational specialty courses. In the occupational specialty area, students are offered studies in a choice of three technical areas: Electro-Graphics, Photo-Offset Lithography, or Screen Printing.

The Facilities utilized by the Graphic Communications Technology program include two graphic communications and photography laboratories, two darkrooms, a large fully equipped electronics laboratory, and several drafting and design rooms. A wide variety of modern graphics machinery and supplies, including screenprinting equipment, photo-offset presses, and photocomposition equipment, is available for teaching and student use. Industrial interships are also available to students seeking practical graphics industry experience.

Graphic Communication Technology graduates can expect to fill positions in production, printing sales, quality control, customer service, scheduling, estimating, buying printing and related graphic materials, product design, marketing, equipment sales, etc. Career opportunities may be found with manufacturers of paper, graphic supplies (film, plates, stripping materials, chemicals used in platemaking and press operation), electronic equipment and control systems. Advertising agencies and publishers also need graphic communications graduates.

A unique opportunity of this program is the Graphic Communications Internship, in which students may spend a semester or a summer working in an industrial setting. This internship tends to broaden students' educations, offering them the opportunity to work in a real-life setting, experiencing the problems of a particular job. They can observe how problems are handled and solutions reached. On their part, the employers have an opportunity, at minimal cost, to observe the students (prospective employees) at work and to determine whether they would like to employ the student after the internship is completed. In brief the internship is a worthwhile experience for the student and for the companies with whom the college affiliates.

Requirements:

(A) **General Education:** Composition I (ENG 101); Scientific and Technical Writing (ENG 317); Oral Communication: Management (SPE 103); Technical Mathematics I (MAT 182) and II (MAT 192); General Physics: Industrial Arts (PHY 106); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **For option in Photo Offset or Screen Printing:** Principles of Management (BUS 201); Principles of Production (GCT 475); Estimating and Cost Analysis I (GCT 340); Collective Bargaining (BUS 355); Salesmanship (BUS 221); Principles of Market Management (BUS 321); 5 additional credits of Management electives; Fundamentals of Photography (IAR 467); Photographic Techniques (GCT 235); Principles of Layout and Design (GCT 225); Graphic Communication I (IAR 121) and II (IAR 322); Photolithographic Techniques I (GCT 350) **or** Screen Printing Techniques I (GCT 360) and Photolithographic Techniques II (GCT 351 **or** Screen Printing Techniques II (GCT 361) and Photolithographic Techniques III (GCT 352) **or** Screen Printing Techniques III (GCT 362); Electronic Composition I (GCT 320); Electricity/Electronics I (IAR 226) and Electricity/Electronics II (IAR 326); Chemistry of Materials (PHS 135); Basic Programming Language (CSC 105); Mathematics of Finance I (MAT 171); Industrial Safety (ITE 101); Industrial Psychology (PSY 326); 9 credits of Approved Courses or Internship.

(C) **For option in Electro-Graphics:** Principles of Management (BUS 201); Principles of Market Management (BUS 321); Principles of Production (GCT 475); 5 additional credits of Management electives; Technical Drawing I (IAR 111); Fundamentals of Photography (IAR 467); Photographic Techniques (GCT 235); Graphic Communication I (IAR 121) and II (IAR 322); Electricity/electronics I (IAR 226) and II (IAR 326); Fundamentals of Digital Electronics (IAR 456); Fundamentals of Microprocessors (GCT 456); Industrial Electricity-Electronics (IAR 470); Power Technology (IAR 325); Electronic Composition I (GCT 320); Advanced Microprocessors (GCT 457); Industrial Psychology (PSY 326); Industrial Safety (ITE 101); Computer Science I (CSC 121) and II (CSC 221); Chemistry of Materials (PHS 135); Computer Graphics (CSC 324); 9 credits of Approved Courses or Internship.

INDUSTRIAL MANAGEMENT TECHNOLOGY

The need for educated personnel to participate in the development and application of technological change is evident: trained and experienced managers of production insure that the benefits of modern technology are maintained. The complexity of modern production processes requires higher levels of sophistication in the mechanisms 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. The three technical option areas available are Computer Science, Manufacturing and Printing Management.

Career Opportunities:

The graduate of the Industrial Management Technology program is prepared for a wide variety of employment opportunities depending in part upon his 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 and Planning

Objectives:

The Industrial Management Technology program:

—provides the student with the basic skills and knowledge necessary for career development in a business or industry-related position.

—provides the student with sufficient elective courses to allow for an exposure to the humanities, the natural sciences and the social sciences.

—presents the student with opportunities to develop the habits of reasoning critically and thinking clearly.

—provides the student with opportunities to develop appropriate communications and quantitative skills.

—exposes the student to an environment and activities that will provide an understanding of the fields of business and management.

—provides the student with opportunities to develop competency in a technical area such as printing management, computer science or manufacturing technology.

Curriculum:

The student who enrolls in the Industrial Management Technology curriculum has a choice of three technical options: Computer Science, Manufacturing and Printing Management. One hundred and twenty eight credits are required for the Bachelor of Science Degree in Industrial Management Technology.

Bachelor of Science in Industrial Management Technology

Requirements:

(A) **General Education:** English Composition I (ENG 101); Business Writing I (ENG 211); Scientific and Technical Writing (ENG 317); Technical Mathematics I (MAT 102); Mathematics of Finance I (MAT 171); Basic Calculus (MAT 273); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **For option in Management and Computer Science:** Mathematics of Finance II (MAT 271); Technical Mathematics II (MAT 192); Discrete Mathematics (MAT 272); Oral Communication: Management (SPE 103); General Psychology (PSY 100); Industrial Psychology (PSY 325); Basic Programming Language (CSC 105); Computer Science I (CSC 121) and II (CSC 221); Cobol I (CSC 208) and II (CSC 308); Data Structures (CSC 328); Data Base Management Systems (CSC 456); Systems Analysis (CSC 375); Survey of Operations Research (CSC 309); 5 credits of 200 level or above free electives; Accounting I (BUS 111) and II (BUS 112); Managerial Accounting (BUS 216) **or** Cost Accounting (BUS 315); Business Statistics (MAT 225); Introductory Microeconomics (ECO 201) Introductory Macroeconomics (ECO 202); Principles of Management (BUS 201); Managerial Economics (ECO 322) **or** any Business/Economic course (level 300 or above); Financial Management (BUS 332); Collective Bargaining (BUS 355).

(C) **For option in Manufacturing:** Industrial Psychology (PSY 326); Accounting I (BUS 111) and II (BUS 121); Cost Accounting (BUS 315); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Managerial Economics (ECO 322); Collective Bargaining (BUS 355); Business Writing I (ENG 211); Industrial Safety (ITE 101); Cobol I (CSC 208); Computer Science I (CSC 121); Fundamentals of Machine (IAR 225); Advance Machine (IAR 346); Numerical Control Programming I (MTE 335) and II (MTE 336); Computer Programming Numerical Controlled Equipment (Compact II - MTE 337); Computer Programming Numerical Controlled Equipment (APT - MTE 338); Technical Drawing I (IAR 111) and II (IAR 221); Electricity/Electronics I (IAR 226) and II (IAR 326); Fluid Power (MTE 455); Quality Control (MTE 445); Material Testing (IAR 341); 5 credits of elective labs.

(D) **For option in Printing Management:** Introductory Microeconomics (ECO 201); Accounting I (BUS 111) and II (BUS 112); Principles of Management (BUS 201); Salesmanship (BUS 221); Principles of Production (GCT 475); Financial Management (BUS 322); Principles of Market Management (BUS 321); Estimating and Cost Analysis I (GCT 340); 5 additional credits of Management electives; Fundamentals of Photography (IAR 235);

Photographic Techniques (GCT 235); Principles of Layout and Design (GCT 225); Graphic Communications I (IAR 121) and II (IAR 322); Photolithographic Techniques I (GCT 350) and II (GCT 531) and III (GCT 352); Electronic Composition I (GCT 320); Industrial Psychology (PSY 326); Industrial Safety (PSY 101); Electricity/Electronics I (IAR 226) and II (IAR 326); Basic Programming Language (CSC 105); Mathematics of Finance (MAT 171); Chemistry of Materials (PHS 135).

INDUSTRIAL TECHNOLOGY

The role of technology in the United States 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 is great. The Industrial Technology program provides students with the knowledge and skills to become highly qualified professionals who oversee and guide production and carry out the important research and development needed in a variety of industries.

Career Opportunities:

Opportunities for employment in industrial technologies exist in a wide variety of industrial settings. Typical entry level positions for graduates of the Industrial Technology programs are:

- Production Supervision
- Quality Assurance
- Production Control
- Prototype Development
- Industrial Relations
- Sales and Service
- Systems Analysis
- Product Design
- Purchasing
- Industrial Teaching

Objectives:

The objectives of the Industrial Technology program are:

—to provide students with an opportunity to develop a background in the humanities, social sciences and natural sciences

—to provide students with a basic knowledge of designing, reading and constructing technical drawings

—to expose students both to a variety of materials and to the technical knowledge of industrial processes involved in manufacturing

—to provide students with an opportunity to elect a specialty option in management or engineering science, or a combination of the two, to meet their particular needs

—to provide students with information concerning industrial safety, current industrial problems, modern manufacturing processes and career information within the scope of industrial technology.

Curriculum:

The student who enrolls in the Industrial Technology Curriculum has a choice of three specialty options: Management, Scientific or General. All students will take a core of similar courses in the area of concentration, each will then take specialty courses depending on the option selected.

One hundred and twenty-eight credits are required for a Bachelor of Science Degree in Industrial Technology.

Bachelor of Science in Industrial Technology

Requirements:

(A) **General Education:** Composition I (ENG 101); Scientific and Technical Writing (ENG 217); Oral Communication Management (SPE 103); Technical Mathematics I (MAT 182) and II (MAT 192) **or** higher level mathematic courses. 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **Technical Education:** Industrial Safety (ITE 101); Introduction to Industrial Technology (ITE 105); Seminar in Industrial Technology (ITE 405); Industrial Psychology (PSY 326); Technical Drawing I (IAR 111) and II (IAR 211); 3 additional credits of Drawing electives; Introduction to Industrial Materials (ITE 205); Graphic Communications I (IAR 121) and II (IAR 322); Electricity/Electronics I (IAR 226) and II (IAR 326) Fundamentals of Metalworking (IAR 220); Fundamentals of Machine (IAR 225); Power Technology (IAR 325).

(1) For general option: 9 credits of Elective Labs; 12 credits of Business and Management courses (Three of which must be upper level courses); General Chemistry I (CHE 101) **or** College Physics I (PHY 101) and General Chemistry II (CHE 102) **or** College Physics II (PHY 102); 8 credits of Upper level Mathematics or Science courses.

(2) For option in Management: 7 credits of Elective Labs. Accounting I (BUS 111) and II (BUS 112); Cost Accounting (BUS 315); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Principles of Management (BUS 332); Mathematical Economics (ECO 320); Managerial Economics (ECO 322); Collective Bargaining (BUS 355).

(3) For option in Scientific: 11 credits of Elective Labs; Computer Science II (CSC 221); College Physics I (PHY 101) and II (PHY 102) and III (PHY 203); General Chemistry I (CHE 101) and II (CHE 102); one additional scientific course.

MANUFACTURING TECHNOLOGY

One measure of man's growth and progress is his ability to manufacture goods effectively. It has been estimated that by 1986 over 22 million men and women will be employed in the manufacturing industry. A sizeable portion of this growing labor is needed to engage in the management, manufacture, sale and programming of new manufacturing and computer-aided design. The Manufacturing Technology program, while placing emphasis on the principles of numerical control technology, provides students with a broad, flexible education, enabling them to enter the manufacturing work force in a variety of professional positions.

Career Opportunities:

Opportunities for employment in the field of Manufacturing Technology are diverse and plentiful. 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
Manufacturing Supervisor
Production Manager
Quality Control Technician
Sales Representative
Industrial Engineering Technician

Objectives:

The Manufacturing Technology program is designed to:

—provide students with an opportunity to develop a broad background in liberal studies with a choice of academic pursuits in the humanities, social sciences and natural sciences.

—expose students to an environment and activities that will provide understanding and experiences in manufacturing processes.

—provide students with an appropriate background in technical drawing and technical design to allow them to read and interpret manufacturing specifications, to ascertain which of several manufacturing processes would be appropriate for production and to determine that the process has produced a part that meets or exceeds the design parameters.

—provide students with the knowledge and skills required to program and operate numerically controlled equipment.

—provide students with education in electricity and electronics and data processing systems so that they will have a basic understanding of the applications of these disciplines to manufacturing and managerial processes.

—provide students with an opportunity to gain an understanding of the techniques and procedures involved in job estimating and production.

Curriculum:

The student who enrolls in the curriculum will need a total of 128 credits to earn a Bachelor of Science Degree in Manufacturing Technology.

Bachelor of Science in Manufacturing Technology

Requirements:

(A) **General Education:** Composition I (ENG 101); Scientific and Technical Writing (ENG 217); Oral Communication: Management (SPE 103); Technical Mathematics I (MAT 106) and II (MAT 107); Calculus I (MAT 111); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **Technical Education:** Industrial Safety (ITE 101); Principles of Production (GCT 475); Quality Control (MTE 445); Industrial Psychology (PSY 326); Fluid Power I (MTE 455); Electricity/Electronics I (IAR 226) and II (IAR 326); Electronic Control Unit Maintenance (MTE 465); Material Testing (IAR 341); Basic Programming Language (CSC 105); Computer Science I (CSC 121); Numerical Control Programming I (MTE 335) and II (MTE 336); Computer Programming Numerical Controlled Equipment (COMPACT II - MTE 337); Computer Programming Numerical Controlled Equipment (APT - MTE 338); Fundamentals of Machine (IAR 225); Advance Machine (IAR 346); Technical Drawing I (IAR 111) and II (IAR 211); 8 credits of Elective Labs; 15 credits of Internship (**or** approved courses).

DRAFTING TECHNOLOGY

Drafting is generally considered to be the primary means of expressing technical ideas. It is the graphic language of industry and is essential to the process of design, manufacturing, and service.

Career Outlook:

As our society continues 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 probably continue to grow.

Objectives:

The principal objective of the Drafting Technology program is to provide students with sufficient skills and expertise to secure employment. In addition, all credits earned in this Associate Degree (two year) program are transferable to the four-year Industrial Technology Bachelor of Science degree program.

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. Write basic computer programs and use the computer to solve technical problems.

Curriculum:

The Drafting Technology associate degree is a 63 credit program.

Associate Degree in Drafting Technology

Requirements:

(A) **General Studies:** English Composition I (ENG 101); Scientific and Technical Writing (ENG 217); Technical Mathematics I (MAT 182) and II (MAT 192); Computer Science I (CSC 121) and II (CSC 222); 3 credits of free electives.

(B) **Technical Studies:** Drawing and Design (IAR 101); Technical Drawing I (IAR 111) and II (IAR 211); Airbrush Techniques (IAR 440); Architectural Drawing (IAR 444); Technical Drawing III (IAR 448); Cartography (EAS 271); Graphic Communications I (IAR 121); Fundamentals of Metalworking (IAR 220); Fundamentals of Machine (IAR 225); Numerical Control Programming I (IAR 341); Materials Testing (IAR 341); Industrial Safety (ITE 101); Introduction to Industrial Materials (ITE 205).

NUMERICAL CONTROL TECHNOLOGY

A relatively new field, numerical control programming has become the cornerstone occupation of many smaller manufacturing firms. Numerical control programmers program machines which control a wide variety of manufacturing equipment.

Career Outlook:

Career opportunities appear to be excellent in this area. Persons trained in the programming of numerical controlled machines can expect to be employed as N/C Programmer, N/C Technicians or N/C Coordinators.

Objectives:

The major purpose of this program is to train persons to write numerical programs utilizing basic, APT and the Compact II Computer Language. Also, the student will receive experience in operating numerical controlled machines.

Curriculum:

The Numerical Control Technology associate degree is a 62 credit program.

Associate Degree in Numerical Control

Requirements:

(A) **General Education:** English Composition I (ENG 101); Scientific and Technical Writing (ENG 217); Technical Mathematics I (MAT 182) and II (MAT 192); Basic Programming Language (CSC 105); Computer Science I (CSC 121). 6 credits of free electives which may be taken from the following list of recommended electives: Industrial Safety (ITE 101); Chemistry of Materials (PHS 135); Materials Testing (IAR 341); Quality Control (MTE 445); Advanced Microprocessors (GCT 457).

(B) **Area of Concentration:** Technical Drawing I (IAR 111) and II (IAR 211); Fundamentals of Machine (IAR 225); Advance Machine (IAR 346); Fluid Power (IAR 445); Fundamental of Digital Electronics (IAR 456); Fundamentals of Digital Electronics (GCT 456); Numerical Control Programming I (MTE 335) and II (MTE 336); Computer Programming Numerical Controlled Equipment (COMPACT II - MTE 337); Computer Programming Numerical Controlled Equipment (APT - MTE 338); Advanced Computer Programming Numerical Controlled Equipment (COMPATC II - MTE 437); Advanced Computer Programming Numerical Controlled Equipment (APT - MTE 438).

SCREEN PRINTING TECHNOLOGY

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.

Career Outlook:

Career opportunities are good. 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.

Objectives:

The major objective of this program is to provide persons trained in screen printing for the industries of southwestern Pennsylvania. In addition, credits earned in this program are transferable to the college's four-year Graphic Communications Technology bachelor's degree program.

Curriculum:

The Screen Printing Technology associate degree is a 62 credit program.

Associate Degree in Screen Printing

Requirements:

(A) **General Studies:** English Composition I (ENG 101); Scientific and Technical Writing (ENG 217); Technical Mathematics I (MAT 182); General Psychology (PSY 100); Industrial Psychology (PSY 320); 11 credits of free electives.

(B) **Area of Concentration:** Industrial Safety (ITE 101); Drawing and Design (IAR 101); Graphic Communications I (IAR 121) and II (IAR 322); Chemistry of Materials (PHS 135); Principles of Layout and Design (GTC 225); Fundamentals of Photography (IAR 467); Electronic Composition I (GCT 320); Estimating and Cost Analysis I (GCT 340); Screen Printing Techniques I (GCT 360) and II (GCT 361) and 111 (GCT 362).

INDUSTRIAL ARTS (IAR)

IAR 101. DRAWING AND DESIGN. Design is studied as a process made up of three major components: the creative, the aesthetic, and the technical. Students experience design creatively and aesthetically by actively participating in a series of design problems which stress the sensitive use of the elements and principles of design. Creative thinking and aesthetic sensitivity are encouraged and developed. The student's expressive talents are awakened and enhanced through instruction in sketching and drawing. Much of the instruction and many of the design exercises used in this course are designed to show students how to make use of design instruction in order to enrich their teaching in the industrial arts laboratory. (3 crs.)

IAR 111. TECHNICAL DRAWING I. A beginning course with major emphasis on assignments and problems in the following areas: the graphic language, mechanical drawing, lettering geometric constructions, sketching and shape description, multi-view projection, sectional views, dimensioning, axonometric projection, and oblique projection. (3 crs.)

IAR 120. FUNDAMENTALS OF WOODWORKING. An introductory course in woodworking with emphasis on hand tool operations. Basic machines including the band saw, wood lathe, scroll saw, drill press, and grinder are covered. The safe use and care of the machines and hand tools is stressed. A project is assigned that provides experiences in the various woodworking operations. (3 crs.)

IAR 121. GRAPHIC COMMUNICATIONS I. The student is given an opportunity to develop skills by applying techniques of layout and design to letterpress printing, screen printing techniques (hand-cut and presensitized stencil films), process line photography and bindery operations. (3 crs.)

IAR 201. INTRODUCTION TO INDUSTRIAL ARTS EDUCATION. Classroom instruction providing an introduction to the role of industrial arts as a part of general education; the objectives of industrial arts; the role of the industrial arts teacher; the position and purposes of industrial arts in the elementary, middle and secondary schools; the use of professional literature; and the recognition of historical influences upon current trends and directions in industrial arts. Emphasis is also placed upon laboratory safety, organization, management and legal considerations in teaching. A portion of this course is with undergraduate participation in industrial arts programs at a teaching center working with a supervising teacher; industrial tours; college seminars; and educational trips to observe the urban setting in industrial arts. (3 crs.)

IAR 211. TECHNICAL DRAWING II. Provides experiences in problem-solving with reference to 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 industrial working drawings, and surface development. Prerequisite: IAR 111. (3 crs.)

IAR 220. FUNDAMENTALS OF METALWORKING. An introduction to metal working which stresses the safe use and care of various metal working tools and equipment. Students have instruction and experiences in sheetmetal, bench and wrought metal, forging and heat treating, soldering, oxyacetylene welding, brazing and cutting, electric welding, and spinning. (3 crs.)

IAR 225. FUNDAMENTALS OF MACHINE. Instruction in the operation of hand and machine tools, including the engine lathe, milling machine, shaper and drill press. Basic foundry techniques are included. (3 crs.)

IAR 226. ELECTRICITY/ELECTRONICS I. An introduction to DC and AC circuit theory and analysis. The theory includes electrical measurement systems, Ohm's Law, Kirchhoff's Laws, circuit theorems, and component characteristics. Laboratory work provides experiences with electrical parts, schematics, electrical tools, and an introduction to electrical and electronic instrumentation. Lecture content is 2 hours per week and laboratory content is 4 hours per week. Prerequisite: PHY 106. (3 crs.)

IAR 301. ORGANIZING AND DEVELOPING COURSE MATERIALS FOR INDUSTRIAL ARTS EDUCATION. Analysis of industrial arts and educational objectives in relation to the selection of course content and teaching techniques at the various school levels in the areas of visual communications, power and industrial materials. Students develop sample instruction sheets, methods of student evaluation and appraisal, and a course of study for industrial arts education. Also, an examination of common instructional and management techniques for industrial arts teaching will occur for the undergraduates. Prerequisite: IAR 201. (3 crs.)

IAR 303. INDUSTRIAL ARTS FOR ELEMENTARY AND SPECIAL EDUCATION MAJORS. An introduction and/or review of: the purposes and relationships of general education and industrial arts; the learning capabilities of young and special children, and the various curriculum approaches for utilizing tools and materials to facilitate normal or remedial human development in grades K-6. Undergraduate students from either the elementary or special education curriculums have the opportunity to develop basic psychomotor skills in the areas of visual communications, industrial materials, and power technology that are applicable to use within the public school setting. The final aspect of this effort in teacher education has the elementary or special education major designing, developing, presenting, and evaluating a minimum of one short unit of instruction in industrial arts content to students in grades K-6. Class schedule: lectures, discussion, and/or demonstrations, three clock hours per week; laboratory activities, three clock hours per week. Prerequisite: Junior standing. (3 crs.)

IAR 304. ADVANCED INDUSTRIAL ARTS FOR ELEMENTARY AND SPECIAL EDUCATION MAJORS. A continuation of laboratory activities for the elementary or special education major in visual communications, industrial materials, and power technology to develop additional skills in the use of tools and materials. The depth of this involvement will be dependent upon students' past and present performance in planning and enacting their intended academic objectives. As in the previous course, each elementary or special education major will plan, develop, present and evaluate a minimum of one hands-on instructional unit involving students in grades K-6. Class schedule: lectures, discussions and/or demonstrations, three clock hours per week; laboratory activities, three clock hours per week. Prerequisite: IAR 303. (3 crs.)

IAR 320. ADVANCED WOODWORKING. A study of machine woodworking providing instruction in furniture and case work. Safe operation of all basic woodworking machines is covered. Students construct a small piece of case work involving operations on basic machines. Maintenance of equipment and safe use of materials are stressed. Prerequisite: IAR 120. (3 crs.)

IAR 322. GRAPHIC COMMUNICATIONS II. This is the second of two required courses in the visual communications area. Emphasis is placed on understanding the structure, processes, and products of the graphic communications industry. Learning experiences with tools, materials, equipment and processes represented by this industry are provided for students to explore and gain understanding instruction in photo typesetting, photo composition, darkroom techniques, stripping, platemaking and offset press operations. Prerequisite: IAR 121. (3 crs.)

IAR 325. POWER TECHNOLOGY. An introduction to the systems approach in the studies of energy forms, sources, conversions, power transmission and controls. Lectures, demonstrations and practical laboratory activities center around laws of the conservation of energy, elementary fluid flow and thermodynamics, mechanisms, AC-DC systems analysis and electro-mechanical devices. Prerequisite: IAR 226. (3 crs.)

IAR 326. ELECTRICITY/ELECTRONICS II. An investigation into the fundamental concepts of analog electronics including semiconductor device theory, power supplies, amplifiers, operational amplifiers, oscillators, linear integrated circuits, and control circuits. Laboratory experiments provide experiences with electronic instrumentation, electronic

components, and electronic circuit behavior. Lecture content is 2 hours per week and laboratory content is 4 hours per week. Prerequisite: IAR 226. (3 crs.)

IAR 341. MATERIALS TESTING. A study of the theory and application of materials testing designed to increase the student's knowledge of selected industrial materials. The physical nature of metallic, polymeric, ceramic, wood and miscellaneous materials is explored. Selected destructive and nondestructive tests are demonstrated. Instruction is provided in the recording and interpretation of test data. (3 crs.)

IAR 345. ART METAL. Through a variety of experiences students learn to safely use the tools, materials, and equipment typical of a traditional craftsman. Students learn to raise, shape, form, solder and spin nonferrous metals such as pewter, copper, brass and aluminum. (3 crs.)

IAR 346. ADVANCED MACHINE. Emphasis is placed on the technical aspect of the production of castings in the foundry. Accurate dimensional and quality control is stressed in layout machining and assembly of a required project. Prerequisite: IAR 225. (3 crs.)

IAR 335. NUMERICAL CONTROL PROGRAMMING I. An introduction to the procedures for manually programming numerically controlled equipment. The student writes programs following a machine format detail, using Cartesian coordinates for motion command and incorporating other preparatory and miscellaneous commands necessary to manufacture parts on a machining and turning center. (3 crs.)

IAR 336. NUMERICAL CONTROL PROGRAMMING II. 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. Prerequisite: MTE 335. (3 crs.)

IAR 340. WROUGHT METALWORKING. A study of traditional contemporary ornamental iron design and fabrication techniques. Emphasis is placed on individual project design and construction. Students practice the techniques of hot and cold metal forming, riveting, brazing and welding-weldment design, strength, microstructure, and metallurgical aspects are investigated. Instruction is given relative to surface treatment and finishing of ferrous metals. (3 crs.)

IAR 348. CERAMICS. A study of the uses of clay for artistic expression, recreation, and industrial application, with emphasis upon design, craftsmanship and problem solving. The student is provided the opportunity to learn to make pottery on the potter's wheel, to do hand-built pottery and sculpture, and to learn how to make ceramic objects using casting slip poured into molds. An important objective of this course is to provide the student with the kind of background to teach ceramics in the public schools.

IAR 350. CRAFTS. A general introduction to the crafts which involves creative craftwork with a variety of materials including sterling silver, other nonferrous metals, gem stones, enameling compounds, imported woods, copper foil and mosaic materials. The student is taught the kind of background material and introduced to techniques in preparation for teaching crafts in the public schools. (3 crs.)

IAR 351. SMALL GASOLINE ENGINES. An introduction to the theory, operation and general overhaul of small gasoline engines. Engine components, diagnosis, testing, maintenance 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 teach small gasoline engines. Laboratory work provides for the opportunity to apply theoretical concepts in general practice. Prerequisite: IAR 325. (3 crs.)

IAR 355. JEWELRY MAKING. A general introduction to the craft of jewelry making. Original jewelry pieces are designed and constructed by the student using a variety of materials. These materials include sterling silver, gold, bronze, copper, gem stones, enameling, compounds, plastics, imported woods such as ebony, rosewood, and zebra wood, pearls, clay, and leather. The student is taught the kind of background material and introduced to techniques in preparation for jewelry making in the public schools. (3 crs.)

IAR 356. LEATHERCRAFT. A study of the importance of leather in everyday life. Career opportunities in industry, business and teaching are stressed. Students experience the basic techniques of carving, tooling, sewing, lacing, shaping and forming leather. Students are encouraged to design projects with originality, self-expression and creativity. (3 crs.)

IAR 357. INDUSTRIAL PLASTICS. A general introduction to the history and development of industrial plastics with laboratory emphasis upon the use of molds, forms, relevant materials and processes. Industrial processes such as rotational molding, thermoforming, injection molding, reinforced plastics, casting and compression molding are studied. (3 crs.)

IAR 360. SCREEN PRINTING TECHNIQUES. An introduction to the elements that make up stencil systems for screen printing with an in-depth study of each element and its functions as an integral part of the stencil system. Each student will have the opportunity to participate in the identification, calibration and application of these elements in the imaging of selected substrates. Prerequisites: IAR 121 and IAR 322. (3 crs.)

IAR 410. FUNDAMENTALS OF AUTO MECHANICS. An introduction to automobile mechanics with theory and practical application which is 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: IAR 325. (3 crs.)

IAR 411. 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: IAR 325. (3 crs.)

IAR 440. 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: IAR 111. (3 crs.)

IAR 444. ARCHITECTURAL DESIGN. Design experience is provided in basic residence planning. The fundamental sequences in designing and drawing a residence are stressed and the student completes all architectural drawings necessary for construction. Elements of the course include: architectural styles, area planning, structural detailing, pictorial rendering, building specifications, and cost analysis. Prerequisite: IAR 111. (3 crs.)

IAR 446. DESCRIPTIVE GEOMETRY AND SURFACE DEVELOPMENT. Adding to the knowledge and experiences gained in Technical Drawing I, this course investigates the theory of projection to the fullest extent, with emphasis on the manipulation of points, lines and planes in space, in order to serve of value in future advances such as computer-aided drafting, computer-aided instruction and computer-aided manufacturing. Prerequisite: Technical Drawing I (IAR 111). (3 crs.)

IAR 448. 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 a product design format in which the student designs a product and prepares a complete set of working drawings and supporting documents. Prerequisites: IAR 101, IAR 111, and IAR 211. (3 crs.)

IAR 455. FLUID POWER I. A study of basic hydraulics including hydraulic fluids, filtration, power supply, circuits, actuators, controls, conditioners, and monitoring devices. Teaching and learning activities include lectures, class discussion and laboratory activities. (3 crs.)

IAR 456. FUNDAMENTALS OF DIGITAL ELECTRONICS. An introduction to the theory and applications 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. Lecture content is 2 hours per week and laboratory content is 4 hours per week. (3 crs.)

IAR 458. WOOD PATTERNMAKING. Patternmaking is another facet of woodworking that is a necessary part of metal casting. Principles of pattern design as they relate to patterns and core box construction are stressed. Materials other than wood are used in this course. Prerequisites: IAR 120 and IAR 320. (3 crs.)

IAR 459. STUDENT TEACHING — INDUSTRIAL ARTS. Student teaching is the culminating experience of teacher education majors in the Industrial Arts 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.)

IAR 460. FURNITURE DESIGN AND CONSTRUCTION. Basic principles of furniture construction and upholstery are presented. Emphasis is placed on individual instruction in methods and techniques of teaching modern methods of upholstering for the junior and senior high school student. Prerequisites: IAR 120 and IAR 320. (3 crs.)

IAR 467. FUNDAMENTALS OF PHOTOGRAPHY. A study of the basic techniques involved in continuous tone black and white photography. It includes camera operations, picture composition, developing, contact printing, enlarging and photo finishing procedures. Each student is required to purchase a 35-mm single-lens reflex camera, film, developing tank, and enlarging paper. Approximately eighteen 8 x 10 prints of assigned topics are required of each student. (3 crs.)

IAR 468. SPECIAL MACHINE SHOP. 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. Prerequisite: IAR 225. (3 crs.)

IAR 470. INDUSTRIAL 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; motor control circuitry, servomechanism behavior, programming controllers, and programming robots. Lecture content is 2 hours per week and laboratory content is 4 hours per week. Prerequisite: IAR 326. (3 crs.)

IAR 476. TELEVISION CIRCUITS. Special emphasis is placed on the theory of operation of the various stages of color television receivers and television transmission. Practical experiences will be provided in the trouble shooting and operating techniques of the various stages of each system. Prerequisites: IAR 226, IAR 326. (3 crs.)

IAR 480. SEMINAR IN INDUSTRIAL ARTS AND TECHNOLOGY. The student is afforded an opportunity to establish a perspective of the evolutionary inter-relationships between man and his natural environment as well as man and his adjusted environment. Specifically, social, political, philosophic, economic, religious and cultural realms are correlated with the teaching of technology through industrial arts. (3 crs.)

IAR 481. INDUSTRIAL ARTS AND THE ELEMENTARY SCHOOL. An introduction and/or review of the purposes and relationships of elementary education and industrial arts; the learning capabilities of young children; and the various curriculum approaches for placing industrial arts within the elementary program. Undergraduates who have obtained a basic collegiate background in professional and technical education will have the opportunity to select, design and employ various teaching units in both the industrial arts laboratory and the self-contained elementary classroom. (3 crs.)

IAR 490. PROFESSIONAL PRACTICUM. Practicum is designed to provide the student an opportunity to refine teaching techniques acquired in the student's area of specialization and to encourage investigation into the technologies as they apply to education. Aid is given to laboratory problem solving when needed. Also, the prospective teacher is made aware of Pennsylvania School Laws relevant to classroom instruction. MUST BE SCHEDULED WITH STUDENT TEACHING. Two lecture hours per week. (2 crs.)

Independent Study Courses

IAR 309. STUDIES IN INDUSTRIAL MATERIALS. (Variable)

IAR 319. STUDIES IN POWER. (Variable)

IAR 329. STUDIES IN VISUAL COMMUNICATIONS. (Variable)

*IAR 409. HONORS IN INDUSTRIAL MATERIALS. (Variable)

*IAR 419. HONORS IN POWER. (Variable)

*IAR 429. HONORS IN VISUAL COMMUNICATIONS. (Variable)

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, a procedural outline, states special conditions, expected findings, and specifies how the activity will be evaluated.

The student is entitled to a minimum of five hours of individual faculty time per credit. Proposals must receive instructor and departmental approval before the student registers for the course.

**Honors courses are reserved for students with a "B" grade or better quality point average in the Industrial Arts courses taken.*

INDUSTRIAL TECHNOLOGY (ITE)

ITE 101. FUNDAMENTALS OF INDUSTRIAL SAFETY. An introduction to the fundamental aspects of safety. A thorough examination of the many facets of safety as it applies to the work-a-day world both on and off the job is provided. Students will be able to identify the cause of accidents involving both people and property in industry. Various methods of prevention and correction of situations that cause accidents are presented. (3 crs.)

ITE 105. INTRODUCTION TO INDUSTRIAL TECHNOLOGY. A survey of modern industry with emphasis on industrial management styles and practices. The course is designed to introduce the student to the field of industrial technology through lectures, discussions, guest speakers, and field trips. (1 cr.)

ITE 205. INTRODUCTION TO INDUSTRIAL MATERIALS. An investigation is made to familiarize the student with the characteristics of plastics, ceramics and wood as applied to industrial uses. Emphasis is placed on the study of uses, design factors, fastening or joining, forming processes and finishing of these materials. Approximately one half of the class time will involve practical laboratory experiences. (3 crs.)

ITE 405. SEMINAR IN INDUSTRIAL TECHNOLOGY. Advanced study in the elements and structure of modern industry. The course format is developed around the use of industrial consultants, readings and a research paper. Prerequisites: ITE 105 and Senior standing. (3 crs.)

GRAPHICS COMMUNICATION (GCT)

GCT 225. PRINCIPLES OF LAYOUT AND DESIGN. A presentation of various design principles and elements used to produce graphic arts materials. Printed materials are analyzed in terms of these design aesthetics. The development of harmonious relationships between these elements and the type styles are considered in depth. Additional assignments will be made dealing with keyline and pasteup of the designs created. The fundamentals of producing good mechanics are investigated. (3 crs.)

GCT 235. PHOTOGRAPHIC TECHNIQUES. 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. Each student is required to purchase a 35-mm camera, film, and enlarging paper and to complete a number of assignments. Prerequisite: IAR 467. (3 crs.)

GCT 320. ELECTRONIC COMPOSITION I. 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 are 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. Prerequisites: IAR 121 and IAR 322. (3 crs.)

GCT 321. ELECTRONIC COMPOSITION II. 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: IAR 322. (3 crs.)

GCT 341. ESTIMATING AND COST ANALYSIS II. Cost determination, price determination, break-even analysis, effective use of press equipment and the application of computer methods to the solution of graphics production problems. Prerequisite: GCT 340. (3 crs.)

GCT 350. PHOTOLITHOGRAPHIC TECHNIQUES I. An in-depth study of the 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 is investigated as well as those areas of sensitive materials, light and related chemical reactions. Prerequisite: IAR 322. (3 crs.)

GCT 351. PHOTOLITHOGRAPHIC TECHNIQUES II. A continuation of GCT 350 which utilizes the negatives 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 types of jobs, from simple single-color to more complex multicolor 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. 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 235 and GCT 351. (3 crs.)

GCT 360. SCREEN PRINTING TECHNIQUES I. An introduction to the elements that make up stencil systems for screen printing, with an in-depth study of each element and its functions as an integral part of the stencil system. Each student will have the opportunity to participate in the identification, calibration and application of these elements in the imaging of selected substrates. Prerequisites: IAR 121 and IAR 322. (3 crs.)

GCT 361. SCREEN PRINTING TECHNIQUES II. 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 360. (3 crs.)

GCT 362. SCREEN PRINTING TECHNIQUES III. A special study course in which the student works in the area of screen printing under the guidance of an instructor. The student prepares a proposal which presents the objectives to be achieved, procedure outline and how the activity will be evaluated. Proposals must receive instructor approval before the student proceeds with the course. Prerequisite: GCT 361. (3 crs.)

GCT 456. 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 hand-assembly and circuit breadboarding. Lecture content is 2 hours per week and laboratory is 4 hours per week. Prerequisite: IAR 456. (3 crs.)

GCT 457. ADVANCED MICROPROCESSORS. An investigation of the advanced addressing modes and improved instruction sets of recent microprocessors. This course also includes an introduction to microcomputer development systems and editor-assembler software and its applications in the design and development of hardware systems based on microprocessors. Laboratory experiments include advanced interfacing experiments in the areas of data communication, memory management, video display, and interfacing with the analog world. Lecture content is 2 hours per week and laboratory is 4 hours per week. Prerequisite: GCT 456. (3 crs.)

GCT 465. FINISHING AND BINDING. This course provides an introduction to the operations performed in the binding of printed materials. Various operations such as cutting, trimming, folding, gathering, stitching, casemaking, gluing, laminating, perforating, sewing, roundcornering, and drilling will be considered. Analysis of the kinds of adhesives available and their most effective uses will be discussed. (3 crs.)

GCT 475. 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 material handling, plant layout, operations analysis, purchasing, estimating, industrial engineering, inventory control and shipping. An overview of the role of production management as it relates to the various areas of an industrial environment will be presented. (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 any 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. (Variable)

MANUFACTURING TECHNOLOGY (MTE)

MTE 335. NUMERICAL CONTROL PROGRAMMING I. An introduction to the procedures for manually programming numerically controlled equipment. The student writes programs following a machine format detail, using cartesian coordinates for motion command and incorporating other preparatory and miscellaneous commands necessary to manufacture parts on a machining and turning center. (3 crs.)

MTE 336. NUMERICAL CONTROL PROGRAMMING II. The second of two courses in the manual programming of numerically controlled machines. Concentration will be 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 will be studied with the additional word addresses that are necessary. Prerequisite: MTE 335. (3 crs.)

MTE 337. COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (COMPACT II). A study of the COMPACT II computer language used to produce machine tape instructions for manufacturing parts. Students learn to access and utilize a computer in the time-share mode to desirable part geometry and direct a machine tool to accomplish a variety of metal machining operations. Prerequisite: MTE 335. (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 335. (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. 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 445. QUALITY CONTROL. A critical examination of how industry assesses the quality function of manufactured goods. A method of quality planning is also developed. (3 crs.)

MTE 455. FLUID POWER. A study of basic hydraulics including hydraulic fluids, filtration, power supply, circuits, actuators, controls, conditioners, and monitoring devices. Teaching and learning activities include lectures, class discussion and laboratory activities. (3 crs.)

MTE 465. ELECTRONIC CONTROL UNIT MAINTENANCE. A presentation of the various electronic controls used with manufacturing equipment. Students develop an understanding of machine electronic schematics and become able to troubleshoot various controls to identify and repair malfunctioning components. The necessary electronic theory for understanding control unit operations is included. (3 crs.)

MTE 465. ELECTRONIC CONTROL UNIT MAINTENANCE. A presentation of the various electronic controls used with manufacturing equipment. Students will develop an understanding of machine electronic schematics and will be able to troubleshoot various controls to identify and repair malfunctioning components. The necessary electronic theory for understanding control unit operations will be included. (3 credits)

MTE 495. INDUSTRIAL INTERNSHIP. Student interns will be placed with an 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 Dean approval is required. Prerequisite: Upper Level Standing. (1-15 credits)

DEPARTMENT OF LIBRARY SERVICES

William Beck, Director of Library Services; Associate Professor Pokol, *chair.* Professor Maruskin; Associate Professors Baldwin, Davis, Fisfis, Kiang, Kos, Matovich, Maxwell.

The members of this department are in charge of the Manderino Library, described earlier in this catalog. They also perform such services as instruction in the use of the library, assistance with reference questions, interlibrary loans and bibliographical searches through the DIALOG databases.

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATHEMATICS (MAT)

COMPUTER SCIENCE (CSC)

INDUSTRIAL MANAGEMENT TECHNOLOGY: MANAGEMENT AND COMPUTER SCIENCE OPTION

Professor Hausher, *chair.* Associate Professor Beyer, *assistant chair.* Professors Agrawal, Gross, Machusko, Romboski; Associate Professors Berry, Blank, Fernandes, Gibson, Novak, Riggle, Sapko, Schmidt, Skocik.

The department of Mathematics and Computer Science offers several degree programs:

The Bachelor of Science degree (mathematics and computer science track) is a careful blending of courses that offers the student the theory and applications of problems in mathematics and computer science. The Bachelor of Science degree (management and computer science track) is designed to bridge the traditional division between the acquisition of technical skills. This option emphasizes management and business courses rather than mathematics courses. Both programs are 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 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 further study in related fields or in fields of a student's intellectual interest. 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. It provides the prospective teacher the opportunity to acquire the knowledge, attitudes, skills, and understanding necessary to become an effective educator.

The Associate of Science degree is a two-year program designed to provide career-oriented computer science technology courses. Though its emphasis is on training for job placement in the computer industry after a two-year curriculum, it also allows for transferring to a Bachelor of Science four-year program.

In addition to the degree programs, the student may elect to participate in the 3/2 Cooperative Engineering Program at either the Pennsylvania State University or the University of Pittsburgh. After five years, the graduate will receive a B.A. in Physics or in Natural Sciences from California University of Pennsylvania and a B.S. in Engineering from the cooperating university.

Depending on availability of funds, several cooperative work programs (internships) have been established with the Defense Department, the Social Security Administration, and private employers. If selected, a student may earn a salary as well as college credit and invaluable experience.

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 the student may discuss problems freely with members of the department.

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 students 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 has been established in his name. This award 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.

The Wall Street Journal Student Achievement Award: This award is presented to the graduating student of the Mathematics and Computer Science Department who has achieved a high level of academic excellence in mathematics and computer science courses as well as appropriate business and economics courses.

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 their area of concentration, they do count as free electives in their program.

Advisors work carefully with the student to select courses best suited to the student's interests and goals. A student's problems may be discussed with the advisor at any time.

Student work-study assignments are available for those who desire and qualify for employment. Students may assist in the mathematics department or at the computer center. Hence, students learn while they earn.

Students in this program have the opportunity to receive hands-on experience in working with the computer. In this manner the student is able to comprehend programming and computer operations. By carefully selecting courses, the student may choose a program in business or science, or both. Cooperative work programs have been established with the Defense Department in Washington, D.C., Westinghouse, Monroeville, PA, and Social Security Department, Baltimore, MD, whereby a junior, if selected, may work under Civil Service salary guidelines while receiving college credit.

Finally, 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 retreval, or computer sales.

Requirements:

(A) **General Education:** Composition I (ENG 101) and II (ENG 102); Scientific and Technical Writing (ENG 217); Formal Logic I (PHI 211); Mathematics of Finance I (MAT 171); Basic Programming Language (CSC 105); 6 credits in Humanities; 6 credits in Social Sciences; 6 credits in Natural Sciences; 12 credits of free electives.

(B) **Professional Education:** Calculus I (MAT 281), II (MAT 282), III (MAT 381), and IV (MAT 382); Discrete Mathematics (MAT 272); Abstract Algebra I (MAT 351); Statistical Analysis I (MAT 461); Linear Algebra I (MAT 341); Differential Equations (MAT 406); Linear Algebra II (MAT 441); Statistical Analysis II (MAT 462); Mathematics of Finance II (MAT 271); Theory of Equations (MAT 305); Advanced Calculus I (MAT 481) and II (MAT 482); Computer Science I (CSC 121) and II (CSC 221); Assembler Language (CSC 323); Cobol I (CSC 208); Data Structures (CSC 328); Structures of Programming Languages (CSC 455); Numerical Analysis (CSC 424); Logic and Switching Theory of the Computer (CSC 316); Computer Graphics (CSC 324); Computer Architecture (CSC 378); Theory of Languages (CSC 475); Survey of Operations Research (CSC 309); 11 credits from the following groups (two courses from each group):

GROUP I: Cobol II (CSC 308); Data Base Management (CSC 456); System Analysis (CSC 375).

GROUP II: LISP Programming (CSC 410); Language Translation (CSC 460); Computer Operations (CSC 300); Operating Systems.

Bachelor of Arts in Mathematics

Requirements:

(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 (MAT 281) and II (MAT 282) and III (MAT 381) and IV (MAT 382); Geometry (MAT 203); Abstract Algebra I (MAT 351); Linear Algebra I (MAT 341); Statistical Analysis I (MAT 462); Differential Equations (MAT 406); Advanced Calculus I (MAT 481) and II (MAT 482); Topology (MAT 405); 12 credits in Physics and/or Chemistry; 20 credits in Natural Science Electives.

Bachelor of Science in Education: Certification in Mathematics for Secondary Schools

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact of Technology of Society (EDU 200); 15 credits of free electives including Composition I (ENG 101) and II (ENG 102)).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300)—**or** Introduction to Guidance and Personnel Services (EDS 420)—**or** The Secondary School Curriculum (EDS 456); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 210); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Teaching of Mathematics in Secondary Schools (EDS 460)—**or** Modern Methods (EDS 455); Student Teaching and School Law.

(C) **Professional Specialization:**

Required: Calculus I (MAT 281), II (MAT 282), III (MAT 381), and IV (MAT 382); Geometry (MAT 203); Abstract Algebra I (MAT 351); Statistical Analysis I (MAT 461); Linear Algebra I (MAT 341).

Restricted Electives: Choose two from Group I and one from Group II.

Group I: Differential Equations (MAT 406); Topology (MAT 490); Advanced Calculus I (MAT 481); and II (MAT 482); Abstract Algebra II (MAT 451); Statistical Analysis II (MAT 462); Linear Algebra II (MAT 441); Computer Science II (CSC 222); Assembler Language Programming (CSC 323); Honors Course in Mathematics (MAT 469).

Group II: Computer Science I (CSC 121); Cobol I (CSC 208); Mathematics of Finance I (MAT 171); Theory of Equations; Seminar in Mathematics (MAT 495).

Bachelor of Science in Industrial Management Technology: Management and Computer Science Option

Requirements:

(A) **General Education:** English Composition I (ENG 101); Business Writing I (ENG 211); Scientific and Technical Writing (ENG 317); Technical Mathematics I (MAT 102); Mathematics of Finance I (MAT 171); Basic Calculus (MAT 273); 6 credits 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); Technical Mathematics II (MAT 192); Discrete Mathematics (MAT 272); Oral Communication: Management (SPE 103); General Psychology (PSY 100); Industrial Psychology (PSY 325); Basic Programming Language (CSC 105); Computer Science I (CSC 121) and II (CSC 221); Cobol I (CSC 208) and II (CSC 308); Data Structures (CSC 328); Data Base Management Systems (CSC 456); Systems Analysis (CSC 375); Survey of Operations Research (CSC 309); 5 credits of 200 level or above free electives; Accounting I (BUS 111) and II (BUS 112); Managerial Accounting (BUS 216) **or** Cost Accounting (BUS 315); Business Statistics (MAT 225); Introductory Microeconomics (ECO 201) Introductory Macroeconomics (ECO 202); Principles of Management (BUS 201); Managerial Economics (ECO 322) **or** any Business/Economic course level 300 or above); Financial Management (BUS 332); Collective Bargaining (BUS 355).

Associate of Science in Computer Science Technology

The Department of Mathematics and Computer Science offers this two-year associate degree (A.S.) to provide students with training in Computer Science. This high-quality program is career-oriented. All credits earned in this program are directly transferable to the four-year Bachelor's degree in mathematics and computer science.

Requirements:

(A) **General Education:** 6 credits in Humanities; 6 credits in Social Science; 6 credits in Natural Sciences; 7 credits of free electives.

(B) **Area of Concentration:** Technical Mathematics I (MAT 182) and II (MAT 192); Mathematics of Finance I (MAT 225); Statistics (MAT 215); Basic Programming Language (CSC 105); Computer Science I (CSC 121) and II (CSC 221); Cobol I (CSC 208); Assembler Language (CSC 323); Logic and Switching Theory of the Computer (CSC 316); Computer Operations (CSC 300); one computer elective — with consent of advisor.

MATHEMATICS (MAT)

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

+MAT 098. BASIC MATHEMATICS. The more important aspects of arithmetic and elementary algebra. This course cannot be used as a natural science elective. (3 crs.)

+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, elementary algebra, logic, probability, and intuitive geometry. 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 with an area emphasis in mathematics. 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. Prerequisites: MAT 100 or two years of high school mathematics. (3 crs.)

+MAT 171. MATHEMATICS OF FINANCE I. Formulas used in working finance problems and how they are formulated and applied. The use of tables to shorten the arithmetic. Prerequisites: MAT 181 and MAT 182. (3 crs.)

MAT 175. VOLUNTARY INCOME TAX ASSISTANCE IN COOPERATION WITH IRS. Preparation and Analysis of the latest 1040 A (short form). Preparation and Analysis of 1040 and Schedule A (latest versions). Preparation and analysis of schedules R & RP (for the elderly) — latest versions. (1 cr.)

+MAT 181. COLLEGE ALGEBRA. For non-mathematics majors and for majors in natural and social sciences. Prerequisites: MAT 100 or two years high school mathematics. (3 crs.)

+MAT 182. TECHNICAL MATHEMATICS I. A review of basic arithmetic problems. 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. Prerequisite: one year of high-school algebra. (3 crs.)

+MAT 191. COLLEGE TRIGONOMETRY. Polar coordinates, identities useful in integration techniques, solving trigonometrics equations, functions and inverse functions. Prerequisites: MAT 181; the student should have an adequate background in algebra and some plane geometry would be 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. Prerequisite: MAT 182 or MAT 181. (3 crs.)

+MAT 199. PRE-CALCULUS. Fundamental notions (lines, segments, slopes, angle between lines, graph and equations), conics, simplification by translation and rotation, algebraic and transcendental curves, Polar coordinates, parametric equations, three-dimensional analytic geometry. Prerequisites: High school algebra, trigonometry, and plane geometry desirable. (3 crs.)

MAT 203. GEOMETRY. Analysis of axiomatic systems, axiomatic development of elementary Euclidean geometry and non-Euclidean geometry. Prerequisites: MAT 181, MAT 191, and three years of high-school mathematics. (3 crs.)

MAT 215. STATISTICS. For non-math majors, not counted toward a math major. Frequency distribution, percentiles, measures of central tendency, variability, normal distribution, curve, populations, samples and error-sampling distribution of means, sampling distribution of proportion null and alternative hypotheses, type I and type II errors, tests of means confidence and intervals and decision procedures, correlation, chi-square, simple analysis of variance, statistics, and design of experiments. Prerequisite: MAT 181. (3 crs.)

MAT 225. BUSINESS STATISTICS. Statistical techniques relevant to business applications. Primary emphasis is placed upon identifying the proper statistical methods to use in a particular situation and the proper presentation and interpretation of results. The student will also be shown how to use various government sources of statistics that are useful in business. Topics covered include measures of central tendency and variation, correlation, regression, time series, index numbers, seasonal variation. (3 crs.)

MAT 271. MATHEMATICS OF FINANCE II. A continuation of Mathematics of Finance I, encompassing some of the everyday financial problems of an average family (including merchandise shopping with discounts and mark-up problems), shopping for the cost of money (renting money), insurance, taxes, investments as a hedge against inflation, public and private financing, higher education as an investment, etc. Emphasis on underlying principles and mathematical computations. Prerequisites: MAT 171. (3 crs.)

MAT 272. DISCRETE MATHEMATICS. An introduction to abstract mathematical structures with special emphasis on theories and methods which are relevant to Computer Science. Topics include an introduction to formal systems and techniques of proofs; combinational versus relational structures; graphs and directed graphs; Boolean Algebras; abstract languages and machines. Prerequisites: CSC 105 or CSC 121 or equivalent high-level computer language. (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 101 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 derivitive. Prerequisite: 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. Prerequisite: MAT 281. (3 crs.)

MAT 305. THEORY OF EQUATIONS. (3 crs.)

MAT 341. LINEAR ALGEBRA I. An elementary treatment of linear algebra suitable for students in the first sophomore term, offering fundamentals of linear algebra with applications and numerical computations. Emphasis on vocabulary, operational procedures, and computational skills. Prerequisite: MAT 282. (3 crs.)

MAT 351. ABSTRACT ALGEBRA I. Fundamental concepts of logic, sets, relations, and functions. Groups, fields, rings, and integral domain and the properties associated with these structures. The number systems from the natural numbers to the complex numbers system (its structure and properties). Elementary concepts of number theory. Designed to introduce students to Abstract Algebra in a way that emphasizes the nature of the subject and the techniques of rigorous proof. Prerequisites: MAT 281. (3 crs.)

MAT 381. CALCULUS III. Vectors in the plane, indeterminate forms and improper integrals, polar coordinates, infinite series, and the theory of infinite series. Prerequisite: MAT 282. (3 crs.)

MAT 382. CALCULUS IV. Expands the concepts of vectors in the plane to vectors in three space. The differential calculus and the integral calculus of functions of several variables. Prerequisite: MAT 381. (3 crs.)

MAT 406. DIFFERENTIAL EQUATIONS. Ordinary differential equation and its solution. 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 will be presented. Prerequisites: MAT 282. (3 crs.)

MAT 441. LINEAR ALGEBRA II. Extends the concepts learned in Linear Algebra I. Linear transformations are revisited. Eigenvalues and eigenvectors are investigated. Euclidean spaces are explored. Real quadratic forms are studied, along with the related geometry. The use of linear algebra in solving linear systems of differential equations is introduced. Special topics related to computer science will be considered. Prerequisite: MAT 341. (3 crs.)

MAT 451. ABSTRACT ALGEBRA II. A continuation of the study of abstract algebra. The theory of groups, group isomorphism and homomorphism, theory of rings, integral domain and fields, polynomial rings. To prepare students for advanced work in mathematics by a very careful and rigorous study of algebra. Prerequisite: MAT 351. (3 crs.)

MAT 461. STATISTICAL ANALYSIS I. Basic concepts of both discrete and continuous probability theory. The concept of a random variable is stressed, and a number of standard distributions are studied in detail. Prerequisites: MAT 282. (3 crs.)

MAT 462. STATISTICAL ANALYSIS II. Fundamental concepts of statistical inference. Covers classical statistical inference, but certain decision theoretic notions also developed. The student is expected to understand the theory underlying certain statistical procedures and be able to solve problems using these procedures. Prerequisite: MAT 461. (3 crs.)

MAT 469. HONORS COURSE IN MATHEMATICS. Math majors must, as a prerequisite for this course, have completed 64 credits with a QPA of 3.25 in all work. Recommendation of the mathematics faculty and the approval of the department head and Dean of instruction. (3 crs.)

MAT 481. ADVANCED CALCULUS I. Theory of real and complex numbers, ordered sets, complex fields, Euclidean space, finite, countable, and uncountable sets; convergent sequences, cauchy sequences, upper and lower limits, series and convergence tests, absolute convegence, sequences and series of functions, pointwise and uniform

convergence, Stone-Weierstrass Theorem, theory of continuity of functions and related theorems, theory of differentiation, Taylor's theorem. Prerequisite: MAT 382. (3 crs.)

MAT 482. ADVANCED CALCULUS II. The Riemann-Stieltjes Integral, related theorems, Fundamental Theorem of Calculus, power series, functions of several variables, introduction to measures and Lebesque theory. Prerequisite: MAT 481. (3 crs.)

MAT 490. TOPOLOGY. Preliminaries (sets, ordering, relations, cardinality, etc.), metric spaces, topologies, separation axioms, convergence, coverings, compactness, etc. Prerequisite: MAT 481. (3 crs.)

MAT 495. SEMINAR IN MATHEMATICS. Topics in this course are chosen jointly by the instructor and the student or students involved. Prerequisite: Approval of instructor. (1 to 3 crs.)

COMPUTER SCIENCE (CSC)

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

+CSC 105. BASIC PROGRAMMING LANGUAGE. Elementary computer concepts in such areas as 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 I. Introduction to computer programming through a recent version of the Fortran IV language. Prerequisite: MAT 181. (3 crs.)

+CSC 208. COBOL I. Introductory concepts of data processing through the basic components of COBOL programming. Prerequisite: CSC 121. (3 crs.)

CSC 221. COMPUTER SCIENCE II. Three class hours each week with outside assignments requiring advanced Fortran-programming a digital computer to assist in the solution of problems assigned. Considerable time in Computer Center laboratory is required. Prerequisite: CSC 121. (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 time-sharing terminals and be familiar with at least one conversational computer language, preferably BASIC. In the laboratory session, students will be exposed to various types of CAI programming materials and be instructed in the development of their own CAI "package." Prerequisite: CSC 105 or CSC 121. (3 crs.)

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 121 and CSC 221. (3 crs.)

CSC 308. COBOL II. A continuation of COBOL I emphasizing files, various mass storage devices, table handling, declarative and linkage sections, use of source program library facilities, operations of calling and called programs and important features of COBOL for business applications, e.g., report writer feature, and sort feature. Prerequisite: CSC 208. (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. Working knowledge of FORTRAN and statistics is necessary. Prerequisites: CSC 121, MAT 215, MAT 225. (3 crs.)

CSC 316. LOGIC AND SWITCHING THEORY OF THE COMPUTER. A lecture-laboratory course providing an in-depth study of digital computers, including the circuits and logic involved in the computer. Prerequisites: CSC 121, MAT 181, MAT 192. (3 crs.)

CSC 323. ASSEMBLER LANGUAGE PROGRAMMING. Computer organization, representation of numbers and characters, instruction codes, machine language, macros, and subroutines. Prerequisite: 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 is stressed. Development and utilization of graphics soft-ware is the major goal of this course. Prerequisites: CSC 121, CSC 221. (3 crs.)

CSC 328. DATA STRUCTURES. Concepts and algorithms used in the solution of non-numerical problems. Applications to data management systems, file organization, information retrieval, list processing and programming languages. Prerequisite: 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 221. (3 crs.)

CSC 377. INFORMATION STRUCTURES. Data structures, concepts and algorithms used in solution of non-numerical problems. Applications to data management systems, information retrieval and list processing. Prerequisites: MAT 272 and CSC 221. (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 221. (3 crs.)

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 or CSC 328. (3 crs.)

CSC 419. MATHEMATICS AND COMPUTER SCIENCE INTERNSHIP. Mathematical Programming Work Experience. Prerequisite: Approval of Mathematics and Computer Science Department. (3 to 15 crs.)

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 221 and MAT 382. (3 crs.)

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 221. (3 crs.)

CSC 456. DATA BASE MANAGEMENT SYSTEMS. Design, implementation and application of data base management systems. Prerequisite: CSC 208. (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.)

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.)

CSC 485. SPECIAL TOPICS IN COMPUTER SCIENCE. Individual study or research on topics and materials not ordinarily covered by other courses. 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.)

DEPARTMENT OF MILITARY SCIENCE (ARMY ROTC)

MILITARY SCIENCE (GMS)

Lieutenant Colonel John H. Ridge, Professor of Military Science; Major Yost, Assistant Professor, *officer in charge.* Captains Brown and Koenig, assistant professors.

Army ROTC is a program that provides college-trained officers for the U.S. Army, the Army National Guard and the U. S. Army Reserve. Army ROTC is traditionally a four-year program consisting of Basic and Advanced Courses. However, a two-year program is offered that enables those who missed ROTC during their first two years of college to qualify for a commission.

Officers commissioned through ROTC earn degrees in the fields of their choice. They represent all geographic, economic and social strata and are highly motivated, open-minded and civilian-oriented.

Army ROTC aids the student by providing leadership and management experience found in few other college courses and an opportunity for a military career in the active Army, the Army National Guard or the U. S. Army Reserve. It develops selfdiscipline, physical stamina and poise while enhancing development of management skills and qualities basic to success in any career. It also provides academic credit and a living allowance of up to $1,000 each year during the Advanced Course.

The four-year program consists of a two-year Basic Course and a two-year Advanced Course. The Basic Course is normally taken during the freshman and sophomore years. The Basic Course imposes no military obligation on the part of students, and they may discontinue at any time. Students who have taken Junior ROTC or have active duty military experience may receive credit for the Basic Course.

To be eligible for the Basic Course, you must be a full-time student at California University of Pennsylvania and not be a consientious objector.

The Advanced Course provides further instruction in leadership development, organization and management, and tactics and administration. Advanced Course cadets attend a six-week Advanced Camp between their junior and senior years of college. This camp permits cadets to put into practice the principles and theories they have acquired from on-campus classroom instruction. Cadets receive pay for this camp, plus travel expenses, room and board, medical and dental care, and other benefits.

To be eligible for the Advanced Course, you must (1) fulfill the requirements for the Basic Course; (2) successfully complete PMS interview and selection; (3) meet Army medical standards; (4) successfully complete the Officer Selection Battery; (5) meet all entry requirements of Army Regulation 145-1 (see PMS); (6) have a Grade Point Average of 2.0 or better; (7) Meet Army Physical Fitness Standards.

The ROTC Basic Camp permits students who attended a junior or community college, those at four-year institutions who have not taken ROTC and students entering a two-year post-graduate course of study to become an Army officer. Students in the two-year program receive the same financial assistance as other Advanced Course students. Applicants must successfully complete six weeks of leadership instruction at a Basic Camp during the summer prior to enrollment in the Advanced Course in the fall. Cadets receive pay, plus the same benefits received in the Advanced Camp, while attending the Basic Camp. Application should be made to a Professor of Military Science.

Service Obligation

When students enter the Advanced Course, they agree to finish ROTC instruction, to accept a commission and to accept an assignment in either the active Army, the Army National Guard or the U. S. Army Reserve.

Officers will serve on active duty three months to three years. Additionally, provisions exist so selected individuals can be guaranteed assignment in the Army National Guard or U. S. Army Reserve with an active duty for training requirement ranging from three to six months.

ROTC and Scholarships

The US Army offers two and three year scholarships to students attending C. U. P. These scholarships pay for your tuition, textbooks, laboratory fees, and other academic expenses. Army scholarship winners also receive a tax-free living allowance of up to $1,000 each school year the scholarship is in effect. Including pay earned for attending the Basic Camp (when appropriate), the Advanced Camp attended during summer between the junior and senior years, and the stipend, a scholarship is worth thousands of dollars.

Upon successful completion of military science and baccalaureate degree requirements, a scholarship Cadet will be commissioned either a Regular Army, Army Reserve, or Army National Guard Second Lieutenant in one of several branches of the Army — e.g., Infantry, Engineer, Armor, Medical Service Corps, etc. Insofar as possible, individual branch preferences are considered subject to the needs of the Army at the time of commissioning. Regular Army officers selected to attend civilian institutions after entry on active duty (The Army Fellowship Award) do so with full pay and allowances. Under current policy, scholarship cadets may be permitted to delay active duty for up to two years for the purpose of earning a Masters Degree at no expense to the Army.

Eligibility Requirements

You may qualify for one of the scholarships if you:

(1) are a citizen of the United States;

(2) will be at least 17 years of age by October 1 of the contracting year;

(3) will be able to complete all requirements for a commission and a college degree and be under 25 years of age on June 30, of the graduating year. (This age limitation is required by law and, therefore cannot be waived.)

(4) are a college freshman or sophomore;

(5) have no moral obligation or personal conviction that will prevent you from:

(a) supporting and defending the Constitution of the United States against all enemies, foreign or domestic or

(b) conscientiously bearing arms;

(6) can successfully meet the medical examination requirements;

(7) can successfully pass the physical aptitude examination;

(8) have excellent character.

MILITARY SCIENCE (GMS)

The first two years comprise the Basic Course (100 & 200 level courses). This Basic Course covers an introduction to Military Science and studies general subject areas. This provides the student with an insight to the military profession as an object of social inquiry and its position in American society. Included are subject areas relating to basic soldier skills and the opportunity to participate in all ROTC adventure training such as rappelling, white water rafting and survival training.

GMS 101. BASIC MILITARY SCIENCE I. Familiarizes the student with the United States Army by providing a broad overview of what it is like to be a commissioned officer in that

army. Topics include organization of the U.S. Army, causes and evolution of warfare, the Soviet Union, basic leadership motivational principles, map reading, military justice and equipment display. Three one-hour tests. (2 crs.)

GMS 102. BASIC MILITARY SCIENCE II. A performance-oriented program intended to develop leadership skills by presenting a preview of the platoon leader's job and providing the necessary training and practice in the principles and practices of leadership. (2 crs.)

GMS 201. MILITARY TACTICS AND STRATEGY. An introduction to tactics and strategy and their application in modern warfare, through a survey of the principles of war, operations orders and modern military history, for the purpose of acquiring a perspective on contemporary world problems and an appreciation for readiness, leadership and training. Four one-hour tests. (2 crs.)

The last two years comprise the Advanced Course (300 & 400 level courses). This Advanced Course provides the cadet with numerous leadership experiences and opportunities as well as physical readiness training, and advanced land navigation. This includes a realistic orientation to the duties of a junior officer in order to furnish realistic expectations about the role of a newly commissioned officer. Additionally, such areas as training, counselling, the maintenance of equipment and supplies, and additional duties of an officer are discussed.

GMS 300. ADVANCED LEADERSHIP. Extensive study in the area of military leadership in the combat environment, as well as a detailed study of tactics, communications, land navigation, advanced military skills, and physical readiness. Prerequisites: Acceptance into the Advanced Program. (3 crs.)

GMS 301. MILITARY SKILLS. The employment of military weapons, physical readiness training, practical applications exercises, and advanced land navigation. This course is mandatory for Advanced Course cadets prior to attendance at Advanced Camp. Prerequisites: Acceptance into the Advanced Program. (1 cr.)

GMS 400. CONTEMPORARY MILITARY ISSUES. Introduction to military law, logistics, unit administration, unit training, and a seminar on duties of the junior officer; an in-depth study of ethics and professionalism in the military profession. This course is required before commissioning. Prerequisites: GMS 300 and 301. (3 crs.)

GMS 401. LEADERSHIP LABORATORY. An in-depth discussion-based course that provides a comprehensive description of the duties of a junior officer in order to furnish realistic expectations about the role of a newly commissioned officer. Emphasis is placed upon those tasks which are critical for effective performance. These tasks and the variables which affect them are discussed in detail, including training, counselling, the maintenance of equipment and supplies, and additional duties. Discussion focuses on the platoon leader's role in the tasks and the interfacing with other personnel in the Army setting to perform effectively in these areas. This course provides the student with an understanding of the many resources which can assist the officer carrying out assignment, demonstrates how to communicate with soldiers and superiors, counsel soldiers with performance, personal, and discipline problems, and how to be constantly involved in decision making. Prerequisites: GMS 300 and 301. (1 cr.)

DEPARTMENT OF MUSIC

MUSIC (MUS)

Associate Professor Suskalo, *chair*. Associate Professors Gonano, Sutton, Tiberio; Assistant Professor Dolinar.

The Music Department offers an extremely wide range of courses and ensembles that appeal to the diversified interests of the student body. Numerous vocal and instrumental ensembles provide frequent and high quality performance opportunities for students. Academic courses cover the spectrum from classical and contemporary music appreciation, to harmony and theory, to highly specialized courses that focus on subjects as diverse as opera, jazz, and the symphony. Additionally, the Music Department actively

participates in the musical life of the entire college and surrounding tri-state area. To enumerate just a few, it organizes a recital series and a jazz festival, adjudicates at high school districts, and provides the musical direction for musical theatre productions.

Because the music faculty is involved in so many different activities, it has always been aware of, and adapted to, the ever changing challenges presented by the student body and the community.

MUSIC (MUS)

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

+MUS 100. INTRODUCTION TO MUSIC. A study of historical, analytical, and aesthetic elements of music. Through the use of recordings, radio, concerts and other media, every possible contact is made with music. (3 crs.)

+MUS 105. SURVEY OF JAZZ. The historical background of jazz from 1900 to the present, the noted figures in jazz and their contributions to the American musical form, and analysis of jazz styles through recordings and live performances. (3 crs.)

+MUS 106. SURVEY OF TWENTIETH-CENTURY MUSIC. A study of the development of contemporary music (including electronic music). Begins with Debussy and considers such prominent figures as Schoenberg, Berg, Webern, Stravinsky, Boulez, Stockhausen, Cage et al. (3 crs.)

+MUS 107. AMERICAN MUSIC. A study of American folk, popular, and art music native and European. Primitive music, psalmody, early opera and concert life, African and European folk music's influences on America, the music of European immigrants, and the roots of jazz. A chronological study of American composers and their music, including Black composers and their contributions to American music. Recordings of musical examples will be played throughout the semester. (3 crs.)

+MUS 108. THE MUSIC OF RUSSIA AND EASTERN EUROPE. The music of Bulgaria, Yugoslavia, Romania, Hungary, Czechoslovakia, the Ukraine, Poland, and Russia. Folk music, nationalistic music, and art music, and their relationship with and contributions to international music. Recorded examples of the music used throughout the course. No prerequisites. (3 crs.)

+MUS 111. MUSIC IN HUMAN SERVICES I. A preparatory course which presents the basics of music, theory, appreciation, accompaniment techniques, choral techniques and repertoire, and recreational music activities through creative projects which develop and formulate positive ways to meet the needs of the clients in various agencies, institutions and organizations. (3 crs.)

+MUS 112. MUSIC IN HUMAN SERVICES II. A continuation and refinement of the materials and techniques presented in Human Services I. The student's background will be expanded to include additional rhythmic experiences, and recreational music activities. Creative projects will be used to develop positive ways to meet the needs of clients in various agencies, institutions, and organizations. Prerequisite: MUS 111. (3 crs.)

+MUS 115. FUNDAMENTALS OF MUSIC. Designed to provide students with a knowledge of the fundamentals of music and an ability to execute basic skills. Includes 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. Strongly recommended for Elementary Education students and any others interested in strengthening their knowledge of music fundamentals. (3 crs.)

MUS 196. STAGE BAND. Entrance by interview with Stage Band Director. Required attendance at rehearsals and all public performances. *Membership is granted only by audition.* (1 cr.)

MUS 197. CALIFORNIA CHORALE. A group of approximately 20 mixed voices. Members are chosen from the student body, faculty, and members of surrounding communities. *Membership is granted only by audition.* The group sings good choral literature, most of which is sung a cappella. (1 cr.)

MUS 201. HARMONY I. Begins with a study of all diatonic chords, along with rules for four-part writing. Introduction to modulation. Extensive ear training. Also included are

at least two short original compositions in four parts, with or without words, involving materials studied. Prerequisite: MUS 115 or thorough knowledge of music fundamentals. (2 crs.)

MUS 205. SIGHT SINGING AND EAR TRAINING. Concentration on sight reading of material traditionally taught in public schools. Includes melody and rhythm, as well as two, three, and four-part singing; ear training in use of intervals, chords, cadences, melodic dictation of easy to moderate difficulty. (2 crs.)

MUS 206. RHYTHMIC EXPERIENCES. Structured for those students in Elementary Education with a basic understanding of music fundamentals. The class has two basic aims: (1) to review and fortify previous knowledge and understanding of basic rhythms, meters, note values, sight reading, and related problems associated with rhythm; (2) to present the students with skills and methods of presenting rhythmic activities in the elementary music curriculum. Students participate in actual performances on tuned and non-tuned percussion instruments. (2 crs.)

MUS 207. CHILDREN'S SONG LITERATURE. Study and memorization of songs for all occasions. Songs about animals, seasons, transportation, other countries etc. are representative of material included. Provides a memory repertoire for the teacher. Students also participate in classroom teaching. (2 crs.)

MUS 208. THE SYMPHONY. A general survey of the development of the symphonic form from earlier practice to the beginning of the twentieth century, with emphasis on composers whose primary significance rests on symphonic achievement. (3 crs.)

MUS 211. KEYBOARD I. For the student interested in achieving facility at the piano. Majors and minor scales, patterns and fingerings. Chords (I, IV, V_7) in both major and minor keys followed by their inversions. The common tone chord sequence pattern. A student completing the course should be able to play simple songs—melody with chord accompaniment. (2 crs.)

MUS 302. HARMONY II. A continuation of Harmony I, including more detailed modulation, altered chords, and analysis. At least one short four-part composition, written according to specification, is required. Prerequisite: MUS 201. (2 crs.)

MUS 305. OPERA SURVEY. The origin and history of opera, national contributions to the arts, the analysis of numerous representative operas, the relationship of operatic plots to history and events. (3 crs.)

MUS 312. KEYBOARD II. A continuation of Keyboard I for the more advanced student. Review of scales, chords, inversions, and sight reading, 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 are introduced. A thorough study of dominant seventh chords relating the simple improvisation within any given key. (2 crs.)

MUS 469. INDEPENDENT STUDIES IN MUSIC. (Variable)

DEPARTMENT OF NURSING

NURSING (NUR)

See also R. N. Anesthetist and Public School Nursing programs

Professor McKenzie, *Director.* Associate Professor Marcinek. Assistant Professors Olsen, Rollison, Stefanik.

Bachelor of Science in Nursing

The Department of Nursing was organized and approved in 1982 as a new unit in the existing College of Science and Technology at California University of Pennsylvania. Application for review for National League for Nursing accreditation will be initiated concurrently with or subsequently to the first graduating class.

The Department of Nursing is an upper-division program for Registered Nurses from associate degree and diploma programs who are currently licensed in the Commonwealth of Pennsylvania. This program leads to the Bachelor of Science degree in Nursing. Courses are scheduled in late afternoons and evenings to allow the working nurse to complete the program on a full-time or part-time basis. Clinical practicums for the application of learning are arranged with voluntary and official agencies in a variety of community settings. All R.N. students are admitted to the Pre-BSN program, and must complete all lower-division prerequisites and course requirements before being admitted to the Upper-Division BSN program.

Prerequisite courses may be challenged or accepted as transfer credits from accredited institutions, or they may be completed at California University of Pennsylvania as part of the degree program. *A minimum grade of C is required in each Nursing course.*

Previously completed lower-division courses must be challenged, according to established validation procedures: R.N. students seeking further information about nursing challenge examinations or the requirements for advanced placement in this program should make inquiry in the departmental offices.

The course of study combines general education in the humanities and the biophysical and psychosocial sciences with comprehensive theory and practice in Nursing. The program is designed to prepare the registered nurse to perform with greater flexibility and independence.

The general goal of this program is to prepare the graduate to function as a generalist in a wide variety of community settings. More specific aims of the program may be obtained from the department.

Requirements:

(A) **General Education:** Composition I (ENG 101) and II (ENG 102); College Algebra (MAT 101); Statistics (MAT 215) **or** Statistical Reasoning (MAT 325); General Psychology (PSY 100); Principles of Sociology (SOC 100); Developmental Psychology (PSY 207); The Family (SOC 220); Social Psychology (PSY 320); one elective course; Human Anatomy (BIO 306); Human Physiology (BIO 328); General Chemistry I (CHE 101) (4 total credits in Chemistry); Microbiology (BIO 326); Perspectives in Philosophy (PHI 100); Ethics (PHI 220); one course in Music, Art, Language, or Theatre; one course in Literature. Nursing Placement Exams (30 credits):
1. ACT/PEP or NLN Exams 2. Clinical Challenge Exam. Optional Challenge Exams (Anatomy/Physiology — 8 credits, Microbiology — 4 credits, Chemistry — 4 credits).

(B) **Area of Concentration:** Current Nutrition Perspectives in Clinical Practice (NUR 310); Principles of Management (BUS 201); Philosophy of Professional Nursing (NUR 330); Health Education in Nursing (NUR 340); Trends and Issues in Nursing (NUR 360); Community Nursing I (NUR 390); Community Nursing II (NUR 440); Leadership and Change in Nursing (NUR 490); Nursing Research (NUR 495); 7 credits of free electives.

NURSING (NUR)

NUR 310. CURRENT NUTRITION PERSPECTIVES IN CLINICAL PRACTICE. Concepts and principles, and selected biochemical aspects of cellular processes from research findings in controversial topics in management in nutrition care in wellness and illness. Clinical assignments have implications for the role of the nurse in care with diverse and multicultural individuals and families throughout the developmental life cycle within the health care delivery system. Placement: First semester Junior Year. Prerequisites: A & P, Chem., preparation in Nutrition. (3 crs.)

NUR 330. PHILOSOPHY OF PROFESSIONAL NURSING. Concepts, principles, and theories of professional nursing practice. Clinical assignments use the nursing process in

care with diverse and multicultural individuals and families throughout the developmental life cycle within the health care system. Placement: First semester Junior Year. Prerequisite: Upper-Division Status. (3 crs.)

NUR 340. HEALTH EDUCATION IN NURSING. Concepts and principles influencing the role of the nurse in the teaching-learning process. Clinical assignments use the nursing process in care with individuals and families throughout the developmental life cycle within the health care delivery system. Placement: First semester Junior Year. Prerequisites: NUR 310, NUR 330. (3 crs.)

NUR 360. TRENDS AND ISSUES IN NURSING. Analysis of professional nursing issues from historical and contemporary view points. Clinical assignments have implications for professional nursing practice in the health care delivery system. Placement: Second semester Junior Year. Prerequisites: NUR 340, SOC 220, PSY 320. (3 crs.)

NUR 390. COMMUNITY NURSING I. One-day clinical practicum each week for 15 weeks. Concepts and principles of Community Nursing associated with health maintenance and the role of the nurse as a leader. Clinical assignments apply the nursing process in interdisciplinary efforts to assist the healthy family, and the family at risk for illness and injury to maintain health by health promotion and primary prevention throughout the developmental life cycle. Three hours class; six hours clinical. Placement: Second semester Junior Year. Prerequisites: NUR 310, NUR 360. (6 crs.)

NUR 440. COMMUNITY NURSING II. One-day clinical practicum each week for 15 weeks. Concepts and principles of Community Nursing practice associated with health restoration and the role of the nurse as a leader and change agent. Clinical assignments apply the nursing process in interdisciplinary efforts to improve health services and assist community members to restore or adapt to health states using all levels of prevention. Factors that enhance or impede health states of community members who are affected by the complexity of acute, long term, chronically diminishing or depleted health states are explored. Three hours class; six hours clinical. Placement: First semester Senior Year. Prerequisites: NUR 390, BUS 201. (6 crs.)

NUR 490. LEADERSHIP AND CHANGE IN NURSING. One-day clinical practicum each week for 15 weeks. Analysis and synthesis of concepts in nursing and related areas regarding planned change, group development through study and experience in group process, group dynamics, and leadership roles. Selected clinical experiences provide for application of the nursing process, to use critical analysis, and decision-making to bring about change as a team member and as a team leader with individuals and groups. Three hours class; six hours clinical. Placement: Second semester Senior Year. Prerequisite: NUR 440. (6 crs.)

NUR 495. NURSING RESEARCH. Basic concepts, principles, methods and procedures of the research process associated with nursing practice. Selected clinical experiences provide for the application of legal and ethical considerations in conducting a research study with faculty guidance. Placement: Second semester Senior Year. Prerequisites: MAT 215, NUR 490. (4 crs.)

DEPARTMENT OF PHILOSOPHY

PHILOSOPHY (PHI)

Professor Lackner, *chair.* Professors Walsh, Hoy; Associate Professor Burns; Assistant Professor Smith.

Philosophy courses are open to all students.

The word philosophy comes from two Greek words that mean love (*phileo*) and knowledge (*logos*). Anyone who enjoys discovering knowledge might be called a philosopher, and thus the word was used originally. As humanity accumulated more and more information about itself and the world, learning became organized into special disciplines. In modern times, philosophy has come to be the academic discipline which studies critically the nature and development of different kinds of knowledge and attempts to relate these different kinds of beliefs to form a general, workable view of

reality. In short, philosophy deals with questions like "What do we really know, and how do we know it? What is the ultimate nature of reality? What is morally right, and how should we live?" Typically, the philosophy student studies the history of man's basic views about knowledge and the world, and develops logical skills that will help one to deal with specific philosophical issues relevant to life.

Though the chief reward in studying philosophy is the exercise of one's curiosity, the philosophy graduate has a number of career potentials. The philosophy major develops critical reasoning and writing skills and an ability to analyze problems from a variety of perspectives. These talents equip one for a broad range of positions in business and government. Depending upon one's interests, the study of philosophy can be excellent preparation for post-graduate study in law or business schools. Teaching positions in philosophy are, however, usually limited to colleges and universities, which normally require the Ph.D. Degree.

With a diversified faculty capable of serving the special needs of the students, and with most classes organized on a small-group basis, students find that they can develop their potential in a setting that emphasizes curiosity rather than competition. Students are encouraged to develop secondary interests that supplement their philosophical study. The major program is designed to provide a broad background in the primary areas of philosophy while allowing the student to explore in depth particular issues of special interest or concern. It is recommended that Philosophy majors have a strong second area related to their philosophical interests (e.g., art, history, literature, or a particular science coupled with mathematics), and that all majors take some laboratory course.

It is also recommended that those majors planning to seek a graduate degree in philosophy take at least two years of German, French or Russian.

Besides preparation for advanced study, the graduate in Philosophy may undertake a career in government of business, or may pursue graduate work in law or religious education.

Bachelor of Arts in Philosophy

Requirements:

(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:** Logic and Language (PHI 115); History of Ancient Philosophy (PHI 201); Sixteenth to Eighteenth Century Philosophy (PHI 206).

Major Electives: twenty-one credits: two courses in each of the following areas of philosophy:

Historical (designated by the letter 'H')

Normative (designated by the letter 'N')

Methodological (designated by the letter 'M')

One additional course from one of the above mentioned areas. Related Electives: thirty-eight hours.

PHILOSOPHY (PHI)

Introductory courses are indicated by a plus (+).

+PHI 100. PERSPECTIVES IN PHILOSOPHY. Analysis of such major philosophical issues as the nature of knowledge, reality, religion and morals. This course is not recommended for philosophy majors. (3 crs.)

+PHI 115. LOGIC AND LANGUAGE. An introduction to basic principles and techniques for distinguishing correct from incorrect reasoning. (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.)

+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.)

PHI 211. FORMAL LOGIC I. Introduction to the 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 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 - N. 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 - N. 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 relevation, the problem of evil, the belief in immortality and the meaningfulness of religious language. (3 crs.)

+PHI 240. PHILOSOPHY OF EDUCATION. Discussion of the aims of education and the relation of philosophy to education. (3 crs.)

+PHI 246. VALUES AND SCIENCE. A study of the nature of science and its relation to human values. Explores the problems that result from changes in our values as science and technology advance. (3 crs.)

+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 - H or N. 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 - H. 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 - H. 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 - M. 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 - N. 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 - M. A study of the methods, concepts and presuppositions of scientific inquiry. An attempt is made to understand science in the context of various theories of knowledge and reality. (3 crs.)

PHI 335. AESTHETIC THEORY - N. 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 345. AMERICAN PHILOSOPHY - H. A survey of the development of American philosophy from Jonathan Edwards to the present. (3 crs.)

PHI 355. HISTORY OF SCIENCE - H. A study of the conceptual development of science. Emphasizes the relation of scientific progress to alternative conceptions of scientific methodology and advances in technology and philosophical systems. (3 crs.)

PHI 405. EPISTEMOLOGY - M. 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 - M. 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 - M. 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 & EXISTENTIALISM - H. 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 Melleau-Ponty. (3 crs.)

PHI 431. ANALYTICAL PHILOSOPHY - H. 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 115 and PHI 206. (3 crs.)

PHI 459. TUTORIAL IN PHILOSOPHY - M. (Variable credits)

PHI 470. SPECIAL PROBLEMS IN PHILOSOPHY - M. A discussion of some special problem or issue in philosophy. (3 crs.)

PHI 471. SPECIAL PROBLEMS IN PHILOSOPHY - SALZBURG. (3 crs.)

PHI 490. SEMINAR IN PHILOSOPHY - M. A discussion of either one prominent philosopher or a movement in philosophy. (3 crs.)

DEPARTMENT OF PHYSICAL SCIENCE

PHYSICAL SCIENCE (PHS)

PHYSICS (PHY)

CHEMISTRY (CHE)

PRE-ENGINEERING

Professor Lazzaro, *chair.* Professors Dominick, Frangos, Fusco, David Johnson, Kells, Pajerski; Associate Professors Clendaniel, Hackett, Petrick, Robin, Zoppetti; Instructor Costello

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 commence graduate studies leading to the M.A. or Ph. D. in Chemistry.

Chemistry majors pursuing the B.S. degree must complete 45 credits in required courses and 23 credits in restricted electives which must be approved by the student's departmental advisor. Five of the latter credits must be earned from additional course work in chemistry, while the remaining eighteen credits may be accrued through course work in other natural sciences.

Through consultation with an advisor, students obtain information which 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 teaching, and research.

Career opportunities are as an analytical chemist, a quality control specialist, and industrial management trainee, a technical writer, a chemical purchasing agent; in sales work with the chemical industry; with advanced degree, in research and development. The program also provides preprofessional training in medicine, dentistry, and law, as well as preparation for graduate school.

Requirements:

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. General Chemistry I (CHE 101) and II (CHE 102) and III (CHE 203); Analytical Chemistry I (CHE 261); Organic Chemistry I (CHE 331) and II (CHE 332); Physical Chemistry I (CHE 451) and II (CHE 452); 5 credits of Chemistry electives; Calculus I (MAT 281) and II (MAT 282); Physics I (PHY 101) and II (PHY 102); 18 other credits of related electives.

Bachelor of Arts/Science in Physics

The programs leading to the Bachelor of Arts and Bachelor of Science degrees in Physics offer 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 comtemporary physics, including such courses in applied physics as plasma physics (e.g. Quantum Mechanics), Special and General Relativity, and Astrophysics. Advanced labs include facilities for studies in photometry, holography, the Mossbauer Effect, X-ray diffraction, and digital electronics.

The flexibility of the program allows the graduate to be equipped for many occupations, including entrance 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.

Bachelor of Science Degree in Physics

Requirements:

(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:** College Physics I (PHY 101) and II (PHY 102) and III (PHY 203); Intermediate Mechanics (PHY 221); Intermediate Electricity and Magnetism (PHY

261); Modern Physics I (PHY 331); Calculus I (MAT 281) and II (MAT 282) and III (MAT 381); Differential Equations (MAT 406); General Chemistry I (CHE 101) and II (CHE 102); 6 credits of Physics Electives; 19 credits of advanced related Electives.

Bachelor of Arts Degree in Physics

Requirements:

(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:** College Physics I (PHY 101) and II (PHY 102) and III (PHY 203); Intermediate Mechanics (PHY 221); Intermediate Electricity and Magnetism (PHY 261); Radiation and Optics (PHY 375); Modern Physics I (PHY 331); Advanced Laboratory I (PHY 451); Calculus I (MAT 281) and II (MAT 282) and III (MAT 381); Differential Equations (MAT 406); General Chemistry I (CHE 101) and II (CHE 102); 9 credits of Physics Electives; 12 credits of Advanced Related Electives.

Bachelor of Science in Education: Certification in Chemistry for Secondary Schools

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact of Technology on Society (EDU 200); 15 credits of free electives including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300) - **or** Introduction to Guidance and Personnel Services (EDS 420) - **or** The Secondary School Curriculum (EDS 456); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 210); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Teaching of Science in Secondary Schools (EDS 467) - **or** Modern Methods (EDS 455); Student Teaching and School Law.

(C) **Professional Specialization:** General Chemistry I (CHE 101) and II (CHE 102); Analytical Chemistry I (CHE 261); Organic Chemistry I (CHE 331); Physical Chemistry I (CHE 451); Individual Work I (CHE 368); Calculus I (MAT 281); Introduction to Biology (BIO 102); College Physics I (PHY 101).

Bachelor of Science in Education: Certification in Physics for Secondary Schools

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact of Technology on Society (EDU 200); 15 credits of free electives including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300) - **or** Introduction to Guidance and Personnel Services (EDS 420) - **or** The Secondary School Curriculum (EDS 456); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 210); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP 404); Teaching of Science in Secondary Schools (EDS 467 - Modern Methods (EDS 455); Student Teaching and School Law.

(C) **Professional Specialization:** College Physics I (PHS 101) and II (PHS 102) and III (PHS 203); Intermediate Mechanics (PHS 221); Intermediate Electricity and Magnetism (PHS 261); Modern Physics (PHS 331); Physics Seminar (PHS 495); Calculus I (MAT 281) and II (MAT 282) and III (MAT 381); General Chemistry I (CHE 101).

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 of endeavor, the programs provide the student with initial studies in both the arts and sciences at California University of Pennsylvania during which time the student may ascertain whether his 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.

Requirements:

(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 (ENG 101) and II (ENG 102); Oral Communications (SPE 101).

(B) **Area of Concentration:** Technical Drawing I (IAR 111); Engineering Seminar; General Chemistry I (CHE 101) and II (CHE 102); College Physics I (PHS 101) and II (PHS 102) and III (PHS 203); Calculus I (MAT 281) and II (MAT 282) and III (MAT 381) and IV (MAT 382); Linear Algebra I (MAT 341); Computer Science I (CSC 121); Differential Equations (MAT 406); 16 credits of Engineering Discipline Courses.

CHEMISTRY (CHE)

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

+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. (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, and electrochemistry. Prerequisite: CHE 101. Three class and three laboratory hours each week. (4 crs.)

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.)

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.)

CHE 261. ANALYTICAL CHEMISTRY I. An introduction to quantitative analytical technique and procedures, including a statistical evaluation of gravimetric, volumetric, chromatography, and electrochemical data. Prerequisites: CHE 101 and 102. Three lecture hours and three laboratory hours each week. (4 crs.)

CHE 262. INSTRUMENTAL ANALYSIS I. An introduction to colorimetric and spectrophotometric techniques and procedures, including ultraviolet and visible, infrared, emission and atomic absorption, nuclear magnetic resonance raman, and electron spin resonance. Prerequisite: CHE 261. Three lecture hours and three laboratory hours each week. (4 crs.)

CHE 331. ORGANIC CHEMISTRY I. An introduction to the basic principles which govern the behavior of carbon compounds. Particular emphasis on the structure of organic compounds, acid and base theory, and an introduction to the fundamental principles necessary for the study of organic reaction mechanisms. Three class hours each week and four laboratory hours each week. Prerequisites: CHE 101 and 102. (4 crs.)

CHE 332. ORGANIC CHEMISTRY II. A thorough examination of the major reactions characteristic of organic compounds. Particular emphasis on substitutions, additions, eliminations, condensations, and rearrangements. Three class hours each week and four laboratory hours each week. Prerequisite: CHE 331. (4 crs.)

CHE 340. ORGANIC SPECTROSCOPIC INTERPRETATION. A course in how to "read" spectra (ultraviolet, infrared, mass, and nuclear magnetic resonance). With spectra in hand, the student learns how to determine the identity and structure of an unknown organic compound. Prerequisites: CHE 332. (3 crs.)

CHE 345. MEDICINAL CHEMISTRY. (3 crs.)

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. (Variable)

CHE 400. PHARMOCOLOGY. (4 crs.)

CHE 411. BIOCHEMISTRY I. A comprehensive survey of the properties of amino acids, elucidation of protein structure, protein biosynthesis, the Genetic Code, and carbohydrate metabolism. Prerequisite: CHE 101 and/or instructor's permission. (3 crs.)

CHE 412. BIOCHEMISTRY II. A continuation of Biochemistry I and including fatty and biosynthesis, fatty acid metabolism, photosynthesis, protein metabolism, vitamins, hormones and immunochemistry. Prerequisite: CHE 411 and/or instructor's permission. (3 crs.)

CHE 421. ADVANCED INORGANIC CHEMISTRY I. Modern treatment of principles of inorganic chemistry, emphasizing chemical bonding and sterochemistry, with emphasis on periodic properties, acid and bases, and non-aqueous solvents. Coordination compounds; nomenclature sterochemistry, and kinetics of coordination compounds of the short and long transition metals. Three class hours each week. Prerequisite: CHE 451. (3 crs.)

CHE 422. ADVANCED INORGANIC CHEMISTRY II. Prerequisite: CHE 421. (3 crs.)

CHE 425. ORGANIC PREPARATIONS. Prerequisite: CHE 331 and 332. (3 crs.)

CHE 426. QUALITATIVE ORGANIC CHEMISTRY. Prerequisites: CHE 331 and 332. (3 crs.)

CHE 433. ADVANCED ORGANIC CHEMISTRY I. A detailed study of selected organic reactions and their mechanisms. Elucidation of complex transformations in terms of simple reaction sequences. Three class hours each week. Prerequisites: CHE 331 and 332. (3 crs.)

CHE 434. ADVANCED ORGANIC CHEMISTRY II. Prerequisite: CHE 433. (3 crs.)

CHE 435. PHARMACOLOGY FOR THE NURSE ANESTHETIST. (3 crs.)

CHE 441. INSTRUMENTAL ANALYSIS II. Chromopotentiometry, coulometry, electrodeposition, stripping analysis, chromoamperometry, polarography, voltametry, cylclic voltametry, and column, thin-layer, and gas chromatography. Three class hours each week and three laboratory hours each week. Prerequisites: CHE 261 and 262. (3 crs.)

CHE 442. LABORATORY TECHNIQUES WITH INSTRUMENTAL ANALYSIS II. Prerequisite: CHE 441. (3 crs.)

CHE 445. MATHEMATICS FOR CHEMISTS. Mathematical techniques, including differential and integral calculus, ordinary and partial differential equations, vector and matrix algebra, eiginfunction theory and group theory are employed in the solution of problems of chemical systems. Three class hours each week. (3 crs.)

CHE 451. PHYSICAL CHEMISTRY I. Properties of gases, kinetic-molecular theory, molecular energies, classical and statistical development for the First, Second, and Third laws of thermodynamics, with applications to thermochemistry and chemical equilibria. Prerequisites: CHE 261 and Mathematics through Integral Calculus. Three class hours and three lab hours each week. (4 crs.)

CHE 452. PHYSICAL CHEMISTRY II. Kinetics of chemical reactions, properties of liquids, phase equilibria, solutions, thermodynamics, properties of electrolytes in solution and electrochemistry. Prerequisite: CHE 451. Three class hours and three lab hours each week. (4 crs.)

CHE 453. ADVANCED PHYSICAL CHEMISTRY. A detailed study of chemical bonding, atomic and molecular structure. Subject matter includes quantum mechanics, symmetry and group theory, experimental study of molecular structure through spectrascopic and diffraction methods. Three class hours each week. Prerequisites: CHE 451 and 452. (3 crs.)

CHE 454. ADVANCED PHYSICAL CHEMISTRY II. Prerequisite: CHE 453. (3 crs.)

CHE 457. CHEMISTRY FOR HIGH SCHOOL TEACHERS. Designed for the teacher in service. Includes recent ideas in chemical bonding, crystal structure, and radio and nuclear chemistry. Three class hours each week. Prerequisite: Certification in General Science or Chemistry. (3 crs.)

CHE 463. ADVANCED ANALYTICAL CHEMISTRY. Theory and application of instrumental techniques used for inorganic and organic systems. Topics considered are separate and electrochemical chemical techniques. Separation techniques utilize all modes of chromatography; and, using the "double layer" theory, all electrochemical techniques are treated for the analysis of the systems. Using group theory as a basis, all divisions of spectroscopy are treated for the analysis of systems. Prerequisite: CHE 261 and permission of the instructor. (3 crs.)

CHE 464. ADVANCED ANALYTICAL CHEMISTRY II. Prerequisites: CHE 261 and permission of the instructor. (3 crs.)

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 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.)

CHE 497. SPECIAL TOPICS. Meets the needs of students who may want to study a topic in more detail than is given in the regular courses, or who may want to pursue some topic not included in their course work. (Variable)

PHYSICS (PHY)

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

+PHY 101. COLLEGE PHYSICS I. Introductory Physics. Vectors, mechanics, hydrostatics, heat and thermodynamics. Three class hours and three laboratory hours each week. Corequisite: MAT 102. (4 crs.)

+PHY 105. GENERAL PHYSICS - MEDICAL TECHNOLOGY. An introductory course for students of Medical Technology. Mechanics, electricity and magnetism, light and radio-

activity. Three class hours and three laboratory hours each week. Prerequisite: MAT 101. (4 crs.)

+PHY 106. GENERAL PHYSICS - INDUSTRIAL ARTS. Emphasis on mechanics: vectors, forces, work, power, and energy. Considerable attention given to the application of the principles of physics to machines. Three class hours each week and three laboratory hours each week. Prerequisite: MAT 101. (4 crs.)

PHY 107. HEAT, LIGHT, AND SOUND. (3 crs.)

+PHY 111. INTRODUCTORY PHYSICS I - BIOLOGY. For biology majors. Topics include mechanics, properties of matter, and heat. Examples from biology are given as application of physical laws. Three class hours and three laboratory hours each week. Recommended: A functional knowledge of algebra and elementary trigonometry. (4 crs.)

+PHY 112. INTRODUCTORY PHYSICS II - BIOLOGY. A continuation of Physics III. Topics include waves, electricity and magnetism, and modern physics. Three class hours and three laboratory hours each week. Prerequisite: PHY III. (4 crs.)

+PHY 202. COLLEGE PHYSICS II. A continuation of Physics 101. Waves and acoustics, electricity, magnetism, AC circuits, and electromagnetic waves. Three class hours and three laboratory hours each week. Corequisite: MAT III. (4 crs.)

PHY 203. COLLEGE PHYSICS III. A continuation of Physics 102. Light atomic and nuclear physics, and special relativity. Some time is also spent reviewing material from Physics 101 and 102. Three class hours and three laboratory hours each week. Prerequisite: Physics 102. Corequisite: MAT 112. (4 crs.)

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 each week and three laboratory hours each week. Prerequisite: PHY 102. Corequisite: MAT 213. (4 crs.)

PHY 235. GEOPHYSICS. A primary emphasis of this course is geophysical prospecting for oil. It particularly focuses on the following prospecting methods: seismic refraction and reflection, gravitational, magnetic, and electrical. Prerequisite: PHY 102. (3 crs.)

PHY 256. ASTRONOMY. Astronomy of the solar system and the universe beyond, the evolution of stars and stellar systems, recently discovered quasars and pulsars, and the current cosmological models of the universe. (3 crs.)

PHY 301. INTERMEDIATE ELECTRICITY AND MAGNETISM. Ordinary differential equations, fundamentals of electromagnetics, multipole fields, Laplace and Poisson equations, electromagnetic field equations, electromagnetic waves, reflection, and refraction. Three class hours each week. Prerequisite: PHY 221. (4 crs.)

PHY 305. ELECTRONICS. Prerequisite: PHY 261. (4 crs.)

PHY 322. ADVANCED MECHANICS. A continuation of Physics 221. Variational principals, relativistic dynamics, Hamilton's equations, canonical transformations, Hamilton-Jacobi theory, continuous systems, and classical field theory. Applications to quantum mechanical, electromagnetic, and relativistic systems. Three class hours each week. Prerequisites: PHY 261 and MAT 213. (3 crs.)

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. Three class hours each week. Prerequisites: PHY 261 and MAT 213. (3 crs.)

PHY 332. MODERN PHYSICS II. An introduction to solid state physics, nuclear physics, and elementary particle physics. Three class hours each week. Prerequisites: Physics 331. (3 crs.)

PHY 341. MATHEMATICAL METHODS OF PHYSICS I. The application of the following techniques to problems in physics: ordinary differential equations, infinite series, evaluation of integrals, eigenfunction theory, calculus of variations, vectors and matrices, special functions, and partial differential equations. Three class hours each week. Prerequisites: PHY 261, MAT 213. (3 crs.)

PHY 342. MATHEMATICAL METHODS OF PHYSICS II. A continuation of Physics 341. Perturbation theory, integral transforms, integral equations of complex variables, tensor analysis, and an introduction to groups and group representations. Three class hours each week. Prerequisite: PHY 341 or equivalent math courses. (3 crs.)

PHY 362. ADVANCED ELECTROMAGNETIC THEORY. A continuation of Physics 261. The microscopic theory of dielectrics, magnetic properties of matter, slowly varying currents, introduction to plasma physics, applications of Maxwell's equations, special relativity electrodynamics, and superconductivity. Three class hours each week. Prerequisite: PHY 261. (3 crs.)

PHY 375. RADIATION AND OPTICS. This course begins with a review of Maxwell's equations and wave analysis, and then goes into Fraunhofer diffraction, radiation from atoms, polychromatic waves, scattering, reflection and transmission of waves, magneto- and electro- optic effects. (3 crs.)

PHY 376. STATISTICAL AND THERMAL PHYSICS. Statistical methods, statistical thermodynamics, macroscopic thermodynamics and its relation to statistical mechanics, application of statistical mechanics to gases and solids, phase equilibrium, and quantum statistics. Three class hours each week. Prerequisite: PHY 261. (3 crs.)

PHY 405. QUANTUM MECHANICS. An introduction to the necessity of quantum mechanics, followed by a discussion of Schroedinger's equation in one dimension, systems of particles in one dimension, motion in three dimensions, angular momentum and spin, approximation methods, and various applications to atomic and nuclear physics. Three class hours each week. Prerequisite: PHY 332. (3 crs.)

PHY 409. SENIOR THESIS. An opportunity for each physics major to do individual research on a topic of his choosing, either experimental or theoretical. Prerequisites: Senior standing and PHY 332. (Variable)

PHY 435. PLASMA PHYSICS. Prerequisites: PHY 261, 376. (3 crs.)

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. One class hour each week and six laboratory hours each week. (3 crs.)

PHY 452. ADVANCED LABORATORY II. An extension of Physics 451. The experiments are selected from Modern Physics II as well as from some of the advanced courses (such as Nuclear Physics, Solid State Physics, Plasma Physics, and Optics). Computer analysis of data. One class hour each week and six laboratory hours each week. Prerequisites: PHY 451, 332. (3 crs.)

PHY 455. SOLID STATE PHYSICS. (3 crs.)

PHY 465. SPECIAL AND GENERAL RELATIVITY. Relativistic mechanics and electrodynamics of mass points, mechanics of continuous matter, applications of the special mental tests of the general theory, and equations of motion in the general theory. Three class hours each week. Prerequisite: PHY 332. (3 crs.)

PHY 495. 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 and College Physics II). (1 cr.)

PHYSICAL SCIENCE (PHS)

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

+PHS 111. MAN AND HIS PHYSICAL WORLD I. Presented in a two module approach: The first module, Reaction and Reason, focuses on basic concepts and skills from the physical sciences. A second module, The Delicate Balance, reinforces and extends these concepts and skills by examining some of environmental problems and issues we face today. Three class hours and three laboratory hours each week. (5 crs.)

+PHS 112. MAN AND HIS PHYSICAL WORLD II. Prerequisite: PHS 111. (5 crs.)

+PHS 116. BASIC PHYSICAL SCIENCE A. Provides the non-science major with the opportunity to acquire a basic understanding and appreciation of contemporary physical science. Classroom activities and discussions center on the topics chosen by the professor with or without the solicited aid of the students in the class. (3 crs.)

+PHS 117. BASIC PHYSICAL SCIENCE B. An elementary, non-laboratory approach to the physical world. Topics selected jointly by students and instructor. (3 crs.)

+PHS 118. MAN, METHODS, MATERIALS. (3 crs.)

+PHS 125. OBSERVATIONAL ASTRONOMY. (2 crs.)

PHS 126. MODERN PHYSICS AND ANTI-PHYSICS. (3 crs.)

PHS 127. THE PHYSICS OF MUSIC. (3 crs.)

PHS 128. PRACTICAL ELECTRONICS. A practical non-mathematical view of some fields of elementary electronics. The student is given the opportunity through laboratory work to examine some of the theory presented in lecture and is required to build a project. Solid theory and application is emphasized, although vacuum tubes are mentioned. (3 crs.)

PHS 135. CHEMISTRY OF MATERIALS. A general education course without prerequisites designed with a slant toward graphic arts. The content includes basic chemistry background, photographic chemistry and solution chemistry needed to understand graphic arts processes. (3 crs.)

PHS 136. ENVIRONMENTAL CHEMISTRY. A number of the most significant factors in the relevance of science and the chemical environment in which people live. The air, water, and earth provide raw materials to be used in the practice of science and technology for the sustenance and comfort of mankind. (3 crs.)

PHS 145. ASTRONOMY. Non-mathematical presentation of methods and results of astronomical discovery. Survey of facts and important astronomical theories. Solar systems and the stellar system, including binary and variable stars, clusters, and nebulae. Discussion of observations, techniques, and interpretations. Three class hours each week. (3 crs.)

PHS 201. GENERAL CHEMISTRY/PHYSICS. The basic principles of chemistry that are applicable in the field of medicine, specifically in the area of anesthesia. (4 crs.)

PHS 205. CONTEMPORARY ISSUES OF SCIENCE AND SOCIETY. Major science-related societal problems. The class will identify some of these problems: air pollution, water pollution, sound pollution, population control and distribution, and drug abuse. (3 crs.)

PHS 409. PRACTICUM FOR TEACHERS OF SCIENCE IN THE SECONDARY SCHOOL. Emphasizes design and use of apparatus, demonstrations, and experiments for general science, chemistry, physics, and biology. Special emphasis is placed on secondary school scientific instructional materials. (3 crs.)

DEPARTMENT OF PSYCHOLOGY

PSYCHOLOGY (PSY)

Professor R. Scott, *chair.* Professors Baldridge, Fabian, Hambacher, Howard, London, Palermo, Maurice Wilson. Associate Professors Levendos, O'Brien, Williams.

Psychology is at one time a scholarly discipline, a scientific field and a professional activity. Its overall focus is on the study of both animal and human behavior and related mental and physiological processes. Thus psychology emphasizes human communication, principles and theories of behavior, research on the causes and dynamics of behavior patterns, and the practical application of knowledge, skills, and techniques for the solution and/or prevention of individual and social problems.

The psychologist's level of education is often a major factor in shaping a career. Because most doctoral-level psychologists have been exposed to a large and varied body of knowledge and techniques in psychology, those who hold the doctoral degree enjoy the widest range of work choices and the

most responsible, as well as highest-paid, positions. A large number of psychologists are trained up to the Master's Degree (M.A.) and represent the largest group among the three levels of training available to psychologists. Traditionally, the Bachelor's Degree (B.A.) level of academic training has not been considered sufficient for the career as a professional psychologist. Practically every state in the U.S. requires a license or certificate whose basic requirements are the possession of a Master's Degree and several years of work experience. Those with B.A. degrees, however, have the opportunity, along with other psychologists, of being sought after in a variety of specialty areas.

Because psychology tends to be confused with psychiatry, a medical specialty, many people erroneously assume that psychology and psychologists concern themselves primarily with psychopathology and deviant behavior. Although some psychologists do, of course, deal with abnormal persons and phenomena, the concern of psychology and the occupations of psychologists are considerably more diverse. Psychologists today are rarely limited to any one kind of specialty.

Some of the specialty work areas for psychologists are found in various social, institutional and industrial settings such as schools, community agencies, mental health clinics, private industry, government agencies, hospitals, and in private practice. They work as teachers of psychology on the high school and college level, scientists and researchers, clinical psychologists, educational psychologists, community and social psychologists, industrial psychologists, and school psychologists, as well as in the presently expanding field of ecology and environmental psychology.

As in all professions, specialization is a crucial factor and demands the highest level of academic and work experience for success. Yet there are Psychology majors who do not wish to go beyond the B.A. Employment for such persons in the field of psychology is possible. It is, however, necessary to keep in mind that undergraduate training is fundamentally general, and does not represent a specialty in the sense referred to above. Nevertheless, job opportunities are to be found in clinics, hospitals, industry, community agencies and government, but at a job-entry level and under supervision. There is a rapid growth in the number and variety of programs designed to meet the ever-growing needs of educational and mental health problems in our society. Crowding, land use, social and environmental phenomena and their impact are rapidly increasing the need for a new breed of psychologists. The problems of the city have already produced a new specialty in psychology and a great need for people with training in psychology to meet the expanding job opportunities in this field. A career in psychology is realistically possible at all levels of training.

Bachelor of Arts in Psychology

Requirements:

(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); Psychological Statistics (PSY 325); Psychology of Learning (PSY 335); History and Systems of Psychology (PSY 345); Child Psychology (PSY 205) **or** Adolescent Psychology (PSY 206); Social Psychology (PSY 320) **or** Industrial Psychology (PSY 326) **or** Psychological Testing (PSY 340); Abnormal Psychology (PSY 400) **or** Psychology of Personality (PSY 405). Nine to 27 credits of additional Psychology courses. Twenty to 38 credits in related electives, including courses

in at least three of the following areas: Anthropology, Sociology, Biology, Political Science, Philosophy, Physics, Chemistry, Social Work, and Educational Foundations.

Bachelor of Arts in Industrial/Organizational Psychology

Personnel officers today need more than just the traditional economic and statistical tools: they also need insight into organizational dynamics and strong decision-making tools. For this reason a solid training in psychology is an important asset for anyone interested in what may be called human resource management, the general areas of personnel supervision in government, business, or industry. Psychology has contributed significantly to the research and practical application involved in recruiting, interviewing, and testing. Similarly, the areas of training, job design, and employee motivation have been heavily influenced by research done in psychology. In this area of concentration, the student takes traditional business and personnel-related courses but also sufficient courses in behavioral sciences to develop the necessary analytical skills demanded of personnel officers in any field.

This area of concentration prepares students not only for futher graduate work in Industrial/Organizational Psychology but for the numerous positions entailing personnel recruitment, training, testing, and supervision.

Requirements:

(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); Child Psychology (PSY 205) **or** Adolescent Psychology (PSY 206); Psychology of Sex Roles (PSY 210); Social Psychology (PSY 320); Psychological Statistics (PSY 325); Industrial Psychology (PSY 326); Psychology of Learning (PSY 335); Psychological Testing (PSY 340); History and Systems of Psychology (PSY 345); Interviewing Skills (PSY 370); Abnormal Psychology (PSY 400). Related courses: Personnel Management (BUS 351); Collective Bargaining (BUS 335); Business Law I (BUS 242); Basic Programming Language (CSC 105); **or** Computer Science I (CSC 121); Oral Communication: Management (SPE 103); Business Writing I (ENG 211); Accounting I (BUS 111); Principles of Management (BUS 201); Fundamentals of Industrial Safety (ITE 101); 2 further credits.

PSYCHOLOGY (PSY)

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

+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, preception, testing, personality, behavior disorders, and individual differences. Experimental research as well as practical application is stressed. (3 crs.)

+PSY 110. EDUCATIONAL PSYCHOLOGY. The nature of the learning process, with emphasis on the application of principles of learning to the problems of teaching. The study of actual classroom problems and procedures by observation of regular work and by special illustrative demonstrations in the laboratory school. The psychological climate of the classroom, the importance of evaluating the child's total learning, the group process, and guidance as an essential part of creative teaching. Should furnish the prospective teacher with a foundation in the theories, principles, and master ideas of the educative process. Prerequisite: PSY 100. (3 crs.)

+PSY 205. CHILD PSYCHOLOGY. The patterns of physical, mental, social and emotional development in the period of early childhood through the prepubescent period. The role of maturation and of experience in determining normal development of the individual. Prerequisite: PSY 100. (3 crs.)

+PSY 206. ADOLESCENT PSYCHOLOGY. Factors that influence the growth and development of adolescents. Emphasis on the relationship among physiological, psychological and sociological factors. Theoretical systems used to describe, explain, predict, and work with adolescents. Prerequisite: PSY 100. (3 crs.)

+PSY 207. DEVELOPMENTAL PSYCHOLOGY. The patterns of physical, mental, social and emotional development from early childhood through maturity. Particularly oriented to students who will work with children and wish to understand their developmental patterns. Prerequisite: PSY 100. (3 crs.)

PSY 210. PSYCHOLOGY OF SEX ROLES. Theories and current research on the psychological natures of women and men and their roles in society. The aim is to examine critically assumptions about women held by the discipline of psychology and by our culture as a whole, and to test these assumptions in the perspective of current research and individual experience. It includes sequential treatment of all relevant levels of analysis—biological, psychological, organizational and cultural. Prerequisite: PSY 100 or its equivalent. (3 crs.)

PSY 215. PSYCHOLOGY OF THE EXCEPTIONAL CHILD. The psychological problems of hearing, speech, mental, and personality defects, and of children who are culturally disadvantaged, as well as problems of children of superior ability. A major purpose is to gain a functional understanding of their problems and of the procedures for helping them to cope with them. Prerequisite: PSY 100. (3 crs.)

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. (Should not be taken if Psychology of Adjustment has been taken.) Prerequisite: PSY 100. (3 crs.)

PSY 320. 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.)

PSY 325. PSYCHOLOGICAL STATISTICS. The need for statistics in psychology is demonstrated by examining the variable nature of psychological measurements. The statistics of chance variability and its relation to the normal probability curve are studied in detail. A number of correlational methods are presented, along with the types of psychological problems for which each is suited. Prediction of one variable from another using these correlations and regression coefficients is learned, but with considerable attention to data typical of problems in the area of psychology. Prerequisite: PSY 100. (3 crs.)

PSY 326. INDUSTRIAL PSYCHOLOGY. The application of psychological principles of behavior to people-work conditions. An examination of business and industrial activities and the role 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.)

PSY 327. SPECIAL PROBLEMS IN INDUSTRIAL PSYCHOLOGY. A survey of several important issues not considered in PSY 326, including organizational dynamics, managerial problem-solving, employee rights laws, wage and salary psychologies, and the understanding of employee motivations. Prerequisite: PSY 326. (3 crs.)

PSY 330. 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.)

PSY 335. 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 and Junior rank. (3 crs.)

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. Prerequisite: PSY 100. (3 crs.)

PSY 345. HISTORY OF SYSTEMS OF PSYCHOLOGY. A detailed look at the evolution of psychological thought from its ancestral background through its development into a scientific discipline separate from philosophy, physiology and physics. 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.)

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: Educational and Developmental Psychology or permission of the instructor. (3 crs.)

PSY 355. 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.)

PSY 360. EXPERIMENTAL PSYCHOLOGY. Research methodology, experimental design, and the appropriate statistical treatments of psychological data. Although demonstrations are used, students are encouraged to design their own procedures for experimentally testing scientifically meaningful propositions. A combination of laboratory time and discussion periods permits a critical consideration of principles and theories that are amenable to experimental investigation. Students are required to do an individual experiment as part of the course requirements. Prerequisite: PSY 100. (4 crs.)

PSY 370. INTERVIEWING SKILLS. For junior and senior students who will soon be seeking employment in a social service or organizational setting, by providing knowledge and practical experience in several different and specific types of interviews, especially the selection interview for employment, the counseling interview in the social service setting, the career planning interview, and the attitudinal or consumer interview. Prerequisite: Junior or senior standing. (3 crs.)

PSY 400. ABNORMAL PSYCHOLOGY. A survey of behavior pathology—including the psychoses, neuroses, character disorders including drug addiction and psychophysiological disorders—together with a general consideration of etiology, treatment, and prognosis. Prerequisite: PSY 100. (3 crs.)

PSY 405. 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.)

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 the type 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 100, 340, 400, 405 and Senior standing. (3 crs.)

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 100, 400, 340 and Senior standing. (3 crs.)

PSY 452. CLINICAL PRACTICUM IN PSYCHOLOGY I. Special study in case study methods, psychological testing, and psychopathology. Prerequisites: PSY 340, 325, 411, and permission of the head of the department. (3 crs.)

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 340, 325, 411, 452 and permission of the head of the department. (3 crs.)

PUBLIC SCHOOL NURSING (PSN)

Bachelor of Science in Education: Public School Nurse

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 Placement office 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 due to 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 to 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 which 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.

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.

Requirements:

Public School Nursing (PSN 306); Public Health Nursing I (PSN 301) and II (PSN 302); Nutrition and Community Health (PSN 305); Prevention and Control of Communicable Disease (PSN 405); Foundations of Education (EDF 100); Educational Psychology (PSY 110); Developmental Psychology (PSY 207); Introduction to Guidance (EDS 420); one Sociology course; Introduction to Exceptionality; Developmental Reading in Secondary Schools (EDS 465); 9 credits in Humanities; 9 credits in Social Sciences; 6 credits of free electives. A minimum of fifteen hours of practicum in the public schools is required in addition to the regular classroom work.

PUBLIC SCHOOL NURSING (PSN)

PSN 301. PUBLIC HEALTH NURSING I. A study of the fundamental principles of public health nursing. Topics are related to changes in concepts of public housing, sanitation and other contemporary public health problems. (3 crs.)

PSN 302. PUBLIC HEALTH NURSING II. The principles of public health nursing and the functions of the nurse in various services of public health nursing such as child hygiene, communicable disease, industrial nursing, tuberculosis, venereal disease, cancer and polio. (3 crs.)

PSN 305. NUTRITION AND COMMUNITY HEALTH. The role of nutrition in attaining and maintaining good health and planning food budgets for various income groups, the role of the nurse as a nutritional resource person. (3 crs.)

PSN 306. PUBLIC SCHOOL NURSING. The development, planning and procedures for carrying out a school health program in relation to public school nursing. (4 crs.)

PSN 405. PREVENTION AND CONTROL OF COMMUNICABLE DISEASE. Communicable disease problems of our society. Emphasis is placed on prevention and control as they relate to public school nursing. (3 crs.)

R. N. ANESTHETIST PROGRAM

REGISTERED NURSE ANESTHETIST (RNA)

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. The College of Education 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 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 practices.

—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 and additional 26 credits for completion of the anesthetist program.

All R. N.'s graduating from an Associate Degree Program must have the college transcript evaluated to determine the number of credits granted.

To complete the requirements for a Bachelor of Science in Education, students must complete 34 additional credits of approved college work. Thirty credits must be earned at California University of Pennsylvania.

Requirements:

Foundations of Education (EDF 100); Psychological Foundations of Nursing (RNA 401); 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); 9 credits in Humanities and Social Sciences.

In addition to classroom work, a fifteen-hour field experience in programs of nearby hospitals affords students opportunities for practical experiences in administrative functions.

REGISTERED NURSE ANESTHETIST (RNA)

RNA 401. PSYCHOLOGICAL FOUNDATIONS OF NURSING. To the problems of promoting better social, emotional and mental health care; aspects of psychological foundations of life, human (pathos) emotions, psychology of human personality, psychology of good mental health as well as a system of values. (3 crs.)

RNA 411. ADMINISTRATION AND FIELD EXPERIENCE FOR NURSE ANAESTHETIST. The principles and practices of administration of nurse anaesthetist as 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.)

SECONDARY EDUCATION

The Secondary Education programs meet the standards of accrediting agencies. California University of Pennsylvania is accredited by the Middle States Association of Colleges and Universities and the College of Education has national Accreditation from the National Association of Colleges of Teacher Education.

California University offers nine programs leading to certification in the secondary school. These programs include: Biology, Chemistry, Communications, Earth Science, English, Mathematics, Modern Foreign Language, Physics, and Comprehensive Social Sciences.

Students enrolled in the College of Education, regardless of major, may also enroll in one or more endorsement programs. Endorsement programs enable a person to teach in an additional area. California has four endorsement programs; General Science, Driver's Education and Safety, Environmental Education, and Athletic Training.

The faculty and students of California are participating members of an educational institution charged with the 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.

Specifically, the College of Education provides an atmosphere wherein the prospective teacher may acquire knowledge, attitudes, skills, and understandings necessary for becoming an effective educator. Furthermore, each program provides for early, sequential and continuous field experiences that closely approximate full-time employment appropriate to the area of certification.

DEPARTMENT OF SOCIAL SCIENCES

ANTHROPOLOGY (ANT)

POLITICAL SCIENCE (POS)

SOCIAL SCIENCE (SOS)

SOCIOLOGY (SOC)

Professor Zemo, *chair.* Professors Barber, Jack, Marino, Michael, Schweiker, Stephenson, Welsh, Womsley; Associate Professors Brady, Fear, George, Hepner.

Bachelor of Science in Education: Certification in Social Studies for Secondary Schools

Requirements:

(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 (SPE 101); General Psychology (PSY 100); Impact of Technology on Society (EDU 200); 15 credits of free electives, including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Introduction to Educational Media (EDF 304); Problems of Secondary Education (EDS 300 - **or** Introduction to Guidance and Personnel Services (EDS 420 - **or** The Secondary School Curriculum (EDS 456); Educational Tests and Measurements in Secondary Schools (EDS 430); Developmental Reading in Secondary Schools (EDS 465); Teaching in a Multi-Cultural Society (EDU 210); Introduction to Philosophical and Legal Implications (ESP 104); Types of Handicaps in Children (ESP 204); Identification of Diagnostic Processes and Parent Interviews (ESP 304); Curricular and Method Strategies (ESP

404); Teaching of Social Studies (EDS 447) **or** Modern Methods (EDS 455); Student Teaching and School Law.

(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 America (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); Prehistoric Man (ANT 286); Prehistoric Indians (ANT 350).

(2) For concentration in Economics: Intermediate Microeconomics (ECO 301); Intermediate Macroeconomics (ECO 302); 6 credits from Economic 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 form 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 320); 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).

Bachelor of Arts in Anthropology

The concentration in Anthropology provides a comprehensive introduction to the principal divisions of anthropological study: Physical Anthropology, Archaeology, and Ethnology. The studies in Physical Anthropology include an examination of the fossil evidence of primate evolution, including that of the human species, comparative data from field studies of the nonhuman primates, and an introduction to human genetics and variations.

The studies in archaeology include investigation of the theory and method of reconstructing the evolution of prehistoric and historic cultural systems, together with a practical introduction (during the summer field schools) to the methods of archarological site location, survey, excavation, and laboratory processing of materials in the California University Center of Historic and Prehistoric Archaeology laboratory.

Ethnology is the examination of the native cultures of North and South America, Africa, Oceania, and Asia in both aerial surveys and in comparative studies.

For students seeking a broad educational background, the acquisition of an anthropological perspective provides a vantage point from which they may link the various materials of geology, geography, botany, and zoology with those of history, economics, sociology, art, music, and philosophy, in a broad, integrated view of the origins, evolution and functions of human ecological systems.

Students electing this major may prepare themselves for positions in federally and state-funded archaeological salvage and recovery projects, research work with state geological surveys, soil conservation districts, and state and federal museums.

This program has successfully prepared students for graduate work in some of the leading universities of the nation. Several graduates of the program have found permenent positions in Pennsylvania, Virginia, West Virginia, Florida, and Illinois, where they are engaged in teaching archaeological survey and excavation as well as in the publication of their work.

With the new legal requirement that strip mining permits, highway projects, and large building projects involving Federal funds require archaeological and historical impact statements, a large number of positions for those prepared in the techniques of archaeological survey and reporting may be anticipated.

Career opportunities are as archaeological excavation supervisors; state archaeologists; museum curators or para-professionals; members of state or U.S. Park Service; environmental impact surveyors for federal conservation services; Army Corps of Engineers, etc; U.S. State Department foreign service; as staff archaeologists with state historical preservation departments; as recipients of Pan-American Union fellowships in anthropology; members of the Peace Corps; as staff members of the American Friends' Service Latin American staff; graduate study.

Requirements:

(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 **or** Prehistoric Indians (ANT 350); 21 additional credits of electives in Anthropology; Principles of Sociology; plus 32 credits of related electives.

Bachelor of Arts in Political Science

The Political Science program is designed to achieve three major objectives:

First, to prepare those who intend to pursue academic goals beyond the undergraduate level, whether in law school, in public administration, or in teaching;

Second, to help students achieve a level of intellectual proficiency which will contribute to a successful career in many areas of government service and business;

Third, to contribute to a broad liberal education that affords students the opportunities to discover the significance of political inquiry as an intellectual discipline. It is hoped that the relationship of political science to other academic disciplines such as the physical sciences, humanities, and other social sciences will be impressed upon the student.

Accordingly, the program stresses both specialization and interdisciplinary studies. Other social sciences are required as well as the standard minimal 36 hours of Political Science. Required courses in Psychology, Anthropology, Sociology, History, Economics and Geography contribute to the multidisciplinary approach—a necessary requisite for the understanding of politics. Advisement is important in that faculty advisors can impress upon students the desirability of acquiring at least a nodding acquaintance with other disciplines such as Philosophy, Mathematics, English, Foreign Languages, and the Physical Sciences, which can be taken as part of the General Studies elective system.

The Political Science curriculum itself stresses the diverse sub-specialities which comprise the discipline, offering courses in Theory, Public Administration, Political Behavior, Comparative Politics, International Studies, American Politics, and Legal Institutions. It is recommended that the student eschew parochial tendencies and try to select courses which cover the broad scope of the discipline.

Requirements:

(A) **General Studies:** Composition I (ENG 101) and 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:** Introduction to Political Science (POS 100); American Government (POS 105); 30 credits of Political Science electives. Introduction to Anthropology (ANT 100); General Psychology (PSY 100); Principles of Sociology (SOC 100); History of the United States to 1877 (HIS 101); History of the United States from 1877 (HIS 102); European Life and Society to 1815 (HIS 121); European Life and Society since 1815 (HIS 122); Introductory Microeconomics (ECO 301) and Introductory Macroeconomics (ECO 302) **or** Elements of Economics (ECO 100) and Current Economic Issues (ECO 200); Introduction to Geography (GEO 100); 2 credits of free electives in related courses.

Bachelor of Arts in Sociology

Although sociology has existed as a discipline for approximately 150 years, efforts to understand human society go back into ancient history. The attempt to understand society is the substance of sociology as well as the substance of any undergraduate sociology program.

Sociology is frequently defined as a "community of scholarship that uses rational models to organize empirical data about human society and social behavior." This definition contains four components which constitute the basis of the undergraduate Sociology department at California University of Pennsylvania.

1. Our subject matter is human society and social behavior;
2. The method is that of observing empirical data;
3. Explanation occurs in and is validated by a community of scholarship;
4. Organization and focus are provided by rational models.

Each of these areas requires the content of various courses for one to gain adequate understanding of the discipline.

Sociologists attempt to approach their studies as objectively as possible, without bias. Preconceptions, however, are inherent in all thought processes. Sociologists, like other scientists, tend to begin with systematic views of what the world is like, how to study it, and even what may be discovered about it. When these general perspectives are systematized and made explicit, they are known as theoretical models described above are basic.

With its focus upon the whole of human society, sociology is a very broad science. Its practitioners conduct research and seek to develop theory in areas ranging from urbanization and race relations, through family and religious behavior, to student dissent and drug use. In fact, the sociologist is interested in virtually all aspects of human behavior.

Sociologists are not interested necessarily in changing society, even though the results of their efforts may very well result in such changes. Rather, they are interested in discovering the content and process of social relations. Their discoveries are utilized by many individuals in various disciplines. Practicing sociologists may be thought of as individuals who discover the methods of change, while other implement their findings to produce change.

The graduate of this program may pursue career opportunities in business management, private enterprise, or government service, or go on to graduate work in sociology or in some other field, such as law.

Requirements:

(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. Introduction to Anthropology (ANT 100); Introduction to Political Science (POS 100); American Government (POS 100); Statistics (MAT 215); Elements of Economics (ECO 100); General Psychology (PSY 100); Social Psychology (PSY 320); 3 credits in Philosophy; 8 credits of electives.

ANTHROPOLOGY (ANT)

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

+ANT 100. INTRODUCTION TO ANTHROPOLOGY. An introduction to physical 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). The course presents to the student the major fields, objects of study, and primary concepts of anthropology, including a comparative perspective on his or her own culture. (3 crs.)

+ANT 101. ARCHAEOLOGY FIELD SCHOOL. The field school's prime object is to acquaint students with the work ways of archaeologists from initial preparation for excavation through the processing of artifacts. (3-6 crs.)

+ANT 103. BIBLICAL ARCHAEOLOGY. A study of Biblical times, places and events as seen through the archaeological record. Special emphasis is placed upon chronology of Biblical events, upon diverse cultural traditions as well as in-depth studies of selected archaeological excavations. Extra-Biblical written and excavated sources are included when they relate directly to Biblical history. (3 crs.)

+ANT 110. LIVING HISTORY. A study of material folk culture of southwestern Pennsylvania. Designed to show how to study material folk culture and how to replicate aspects of that culture today. (3 crs.)

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:HISTORIC 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 management, the problems faced by anybody doing 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 will involve actually doing some 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 and survey of the ethnology and pre-conquest archaeology of the advanced American Indian cultures of Mesoamerica 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 first observing them being performed and then actually performing the task themselves. 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. Classroom and limited experiences in laboratory and field recording in an archaeological study of America's pioneer, industrial and military past. Historic sites archaeology 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, Plimouth Plantation, Independence Square, Fort Michilimackinac, Fort Ligonier, and Fort Necessity. Prerequisite: ANT 100. (3 crs.)

ANT 231. MEDICAL ANTHROPOLOGY. An introduction to the relatively recent but increasingly important sub-discipline of medical anthropology, emphasizing 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 240. PEASANT AND FOLK CULTURE. A course about some of the most important people on earth: the two-thirds of the planet who are ill-clad, ill-housed, and ill-fed: the wretched of the earth. A survey of the problems, economics, social systems, and ideologies which are central to the anthropological study of these contemporary societies of subsistence farmers in Europe, Latin America, Asia, and Africa. Some attention is given to the vastly less important remnants of such societies in the United States. Prerequisite: ANT 100. (3 crs.)

ANT 250. CULTURE CHANGE AND CULTURE SHOCK. Conditions and factors which stimulate or retard cultural change 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, drawing comparative data from texts and films on representative non-Western cultures. The ethnographic endeavor itself is also examined. (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 America. (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 representative African groups, past and contemporary. (3 crs.)

ANT 285. ORIGINS OF MAN. Contemporary Physical Anthropology, emphasizing the evolution of man as part of the evolution of the primates. (3 crs.)

ANT 286. PREHISTORIC MAN. A comprehensive survey of archaeology: history, theory and techniques. (3 crs.)

ANT 350. PREHISTORIC INDIANS. The archaeology and reconstructed culture of the 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.)

1 ANT 420. HISTORY OF ANTHROPOLOGY. (3 crs.)

ANT 495. SEMINAR IN ANTHROPOLOGY. (3 crs.)

POLITICAL SCIENCE (POS)

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

+POS 100. INTRODUCTION TO POLITICAL SCIENCE. The characteristics, concepts, and trends of political science. (3 crs.)

+POS 105. AMERICAN GOVERNMENT. The general principles of the American system of constitutional government. Special emphasis on the organization and functions of the national government—legislative, executive and judicial. Careful treatment of the rights and duties of citizenship, the electorate, political parties, civil rights, and the growing regulatory function of government. (3 crs.)

+POS 203. THE POLITICS OF WELFARE. Welfare policy and administration in the United States on federal, state, and local levels, with some cross-national comparative analyses. (3 crs.)

POS 204. POLITICAL SOCIOLOGY. This course enables the student to understand the relationships between governmental and political arrangements and the social institutions and patterns of society. Patterns of behavior in democratic and authoritarian systems, concepts of power and authority, and the relationship of the individuals to interest groups, political parties and other groups are among the relationships examined. (3 crs.)

POS 205. MUNICIPAL GOVERNMENT. The history, organization, structure, and functions of the major types of municipal government in the United States. The student should have some knowledge of the American federal system. (3 crs.)

POS 215. COMPARATIVE POLITICS. Different political systems illuminated by comparison. System, structure, and function are basic concepts employed in devising categories for comparative analysis. An intensive examination of individual countries, ranging from Western, industrial politics to non-Western, pre-industrial, and authoritarian states. (3 crs.)

POS 217. NATIONALISM. A systematic study of the origin and development of nationalism in modern times and its role in world politics. Prerequisites: POS 100 and 105. (3 crs.)

POS 218. POLITICAL PARTIES. The organization and operations of political parties in the United States. Careful attention is given to the methods used by parties in nominating candidates and conducting campaigns and to the significance of pressure groups, public opinion, and the electorate in our political life. Prerequisite: 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, which 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. (3 crs.)

POS 225. DEVELOPMENT OF POLITICAL THOUGHT. A study of the principal writings and theories of the major political philosophers and thinkers from the time of the Greek city-state to the nineteenth century. Prerequisite: POS 100. (3 crs.)

POS 226. COMPARATIVE COMMUNISM. Eastern Europe exclusive of the Soviet Union: The Balkans, Hungary, Romania, Czechoslovakia, and Poland. Post-World War II developments in politics and government, with considerable stress on the roles of the Party in each political system. (3 crs.)

POS 227. NATIONALITY PROBLEMS OF EASTERN EUROPE. Integrative and disintegrative forces in multi-ethnic Eastern Europe and the Soviet Union. Particular attention is paid to the influence of nationalism on political structures and policies and to its effect on communist intra-bloc relations. (3 crs.)

POS 235. STATE AND LOCAL GOVERNMENT. A treatment of the organization, powers, functions, and problems of state and local government 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. It is suggested that the student have some knowledge of the American federal system. (3 crs.)

POS 236. INTERNATIONAL RELATIONS. The background of international politics since the first World War, emphasizing successes and failures of the League of Nations, the rise of totalitarianism, and World War II. Major topics include the state in global politics, the international system, international tensions, Phases I, II, and III of the Cold War, Third-World tensions, power patterns in world politics, and conflict management in international politics. (3 crs.)

POS 237. UNITED NATIONS SYSTEMS. An analysis and evaluation of the United Nations and other international organizations, and consideration of some of the theoretical concepts and practical problems involved. Prerequisite: POS 100. (3 crs.)

POS 250. CONSTITUTIONAL LAW. 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 100 and 105. (3 crs.)

POS 260. INTEREST GROUPS AND PUBLIC OPINION. Studies of the influence of individuals and groups on governmental policy decisions through formal and informal processes. Emphasis on the formation, expression, measurement, and role of public opinion and the organization techniques, policies, and membership of political interest groups. Prerequisites: POS 100 and 105. (3 crs.)

POS 270. POLITICS OF THE DEVELOPING AREAS. A systematic study of the origin and rise of anti-colonialism. A critical investigation of the most basic problems and the most important political and constitutional developments and governmental systems of newly independent states; the struggle for influence among great powers and the increasing native demands for national self-determination in the remaining colonial countries. Prerequisite: POS 100. (3 crs.)

POS 280. POLITICS AND GOVERNMENT IN THE SOVIET UNION. The background of the Bolshevik Revolution and the subsequent development of political institutions and processes. Considerable attention is paid to the role of the Party and its impact on the various sectors of Soviet society. Prerequisite: POS 100. (3 crs.)

POS 305. 20TH CENTURY PAN-MOVEMENTS. A critical investigation of the most basic obstacles in promoting economic, social, political and religious cooperation among nations of the same origin, region, religion, continent, etc. to meet and resolve their common problems. (3 crs.)

POS 306. AMERICAN LEGISLATIVE PROCESSES. An introduction to American legislative politics in Congress and in the state legislatures. The student is exposed to the role-playing of the legislators, rules of the game, structures, policy outputs, and general patterns of behavior are observed and explained. (3 crs.)

POS 307. REVOLUTION. A study of revolution as a phenomenon of violent political change involving a fundamental and total reordering of the power structure. The approach is theoretical and empirical, referring to the many past and current revolutionary episodes. (3 crs.)

POS 315. 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. (3 crs.)

POS 316. THE AMERICAN LEGAL SYSTEM. The basic components of law in the United States and some of its more serious problems. Provides an initial understanding of the law and the courts. (3 crs.)

POS 320. FOREIGN POLICY: A COMPARATIVE APPROACH. A comparative and empirical approach to the study of foreign policy making in today's major political systems. Prerequisites: POS 100 and POS 105. (3 crs.)

SOCIOLOGY (SOC)

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

+SOC 100. PRINCIPLES OF SOCIOLOGY. Examines interaction among human beings. Emphasis on natural and social heritage, the meaning and functions of culture, the origin, functions, and characteristics of social institution with inquiry into the nature and genesis of social pathology. (3 crs.)

+SOC 110. ETHNIC, RACIAL AND SEXUAL MINORITIES. (3 crs.)

+SOC 125. MEN, WOMEN AND WORK. Discussion-centered. Through the use of reading selections, audio-visual materials, panels and informal student reports, class members all investigate the roles of men and women in the existing economic structure, the reasons for these roles and development of trends and changes in the economic area. (3 crs.)

+SOC 155. CHARISMATIC LEADERS. Discussion-centered. Students develop a mode of inquiry to investigate five charismatic leaders: Gandhi, Joan of Arc, Martin Luther King, John Kennedy, and Che Guevara. (3 crs.)

+SOC 165. MODERN FREEDOM MOVEMENTS. Liberation of European Jews; liberation of American workers; liberation of American Blacks; liberation of women; liberation of colonial peoples: Cuba. (3 crs.)

SOC 175. CONTEMPORARY WOMEN'S MOVEMENT. An investigation of themes, philosophies, and activists in the current women's revolution. (3 crs.)

SOC 200. RESEARCH METHODS IN SOCIOLOGY. It is assumed that the students have not studied, nor have they been involved in systematic, empirical social-scientific research. Consequently, the objective is to teach fundamental concepts of research in the social sciences. The logic and procedural rules for scientific problem solving are studied, and the methods and techniques for implementing these rules in actual research are emphasized. (3 crs.)

SOC 205. CONTEMPORARY SOCIAL PROBLEMS. Provides an objective view of some of the social problems and a theoretical frame of reference for analyzing these problems. (3 crs.)

SOC 210. SOCIAL STRATIFICATION. Provides objective appraisal of our society and an awareness of the extent of out class structure. The student is made more aware of our stratified society. Prerequisite: SOC 100. (3 crs.)

SOC 215. SOCIOLOGY OF THE WORKPLACE. (3 crs.)

SOC 220. THE FAMILY. The family as a social institution in terms of its social and cultural conditioning aspects. Prerequisite: SOC 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 235. URBAN SOCIOLOGY. Much of the current material that describes the problems of urban life is part of this exploration of the dimensions of the urban mass and the problems of the people who live there: the effects of a technological age and a rapidly changing urban civilization, and their challenge to the viability of the urban habitat. Accommodates primarily social work and sociology majors after they have had an introductory level sociology course. Prerequisite: SOC 100. (3 crs.)

SOC 240. SOCIAL INSTITUTIONS. Analysis of the collectivity from a behavioral perspective. The family and political, economic, religious, and educational institutions are examined. Consideration of the systematic provisions in society provides for the maintenance of group patterns of behavior. 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 305. SYMBOLIC INTERACTIONISM. This course presents the sociological contribution to social psychology, symbolic interactionism, in such a way as to complement the psychological contribution of the field: psychoanalytic theory, Gestalt psychology, and neo-behaviorism. Prerequisite: SOC 100. (3 crs.)

SOC 370. SOCIOLOGICAL THEORY BUILDING. Some of the logical basis 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. Significant social theorists, particularly as they have influenced the development of contemporary social theory; ways of approaching social reality by way of social theory; historical development in the nineteenth and twentieth centuries. Intended primarily for sociology and social work majors in the sixth semester or higher level. (3 crs.)

SOC 495. SEMINAR IN SOCIOLOGY. (3 crs.)

SOCIAL SCIENCE (SOS)

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

+SOS 100. INTRODUCTION TO SOCIAL SCIENCE. An introduction to the broad field of human behavioral studies, with concern for the changing and contrasting patterns of life developed by the species. (3 crs.)

+SOS 101. WORLD CULTURE. A survey of the evolution of man's culture — his 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. Problem 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 in the Middle East today. (3 crs.)

SOS 110. QUALITY OF LIFE. (3 crs.)

SOS 155. CULTURAL VIEWS OF WOMEN. Women in five different cultures: Mead's primitive societies, India, Russia, Victorian America, and modern America. (3 crs.)

SOS 220. CULTURAL REVOLUTION IN CHINA. A study of the cultural traditions and the dynamics of change in modern Chinese society. (3 crs.)

SOS 230. LATIN AMERICAN SOCIETIES. A study of the origin and evolutionary development of various Indian and Latin cultures of Latin America. (3 crs.)

SOS 240. THE ARAB WORLD. An examination of continuity, change, and cultural variation in Arab society. (3 crs.)

SOS 275. RESEARCH METHODS IN SOCIAL SCIENCE. The scientific endeavor is presented as a special type of problem-solving activity. Not only are the logic and procedural rules for scientific problem solving studied, but also the methods and techniques for implementing these rules in actual research are emphasized. Concurrently with actual research projects, methodological problems of design, measurement, observation, data collection, and data analysis are investigated. In an effort to aid student study and understanding of research methods, many topics are discussed at length and several examples are used. The fundamental concepts of statistics, measurement, and design are conveyed with a minimum of emphasis upon tedious arithmetical computation. Finally the extreme importance of ethics and their relationship to research and particularly social work research are emphasized. (3 crs.)

DEPARTMENT OF SOCIAL WORK

SOCIAL WORK (SOW)

Professor Bolosky; Associate Professors E. Brown, Etheridge, Ramey; Assistant Professor Willison.

Bachelor of Science in Social Work

All social work educational programs can be reduced to the premise of producing change in some human condition by working with delinquents, adoptive parents, psychiatric patients, hospital patients, marriage counseling, parent-child disturbances, or a host of other human conditions. Social work is dedicated to working with people, and the undergraduate program at California University of Pennsylvania is dedicated to providing students with a broad range of academic and social agency experiences which will enable them to function in a variety of settings.

The social worker understands human problems and has the ability to work with human beings, using methods other than technical skills and mechanical abilities. Persons choosing a career in social work usually do so because of a genuine concern for others and a desire to help.

There should be continuing opportunities for growth and development in the social work field, both in the nature and scope of the tasks assigned to the social worker, and in the responsibility and commitment demanded by the job.

Our program is designed to provide a most comprehensive training program of social work students. It examines the nature of social work programs, and outlines the functions and interactions within the various social service organizations.

Emphasis is placed on defining human needs and the cooperative actions that must be undertaken in order to respond to these needs.

This academic effort is augmented by an active field placement experience, whereby the student has the opportunity to implement theoretical concepts in a real-life situation, and is thus allowed to judge if the profession of social work is suited to one's career desires.

The program in Social Work provides career opportunities in such positions as those of caseworker, child welfare worker, probation, parole or corrections officer, psychiatric social worker, medical social worker, family service worker, public assistance worker, school guidance counselor, as well as in school social work, drug and alcohol rehabilitation, mental retardation, geriatrics, and public health, besides providing preparation for graduate study in social work and related fields.

Requirements:

(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 Social Work (SOW 150); Research Methods in Social Science (SOS 275); Social Work Methods I (SOW 255) and II (SOW 346) and III (SOW 347); Contemporary Social Problems (SOC 205); Social Change (SOW 370) and Delivery of Services (SOW 365); Human Growth and Behavior I (SOW 215) and II (SOW

216); Minority Group Relations (SOW 208); Abnormal Psychology (PSY 400); Social Psychology (PSY 320); Welfare Practicum I (SOW 308) and II (SOW 319); Principles of Sociology (SOC 100); History of Social Thought (SOC 375); Urban Sociology (SOC 235); and Social Institutions (SOC 240). Five additional credits, scheduled with the advisor's approval.

SOCIAL WORK (SOW)

Introductory level 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 toward higher level courses. (3 crs.)

SOW 208. MINORITY GROUP RELATIONS. Analysis of the historical, economic and political relations of American religious, ethnic, and racial minorities in terms of 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 I. Emphasis on differences as opposed to the approach of looking at the normalcy of behavior. The sequence illustrates how diverse groups affect human development throughout the individual's life cycle. Prerequisites: SOW 150 and SOC 100. (3 crs.)

SOW 216. 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 the subsequent development of a professionalized self. Prerequisites: SOW 150 and SOC 100. (3 crs.)

SOW 265. JUVENILE DELINQUENCY. The causes, prevention, and treatment of deviancy among the youth. Emphasis on the 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 a program 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 the above services. Prerequisite: SOW 150. (3 crs.)

SOW 290. SOCIAL WELFARE AS A SOCIAL INSTITUTION. A historical approach to social welfare as an institution in order to focus on the process of institutionalization in which behavior that is unanticipated 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 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 his

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 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, 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 those 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 empathy 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. (3 crs.)

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 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 only if these changes in some way make the constituent and the decision-maker more satisfied. Prerequisites: SOW 346, 365. (3 crs.)

SOW 495. SEMINAR IN SOCIAL WORK. (Variable)

DEPARTMENT OF SPECIAL EDUCATION

SPECIAL EDUCATION (ESP)

COMMUNITY LIVING ARRANGEMENTS

MENTALLY/PHYSICALLY HANDICAPPED

EARLY CHILDHOOD/SPECIAL EDUCATION

ELEMENTARY/SPECIAL EDUCATION

Professor Dickie, *chair.* Professors R. Bauman, Belch, Hodge, Powell; Associate Professors Dascenzo, Dishong, Lazor, Zondos; Assistant Professors Lancaster, Mule

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.

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 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 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.

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, perferably 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 distrubed, 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. These programs emphasize providing service to the handicapped in other than school settings. Training stresses a comprehensive non-categorical approach to understanding handicapping conditions.

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 emphasized career working with the handicapped in community settings other than schools. Training stresses a comprehensive non-categorical approach to understanding handicapping conditions. Students will 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, had 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

Requirements:

(A) **General Education:** 9 credits in Humanities, including Oral Communications (SPE 101); 9 credits in Natural Sciences; 2 credits in Health or Physical Activities; Impact of Technology in Society (EDU 200); 25 credits of free electives, including Composition I (ENG 101) and II (ENG 102).

(B) **Professional Specialization:** 15 credits from the following: Abnormal Psychology (PSY 400); Developmental Psychology (PSY 207); Social Psychology (PSY 320); 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 (ESP 101) and II (ESP 200); Behavior Principles I (ESP 301) and II (ESP 401); Education of Severe/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 Psychological Development (ESP 478); Personnel Management and Program Evaluation (ESP 479); Internship and Practicum.

Bachelor of Science in Education: Mentally Physically Handicapped Education

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 use effectively 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 diagnose effectively and prescribe appropriate educational experiences.

—To demonostrate 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.

Requirements:

(A) **General Education:** 9 credits in Humanities, including Oral Communication (SPE 101); 9 credits in Natural Science; 9 credits in Social Sciences, including General Psychology (PSY 100); 3 credits of Health or Physical Activities; Impact of Technology on Society (EDU 200); 22 credits of free electives, including Composition I-II (ENG 101, 102).

(B) **Professional Education:** Educational Foundations (EDF 100); Educational Psychology (PSY 110); Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Teaching in Multicultural Society (EDU 210); 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 Teaching/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 Education: Mentally/Physically Handicapped: Physical Education and Recreation

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 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 expending 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. Graduate of this program are qualified to assume several professional roles, including special education classroom teacher, resource room 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.

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 ability to use effectively alternative instructional strategies appropriate to the needs of exceptional children

—To demonstrate 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 ability to implement physical education programs for handicapped youngsters, with emphasis on gross-motor skills and physical activities leading to lifetime recreation skills.

Requirements:

(A) **General Education:** 57 credits minimum: Humanities, including Oral Communication (SPE 100); Health and Physical Education: 3 credits; Natural Sciences: 9 credits; Social Sciences, including General Psychology (PSY 100): 9 credits; The Impact of Technology on Society (EDU 200); Free Electives: 24 credits minimum.

(B) **Professional Education:** 32 credits: Educational Foundations (EDF 100); Educational Psychology (PSY 110); Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Teaching in a Multicultural Society (EDU 210); 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 Teaching and Prescription Teaching (ESP 503); Physical Activities for the Exceptional Child (HPE 337); Curriculum and Methods I-II (ESP 504-505); Habilitation Training (ESP 506).

Associate Degree in Community Living Arrangements

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 (C.L.A.) need trained staff members to provide client services.

Requirements:

(A) **General Education:** Composition I (ENG 101) and II (ENG 102); 9 credits in 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 (ESP 101) and II (ESP 200); Behavior Principles I (ESP 301) and II (ESP 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.

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 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 remedical 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 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 Early Childhood and Special Education programs). In addition, the following general objectives must be met:

—Demonstrate the ability to identify students who are in need of some special service

—Demonstrate the ability to work effectively with other teachers in cooperatively planning programs for children with special needs

—Demonstrate the ability to facilitate the social acceptance of children with handicaps by structuring classroom environments which reinforce positive interpersonal relationships

—Demonstrate the ability to complete educational assessment of the learning needs of students

—Demonstrate the ability to develop individual educational prescriptions based on assessment data

—Demonstrate the ability to modify effectively instructional strategies and/or materials to provide for the unique needs of students manifesting learning handicaps.

Requirements:

(A) **General Education:** Humanities, including Oral Communication (SPE 100): 9 credits; Natural Sciences: 9 credits; Social Sciences, including General Psychology (PSY 100): 9 credits; Health or Physics Activities: 3 credits; Impact of Technology on Society (EDU 200); Free Electives, including Composition I-II (ENG 101-102): 22 credits.

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Child Psychology (PSY 205) **or** Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Teaching in a Multicultural Society (EDU 210); 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); Communicative Arts in Early Childhood (ECE 318).

(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 Teaching/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)

Bachelor of Science in Education: Elementary/Special Education (Dual Major)

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 Elementary and Special Education brochures). 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 which 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.

Requirements:

(A) **General Education:** Humanities, including Oral Communication (SPE 100): 9 credits; Natural Sciences: 9 credits; Social Sciences, including General Psychology (PSY 100): 9 credits; Health or Physical Activities: 2 credits; Impact of Technology on Society (EDU 200); Free Electives, including Composition I-II (ENG 101-102): 22 credits minimum.

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology (PSY 110); Child Psychology (PSY 205) **or**Developmental Psychology (PSY 207); Introduction to Educational Media (EDF 304); Teaching in a Multicultural Society (EDU 210); Student Teaching; Practicum and School Law

(C) **Elementary Education Courses:** Art for Elementary Teachers (EDE 205); Teaching Music in the Elementary Grades (EDE 207); 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); Exceptional Child I-II (ESP 100, 201); Behavioral Principles I-II (ESP 301, 401); Education of the Profoundly/Severely 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)

SPECIAL EDUCATION (ESP)

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 will stress observation of the various target groups of handicapped children. (4 crs. each)

ESP 104. INTRODUCTION, PHILOSOPHY, LEGAL IMPLICATIONS. (1 cr.)

ESP 204. TYPES OF HANDICAPPED CHILDREN. (1 cr.)

ESP 224. UNDERSTANDING AND WORKING WITH PARENTS OF PRE-SCHOOL CHILDREN. (3 crs.)

ESP 225. UNDERSTANDING AND WORKING WITH FAMILIES. (3 crs.)

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-type approach. (3 crs.)

ESP 278. ACADEMIC AND RECREATIONAL SKILL TRAINING. Handicapped persons residing in the community and receiving services from various community agencies must acquire those skills which will facilitate their adoption to, and assimilation by, the community at large. Important among these skills are basic competencies in such "academic" areas as reading, writing, communication and computational abilities. In order to live independently, the handicapped must be capable of "normal" behavioral responses in various social, vocational and recreational situations. Handicapped persons need to be aware of the constructive leisure time and recreational opportunities which are available within the community. Participation in these activities will significantly enrich their lives and enhance their social adjustment. (3 crs.)

ESP 279. OCCUPATIONAL SKILL TRAINING & ACTIVITIES OF DAILY LIVING (ADL). In order to achieve an acceptable level of "normalized" status in the community, two critical aspects of handicapped individuals must approach a reasonable level of development. These aspects involve: (1) the person's occupation, position or primary means of involvement in meaningful activity; and (2) how that person behaves in performing normal, daily and routine duties. Deficits in activities of daily living skills are often the most obvious behavioral deficiencies to the general public and likewise the most frequently overlooked and "taken for granted" by staff involved in training handicapped individuals. 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 is so diverse, the nature of course content and emphasis shall also be broad, to include such programs as sheltered workshops and rehabilitation facilities, work activity centers, therapeutic activity centers, CLA's, etc. (3 crs.)

ESP 301. BEHAVIOR PRINCIPLES I. Provides the student with those verbal and performance skills in measurement and observation necessary to apply the principles of behavior modification in schools and a variety of other settings. The student should consider the information and skills acquired as requisite to the second course, Behavior Principles II. Students who complete the course will have mastered skills in data collection, data manipulation, data display including graphing, behavioral definitions, the principles of reinforcement and extinction, and data based decision making. Entry level skills required by all students include demonstrated ability to perform the four basic arithmetic operations with fractions and decimals, calculate, percentages and rates including the specification of correct units and/or labels. These skills will be determined

by pre-test. Each student should also be able to use the language in verbal and written form at a competent level. (4 crs.)

ESP 304. IDENTIFICATION, DIAGNOSTIC PROCESSES & PARENT INTERACTION. (1 cr.)

ESP 305. PARENT COUNSELING. (4 crs.)

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.)

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.)

ESP 317. RHYTHMICAL ANALYSIS AND CREATIVE MOVEMENT. An introductory course which focuses on the therapeutic value of music and dance. Special emphasis is placed on Laban's Effort-Shape System of Movement Analysis. (3 crs.)

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)

ESP 378. COMMUNITY RESOURCE UTILIZATION AND PUBLIC RELATIONS. Serves two specific but related functions. 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. Certainly the public relations program also serves the handicapped by educating the community members—the neighbors of handicapped persons living in the community. (3 crs.)

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.)

ESP 401. BEHAVIOR PRINCIPLES II. This course familiarizes the student with 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.)

ESP 404. CURRICULUM AND METHODS. (1 cr.)

ESP 415. SCHOOL, COMMUNITY RECREATION AND CRAFTS FOR HANDICAPPED PERSONS. Basic philosophical foundations of leisure and recreation. Special focus is on the aims and benefits of the recreation process and therapeutic recreation. One third of this course includes supervised practice with persons who are handicapped. (3 crs.)

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.)

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 makes 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, will provide an intense experience for the student in two of the handicapping areas for a period of sixteen weeks. (12 crs.)

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 will likewise be explored. Because community service personnel interact with professionals from several other disciplines, this course examines basic information dealing with the psycho-social development of the handicapped. Handicapped clients and their families likewise are frequently in need of counseling services to assist their adjustment to the community program. Accordingly, fundamental counseling and interviewing skills are stressed. (3 crs.)

ESP 479. PROGRAM EVALUATION FOR PERSONNEL MANAGEMENT. At all levels and in all types of community service programs, there exists the need for persons to engage in roles in which required skills are categorized as: managerial, decision-making, planning, evaluating, supervising, communicating, etc. This course is intended to fulfill this need for training of personnel within community facilities who are required to perform those duties. Even for individuals who would not enter directly into these administrative roles, their understanding and appreciation of the associated processes and applications greatly enhances their involvement in the training programs. In addition, their opportunity to move into these managerial roles may be an attractive incentive to many. 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/information-based as well as skill-based. (3 crs.)

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 classrooms. During these sessions the students present, discuss, and critique the above-mentioned materials applicable to each type of exceptionality. Discussion of the Pennsylvania School Code is coupled with various aspects of local school and intermediate unit contracts. Classroom experiments incorporating behavior modification techniques and procedures are implemented wherever possible. Experience in keeping a state attendance register is provided and various teaching opportunities are announced on a weekly basis. (2 crs.)

ESP 495. HONORS SEMINAR. (3 crs.)

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 arrangements (CLA) including client counseling, skill training, recreational planning, public relations, business and personnel management, etc. Interns are required to live in at the CLA facilities 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)

HPE 337. PLAYGROUND AND GYMNASIUM ACTIVITIES. An introduction to the principles, techniques and research in the physical education training for the exceptional child. Major emphasis is on movement education, perceptual motor activities, physical fitness activities, gymnastics, and contemporary dance. (2 crs.)

ESP 501. INTRODUCTION TO EXCEPTIONAL CHILD. (Variable)

ESP 502. EDUCATION OF CHILDREN WITH SEVERE/PROFOUND LEARNING & BEHAVIOR PROBLEMS. This course has been designed to prepare teachers for classrooms with severe and/or profound learning and/or behavior problems. The course emphasizes the value of a "behavioral approach" with such children. Class participants are presented with curriculum materials as well as specific instructional techniques/methodologies which have proven effective with such a population. Class participants spend time in classrooms which contain children with severe and/or profound handicapping conditions. They are responsible for teaching select self-help and academic skills as well as the encouraging or discouraging of selected student behaviors. (Variable.)

ESP 503. DIAGNOSTIC TESTING AND PRESCRIPTIVE TEACHING. This course is divided into three major segments. The first segment introduces the student to the essentials of testing and covers topics such as: nomenclature, purpose of testing, and descriptive statistics. The second segment deals mainly with test evaluation, test demonstrations, identification of the behaviors or constructs measured by standardized norm-referenced tests, criterion-referenced tests and teacher constructed tests. The third segment deals with the interpretation of test performance and includes such topics as: item analysis, relationship of sub-test scores within and among tests, remediation strategies, and writing an educational assessment summary with recommendations for instructional programming. (Variable.)

ESP 504 and ESP 505. CURRICULUM PLANNING AND METHODS I & II. Curriculum and Methods I and II are a block of courses which 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; (4) the procedures and techniques for continuous evaluation for the instructional process in order to determine effectiveness. (Variable.)

ESP 506. HABILITATION TRAINING. Habilitation Training is a course designed for special education majors to be taken during the semester prior to student teaching. The course content is specifically related to special education programs for senior high school students as well as those community services designed to serve post-school handicapped persons. In particular, emphasis is placed upon vocational preparation and training. Since the vocational needs of handicapped youth are extremely diverse (based upon degree of severity), the course provides for the familiarization of the student with: (1) all governmental and private services available to serve the needs of handicapped youth; (2) program elements that function to meet those needs; (3) public school functions and programs as they pertain to vocational training; (4) standard and regulations as they relate to vocational programming, and (5) the means by which a professional in the field may best utilize the programs and resources to improve the employability of the handicapped youth.

DEPARTMENT OF SPECIAL PROGRAMS

CAREER PLANNING (XCP)

Associate Professor Sally, *chair*. Associate Professor Lopez; Assistant Professors C. Jones, Powe, Wahl; Instructors G. Jones, Raleigh.

The Special Programs Department provides academic support services to students anticipating or experiencing difficulty in adjusting to and coping effectively with academic and related non-academic challenges. Personal assistance is provided to promote academic success. Provision of academic advisement and instruction, tutoring, and guidance gives students the opportunity to develop the motivation and skills needed for achievement of their educational goals. Special Programs provides services to the entire student population; however, its efforts are largely aimed at students whose

educational or economic background has made it difficult for them to complete a college degree program.

Services are provided by both professional staff and student assistants in the following two areas:

Tutorial and Instructional Services: Most freshman level courses are tutored. Tutors review lecture notes, check and review the student's knowledge of the textbook and their course materials, and teach vocabulary words needed for the course. A three-credit course entitled Reading, Study and Listening Skills is offered to incoming freshmen.

Guidance Services: Counselors conduct initial interviews with each student; provide an orientation day for all new students; help students to schedule and register; monitor each student's academic progress; and provide information concerning College policy, procedures, and practices. Academic advisement and vocational guidance are also provided. Students are encouraged to discuss personal problems with departmental 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 Special Programs Department is located in Room 107 Herron Hall. 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 938-4231.

The Special Programs Department offers one course, Career Planning.

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

DEPARTMENT OF SPEECH COMMUNICATION

SPEECH COMMUNICATION (SPE)

See also Communications in this catalog

Associate Professor May, *chair.* Professors Brammer, Flemings, Robson. Associate Professors Blout, Cowles, Graf; Assistant Professor P. Miller.

Man's capacity to share his ideas with other men of different times, places, cultures, and points of view is the primary interest of Speech Communication. Students should come to an understanding of the how, why, when, and where of effective communication; should develop expertise in their own speaking; and should learn to evaluate and interpret the messages of others.

The Department of Speech Communication offers two Liberal Arts programs:

1. The General Major which focuses on utilization and evaluation of the basic oral communication modes.
2. The Radio/Television Major which focuses on message transmission and evaluation within those media capabilities.

Both programs are intended to encourage pursuit of a broad, liberal education. Each program, therefore, follows the pattern of the College of Liberal Arts which permits 60 hours of student-selected general studies.

General Major students complete also 36 hours of specific required Speech Communication courses, nine hours of elective courses chosen from other Speech Communication offerings, and 23 hours of elective courses from other California University disciplines which students and their advisors agree are pertinent to the particular student's development.

Radio/Television Major students complete 36 hours of specific required Speech Communication courses, nine hours of elective courses chosen from other Speech Communication offerings, and 23 hours of elective courses from other California University disciplines which students and their advisors agree are pertinent to the particular student's development. They gain practical experience in the Student Association-owned 3000-watt radio station WVCS and the three-camera television studio on campus.

Internships with radio/television studies, and public relations and advertising firms are available to outstanding students. Intercollegiate forensics competition is a special opportunity open to all students.

Neither Speech Communication major program is intended as vocational training. Both develop communication skills and perspectives that will enable a graduate to adapt readily to a rapidly changing communication world, irrespective of eventual employment. Career opportunities which exist and which have been entered by California University of Pennsylvania graduates include public relations; sales; customer services; politics; radio and television performance, direction, writing; graduate study leading to teaching, law and the ministry.

Because of the dramatic increase of communication opportunities, requirements, and facilities in the contemporary world, Speech Communication courses serve as excellent elective courses for any student pursuing any major program at California. The Speech Communication major programs themselves are designed for those who want to participate actively in and attain responsibility for the communion of minds which makes the progress of mankind possible.

Students who are interested in certification in Secondary Education may take either Speech or Media as specialized areas within the Communications major.

Pi Kappa Delta is an honorary fraternal organization for intercollegiate debaters, competitive individual speakers, and professors teaching oral communication. Its purpose is to develop and apply scholarship in the field of forensic speaking in senior colleges and universities. California's chapter of Pi Kappa Delta, Penn Zeta, was organized in 1963. Undergraduate students are elected to membership after a minimum of forensic participation and are then encouraged to advance within the society by continued forensic participation.

Bachelor of Arts in Speech Communication (General Major)

Requirements:

(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 (SPE 101); Survey of Radio, Television, and Film (SPE 105); Introduction to Communication Theory (SPE 108); Introduction to Oral Interpretation (SPE 111); Voice and Articulation (SPE 121); Workshop

in Radio (SPE 196, 296, and 396) **or** Television (SPE 195, 295, and 395); Forensic Workshop I (SPE 192) and II (SPE 292); Persuasion (SPE 220); Argumentation and Debate (SPE 230); Introduction to Television Production (SPE 240) **or**Introduction to Radio Production (SPE 245); Language and Behavior (SPE 315); Speech Criticism (SPE 460); Restricted electives: 9 additional credits in Speech Communication courses. Related courses: 23 credits from other disciplines pertinent to the student's academic or profession interest.

Bachelor of Arts in Speech Communication: Radio and Television Major

Requirements:

(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 (SPE 101); Survey of Radio, Television, and Film (SPE 105); Fundamentals of Discussion (SPE 107); Introduction to Communication Theory (SPE 108); Introduction to Oral Interpretation (SPE 111); Radio Workshop (SPE 196, 296, and 396); Television Workshop (SPE 195, 295, and 395); Forensic Workshop (SPE 192); Introduction to Television Production (SPE 240); Introduction to Radio Production (SPE 245); Radio and Television Announcing (SPE 246); Radio and Television Writing of News (SPE 332) **or** Drama (SPE 335) **or** Commercials (SPE 331); Broadcast Management (SPE 355); Appreciation of Film (SPE 360). Restricted electives: 9 additional credits of Speech Communication courses. Related courses: 23 credits from other disciplines relevant to a student's academic or professional interest.

SPEECH COMMUNICATION (SPE)

SPE 101. ORAL COMMUNICATION. Designing, rehearsing, and delivering extempore speeches to facilitate solving group and public problems; reporting and evaluating other speakers' intent, content, format, and delivery. (3 crs.)

SPE 102. GROUP DISCUSSION: MANAGEMENT (for business majors only). Participation in, and analysis of, group decision-making processes to develop communication and listening skills in group situations, to develop understanding of the role of small group communication in business, to identify and develop styles and functions of group leadership. (3 crs.)

SPE 103. ORAL COMMUNICATION-MANAGEMENT (for business majors only). Development of awareness and appreciation of communication in the business world; improvement of communication skills especially for persons who function in organizations, businesses, or industries. (3 crs.)

SPE 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.)

SPE 107. FUNDAMENTALS OF DISCUSSION. Introduction to group forms, techniques, participation, and chairmanship in informal and formal discussions of contemporary issues. (3 crs.)

SPE 108. INTRODUCTION TO COMMUNICATION THEORY. Nature, origin, purposes, and functions of verbal and nonverbal communication. (3 crs.)

SPE 111. INTRODUCTION TO ORAL INTERPRETATION. Techniques of discovering denotative and connotative meanings in literature; audible and visible interpretation. (3 crs.)

SPE 121. 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.)

SPE 192, 292, 392. FORENSIC WORKSHOP. Practical experience in debate, individual speaking, and parliamentary procedure. (1 cr.)

SPE 195, 295, 395. TELEVISION WORKSHOP. Opportunities for hands-on television production experience with both TV studio and portable equipment. (1 cr.)

SPE 196, 296, 396. RADIO WORKSHOP. Practice in using equipment; projects in radio. (1 cr.)

SPE 212. ADVANCED ORAL INTERPRETATION. Detailed analysis and evaluation of literary forms. Preparation and presentation of suitable programs. (3 crs.)

SPE 220. PERSUASION. Methods of changing attitudes and behaviors through speech 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. (3 crs.)

SPE 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. (3 crs.)

SPE 235. PRESIDENTIAL RHETORIC, 1960 TO THE PRESENT. A study of the written texts, audio tapes and video tapes of selected speeches by American presidents from 1960 to the present. 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.)

SPE 240. INTRODUCTION TO TELEVISION PRODUCTION. Fundamentals of television production, including the use of equipment. Producing, directing, and evaluating programs. (3 crs.)

SPE 245. INTRODUCTION 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.)

SPE 246. RADIO AND TELEVISION ANNOUNCING. Theories and practice of gathering, evaluating, writing, and delivering newscasts, sports, commercials, interviews, for radio and television audiences. (3 crs.)

SPE 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.)

SPE 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 nature and quality of programming; of ability to utilize TV as a source of information/opinion/entertainment. (3 crs.)

SPE 305. ORAL DECISION PROCESSES. Cooperative planning, individual research and reporting, group discussion, debate, and parliamentary procedure in rational group decision processes. (3 crs.)

SPE 315. LANGUAGE AND BEHAVIOR. Developing language habits that improve sensory and symbolic perception, inference-making, evaluation, and the resolving of conflicts. (3 crs.)

SPE 331. RADIO AND TELEVISION COMMERCIALS. The writing of commercial messages in varying lengths for both radio and television; includes preparation of storyboards. (3 crs.)

SPE 332. RADIO AND TELEVISION WRITING: NEWS. The writing of news, commentary and documentary, scripts for radio and television; includes the press conference. (3 crs.)

SPE 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.)

SPE 340. ADVANCED TELEVISION PRODUCTION. Further application of techniques and skills learned in SPE 240 with additional practical experience in television program production and editing. (3 crs.)

SPE 355. BROADCAST MANAGEMENT. Development of a working knowledge of the managerial structures of broadcast organization. (3 crs.)

SPE 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.)

SPE 419. SPEECH COMMUNICATION PRACTICUM. Opportunities for practical radio, television, public relations, etc. work in area businesses. (Variable)

SPE 429. SPECIAL PROBLEMS IN SPEECH COMMUNICATION. Independent study and reporting of topics of interest to the student but not available in scheduled courses. (Variable)

SPE 445. RADIO AND TELEVISION IN A FREE SOCIETY. A study of the rights and obligations of the mass media producer, purveyor, and audience. (2 crs.)

SPE 460. SPEECH CRITICISM. A study of historical, experimental, and other methodologies in speech criticism. Analysis of significant speeches and speakers. (3 crs.)

DEPARTMENT OF SPEECH PATHOLOGY AND AUDIOLOGY

Speech Pathology and Audiology (SPA)

Associate Professor Yates, *chair.* Professors Allen, Feldman, Kaleita; Associate Professors Gismondi, Nemec.

Bachelor of Science in Education: Speech Pathology and Audiology

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 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. Upon satisfactory completion of the requirements of the Speech Pathology and Audiology curriculum and upon the recommendation of the dean of the College of Education, the student is awarded the degree of Bachelor of Science in Education.

Career opportunities include placement in environments such as public and non-public schools, clinics, and/or hospitals. The theoretical and practical background of California University of Pennsylvania graduates is outstanding and their placement record reflects the training. Speech pathologists have maintained one of the highest placement percentages of all graduates of this institution. This high placement level is an indication from employers that our graduates have received the quality of training necessary to become a professional contributor to their field.

The objectives of this program are:

—To encourage basic scientific study of the processes of individual human communication, with special reference to speech, hearing and language

—To promote investigation and prevention of disorders of human communication

—To foster improvement of clinical procedures in treating such disorders

—To stimulate an interest in an exchange of information with other professionals

—To apply research skills in the investigation of the processes of human communication

Requirements:

(A) **General Education:** Oral Communication (SPE 101); 6 additional credits in Humanities; 9 credits in Natural Sciences; General Psychology (PSY 100); 6 additional credits in Social Sciences; Reading, Study, and Listening Skills (EDE 100, if SAT Verbal 400 or less); Impact of Technology on Society (EDU 200); 23 credits of free electives (including Composition I (ENG 101) and Composition II (ENG 102).

(B) **Professional Education:** Foundations of Education (EDF 100); Educational Psychology; Developmental Psychology (PSY 207), **or** Child Psychology (PSY 205); Teaching in a Multi-Cultural Society (EDU 210); Student Teaching.

(C) **Professional Specialization:** Survey of Speech Pathology (SPA 100); Phonetics (SPA 101); Hearing Problems (SPA 102); Language and Speech Development (SPA 105); Anatomy and Physiology of the Speech Mechanism (SPA 106); Practice in Measurement of Hearing (SPA 211); Auditory Training and Speech Reading (SPA 212); Psychology of Speech and Hearing (SPA 215); Introduction to Clinical Procedures (SPA 218); Assessment of Speech and Language Development (SPA 320); Clinical Methods and Techniques (SPA 322); Advanced Clinical Practicum (SPA 323). 9 credits of electives from the following: Articulation (SPA 216); Non-Vocal Communication (SPA 219); Honors (SPA 409); Teaching of Reading (EDE 301); Exceptional Children I (ESP 100); Behavior Principles I (ESP 301).

SPEECH PATHOLOGY AND AUDIOLOGY (SPA)

SPA 100. SURVEY OF SPEECH PATHOLOGY. Introduces the student to the field of Speech Pathology. Discussion will center around the different speech problems and their causes. (3 crs.)

SPA 101. PHONETICS. Introduces practical phonetics as it applies to the communicative process. The student is required to learn and use the International Phonetic Alphabet. (3 crs.)

SPA 102. HEARING PROBLEMS. This course emphasizes anatomy and physiology of the auditory system and hearing problems resulting from diseases, trauma and malformations of the hearing mechanism. Students are introduced to the basic principles of acoustics. (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. The emphasis is on speech and language stimulation activities. (3 crs.)

SPA 106. ANATOMY AND PHYSIOLOGY OF THE SPEECH MECHANISM. 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. (3 crs.)

SPA 211. PRACTICE IN THE MEASUREMENT OF HEARING. Emphasis on theory, test procedures and equipment used in basic tests of hearing. Students gain practical experience in administering basic hearing tests. Information is presented on advanced auditory testing. Prerequisite: SPA 102. (3 crs.)

SPA 212. 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 102 and SPA 211. (3 crs.)

SPA 215. PSYCHOLOGY OF SPEECH AND HEARING. Use of the linguistic methods of distinctive features and transformational grammar for the remediation of speech and language disorders. (3 crs.)

SPA 216. ARTICULATION. Promotes an understanding of articulatory disorders and provides therapeutic procedures for their remediation, as developed from an understanding of the nature and causes of the disorder. (3 crs.)

SPA 218. INTRODUCTION TO CLINICAL PROCEDURES. Primary emphasis on articulation and stuttering disorders. Opportunity for observation of speech and hearing diagnostics and therapy. Discussion and demonstration of clinical tests and materials. (3 crs.)

SPA 219. NON-VOCAL COMMUNICATION. The various modes of non-vocal communication are presented. Information specific to selection of the most advantageous method (or combination of methods) for a particular client and for implementation is considered. (3 crs.)

SPA 320. ASSESSMENT OF SPEECH AND LANGUAGE DEVELOPMENT. The student learns to administer, score, and interpret speech and language tests and write diagnostic reports based upon the administration of such tests. (3 crs.)

SPA 322. CLINICAL METHODS AND TECHNIQUES. Provides meaningful and practical therapeutic techniques of speech therapy. Discussion of therapeutic materials and equipment. Students are provided with hands-on experiences with therapy, materials and equipment when possible. (3 crs.)

SPA 323. ADVANCED CLINICAL PRACTICUM. Provides the student clinician with a variety of therapeutic and evaluation experiences with children/adults having speech, language or hearing disorders. (3 crs.)

SPA 409. HONORS COURSE IN SPEECH PATHOLOGY AND AUDIOLOGY. (Variable)

SPA 459. STUDENT TEACHING. Observation and participation in public school and clinical speech and hearing programs. Students spend one full semester of sixteen weeks under the supervision of a certified speech and hearing supervisor. In most cases, students are exposed to two separate assignments to add to their professional growth. Students also spend one half-day per week in class discussing the Pennsylvania school law, general techniques of teaching and problems encountered by the clinicians during student teaching. (12 crs.)

DEPARTMENT OF THEATRE

THEATRE (THE)

ARTS IN RECREATION AND HUMAN SERVICES

See also Communications in this catalog

Assistant Professor Callery, *chair;* Professors Cowan, Emelson

All over this country, theatre students are putting new life into an old body, converting one of man's oldest art forms into the liveliest art. Dynamically involved in social progress, young people have discovered theatre to be a prime medium for self-expression. At California University of Pennsylvania, theatre means involvement through performance experiences so that students can be not only entertained by the art but also educated by it.

Therefore, the theatre program plays a dual role. It provides occupational education and training for talented students pursuing a career in theatre and as a performing art it provides opportunities for all students to use the theatre as a means of celebrating life, expressing ideas and social concerns, and experiencing a sense of self and community.

This dual function implies dual responsibilities. First of all, it means that the Theatre Department provides effective training through a series of courses from the introductory through the highly specialized levels for playwrights, actors, directors, designers of scenery, costumes, properties,

sound, lighting, and makeup, as well as advanced training in such technical areas as electricity, color in lighting, stage rigging, construction and painting of scenery and properties, fabricating materials for wigs and costumes, and producing amplified sound for the theatre.

Theatre courses are especially useful and suitable as interdisciplinary studies for students majoring in education, radio and television, business, management, and economics, history, English, communication, music, and the visual arts.

Second, it means that the department recognizes the unique role it plays in the recreational segments of every student's life by producing a season of six plays.

Cooperating with the Student Association, Incorporated, the department sponsors three play-producing groups with membership open to all students: the University Players, the Children's Theatre (which annually performs before young audiences of more than 3,000), and theatre Now, which presents experimental drama in innovative stagings.

Each student organization shares the facilities and faculty of the department. Steele Auditorium contains a fully equipped 900-seat proscenium stage and a 200 seat open-performance space as well as scenery, costume, lighting and property shops, storage space and classrooms. An additional performing area, the Gold Rush Room, in the Student Union, is used for dinner theatre and cabaret productions.

The department rewards creative excellence by offering opportunities for upper level students to produce a musical variety show, direct or design both major and minor (one-act plays) productions. Since 1938, outstanding students have annually been elected to the University Players' Hall of Fame. Membership in Alpha Psi Omega, the national honorary theatre fraternity, is achieved through active participation in theatre productions.

Theatre is an undergraduate degree program in the College of Liberal Arts and is included in the undergraduate degree secondary education Communication Certification program in the College of Education. A master's degree program in Communication which includes theatre studies is available in the College of Graduate Studies. The undergraduate degree in Arts and Recreation in Human Services program in the College of Liberal Arts includes theatre.

Bachelor of Arts in Theatre

Requirements:

(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:** Movement (THE 115); Games and Improvisations (THE 110). One of the following three courses: Fundamentals of Acting (THE 130); Fundamentals of Directing (THE 200); Stagecraft I (THE 151). Production, Rehearsal, and Performance (THE 392); 17 credits of Theatre electives. 42 credits of related electives with approval of advisor.

Bachelor of Arts in Arts and Recreation in Human Services

The purpose of this program is to prepare skilled personnel for service as arts specialists in youth and senior citizen centers, summer camps, nursing homes, community recreation centers, and other interaction agencies.

This comprehensive approach to recreation integrates students in Urban Recreation with those in the Arts in Human Services program. Undergraduates in both programs plan, organize, implement, and evaluate leisure time activities and experiences incorporating the arts and physical recreation for special populations.

The program provides students with alternative careers, responds to the great number of requests which the university receives from social agencies and community organizations for help with arts/recreation related activities, provide agencies with the kinds of arts/recreation expertise they need as well as providing on-site internship experiences for students.

Career opportunities are in public and private summer or winter recreation programs, mental health and mental retardation agencies; day-care centers; Scounting organizations, the YMCA, and the YWCA, and similar organizations; youth development centers; rehabilitation centers; nursing homes; senior citizen centers and apartment buildings.

Requirements:

(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:** Media and Techniques I (ART 107) and II (ART 108); Games and Improvisations (THE 110); Music in Human Services I (MUS 111) and II (MUS 112); Creative Dramatics (THE 240) **or** Children's Theatre (THE 245) **or** Puppetry (THE 255) **or** Reader's Theatre (THE 270); Developmental Psychology (PSY 207) **or** Social Psychology (PSY 320); Mental Health/Psychology of Adjustment (PSY 310); Exceptional Children I (ESP 101); Introduction to Social Work (SOW 150); Program Planning (XUA 326); Introduction to Field Experience (XHS 201); and 9 to 15 other credits of field experiences with groups at four different age levels. 17 to 23 credits of arts electives in appropriate courses chosen with advisor's approval.

THEATRE (THE)

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

+THE 100. INTRODUCTION TO THE THEATRE. A study of the art of theatre from playscript to play production. The course surveys theatre history, literature, architecture, acting, directing, and design for the student who wants to know what goes on in theatre and what it means. (3 crs.)

+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 IPA for correct pronunciation. (3 crs.)

+THE 102. VOICE AND INTERPRETATION. Methods of analysis and presentation for effective oral reading of dramatic literature, prose and poetry. (3 crs.)

+THE 110. GAMES AND IMPROVISATIONS. A non-acting approach to solving dramatic problems. Theatre games, sensitivity exercises and spontaneous non-verbal improvisations stimulate the student to discover that recall of past physical and emotional experiences is useful in most dramatic situations. (3 crs.)

+THE 115. MOVEMENT. Designed to improve the individual's suppleness and control and to increase awareness of spatial relationships. Includes specific techniques for performers. (3 crs.)

+THE 125. MAKE-UP. An introductory course involving the theory and practice of corrective make-up for street, stage, film, and television. (1 cr.)

+THE 130. FUNDAMENTALS OF ACTING. Basic techniques of acting, with application in rehearsal and performance of selected scenes. (3 crs.)

+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 is stressed. (3 crs.)

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 consent. (3 crs.)

THE 191. THEATRE WORKSHOP. Specific assignments in cast or crew for campus play productions. (May be repeated for credit. See guidelines.) (1 cr.)

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 plus basic fundamentals of composition, picturization, pantomime with properties, movement, and the groundplan are studied. The in-class preparation of a complete directial 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.)

THE 211. LIGHTING. 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.)

THE 225. COSTUME CONSTRUCTION. Basic pattern drafting and sewing techniques applied to the construction of costumes. (3 crs.)

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.)

THE 245. CHILDREN'S THEATRE. The selection, direction and production of plays for children. (May be repeated for credit.) (3 crs.)

THE 250. PLAYWRITING. Principles and practice of writing for performance. (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.)

THE 262. HISTORY OF THE THEATRE II. The development of the theatre from the Baroque to the present day, including representative plays. (3 crs.)

THE 263. AMERICAN THEATRE HISTORY. A survey of the American theatre from Colonial times to the present, including representative plays. (3 crs.)

THE 270. READERS' THEATRE. The principles and practice of organizing and presenting Readers' Theatre presentations. Prerequisite: THE 102 or SFE 111 or consent. (3 crs.)

THE 305. SHAKESPEARE IN THE THEATRE. Representative Shakespeare plays studied as theatrical presentations. (3 crs.)

THE 307. LYRIC THEATRE. Opera considered as a theatrical art combining music, drama, acting, dance and design. Extensive use of recordings and visual material to illustrate and supplement discussion. (3 crs.)

THE 315. WORLD DRAMA ON STAGE. Classical to Nineteenth-century plays—excluding Shakespeare—studied as theatrical presentations. (3 crs.)

THE 317. MODERN DRAMA ON STAGE. Nineteenth and Twentieth-century plays studied as theatrical presentations. (3 crs.)

THE 321. SCENERY AND LIGHTING DESIGN I. Introduction to the theories and practice of designing scenery and lighting, with emphasis on designing for various environments. Prerequisite: THE 151 or consent of instructor. (3 crs.)

THE 322. SCENERY AND LIGHTING DESIGN II. Advanced theory and practice of designing scenery and lighting, with emphasis on designing for various environments. Prerequisite: THE 321 or consent. (3 crs.)

THE 325. COSTUME DESIGN. Basic principles of costume design. Students are expected to complete various design projects for specific plays selected from a variety of historical periods. (3 crs.)

THE 330. ADVANCED ACTING. Designed to extend basic acting skills and to develop the student actor's ability to handle a variety of acting problems within specific periods of dramatic literature. Prerequisite: THE 130 or consent of instructor. (3 crs.)

THE 392. PRODUCTION, REHEARSAL AND PERFORMANCE. Special acting, directing, management and design, or technical involvement in a play production. Prerequisite: junior-senior level only. (May be repeated for credit. See guidelines.) (3 crs.)

THE 400. DRAMATIC THEORY AND CRITICISM. Theories and methods of dramatic structure and their application to theatrical presentations. (3 crs.)

THE 409. SPECIAL PROBLEMS IN ACTING. (3 crs.)

THE 419. SPECIAL PROBLEMS IN DIRECTING. (3 crs.)

THE 429. SPECIAL PROBLEMS IN DESIGN. (3 crs.)

THE 439. SPECIAL PROBLEMS IN TECHNICAL PRODUCTION. (3 crs.)

THE 449. SPECIAL PROBLEMS IN PLAYWRITING. (3 crs.)

THE 459. SPECIAL PROBLEMS IN THEATRE HISTORY AND LITERATURE. (3 crs.)

THE 469. SPECIAL PROBLEMS IN THEATRE THEORY AND CRITICISM. (3 crs.)

THE 479. SPECIAL PROBLEMS IN FILM. (3 crs.)

GUIDELINES

THEATRE WORKSHOP: Open to all students; may be repeated for credit provided the assignment varies; grade based on a quality determination, plus a minimum number of hours worked and completion of the project to the complete satisfaction of the instructor, or quality determination and completion of the project to the complete satisfaction of the instructor. Assignments: (1) crew head for a major production; (2) directing a departmentally-sponsored one-act play; (3) leading role in a departmentally-sponsored one-act play; (4) minor role in a major production; (5) stage managing a departmentally-sponsored one-act play; (6) special cast, crew or production assignments. A grade may be assigned retroactively within the student's next regularly enrolled semester provided an agreement is made between the student and the instructor before the assignment is undertaken.

PRODUCTION, REHEARSAL AND PERFORMANCE: A junior-senior level course implying distinctive work in cast, crew or production; project selection based on departmental policy, as an outgrowth of class work or as the result of competition or audition; may be repeated for credit provided the assignment varies. Additional credits may not be substituted for required or elective courses within the department's curriculum. Grade evaluation determined by the instructor upon satisfactory completion of criteria predetermined by the instructor and the student, e.g., a prompt script, elevations, working drawings, an in-depth character analysis, etc. A grade may be assigned for special and distinctive off-campus assignments or projects performed under faculty supervision and subject to the above regulations but exclusive of student teaching projects undertaken as part of student teaching. Assignments: (1) design and supervision of execution for either scenery, costumes, or lighting for a major production; (2) technical direction for a major production; (3) directing a major production; (4) leading or feature role in a major production; (5) stage managing a major production; (6) choreographer or musical director for a major production; (7) special projects in cast, crew or production, projects which must receive departmental approval. A grade may be assigned retroactively within the student's next regularly enrolled semester provided an agreement is made between the student and the instructor before the assignment is undertaken.

SPECIAL PROBLEMS: A junior-senior level course conceived as a seminar or independent study under faculty supervision or as a practical or scholarly research project; may be repeated for credit provided the assignment varies. Additional credits may not be substituted for required or elective courses within the department's curriculum.

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The honorary status of professor emeritus is awarded to retired members of the faculty on recommendation of their academic departments and approval by the President and the trustees of the University. It signifies dedicated service to the University and demonstrates that, though retired from teaching, the emeritus professor maintains a valued relationship with California University of Pennsylvania.

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Mrs. Lola M. Willett (1961-1977)
Dr. Malverne R. Wolfe (1947-1969)
Mrs. Henrietta Wood (1959-1978)

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Agrawal, Jagdish (1969) Professor, Mathematics and Computer Sciences.
B.S., Agra University, India; M.S., Agra University; Ph.D., Purdue University.

Aiken, M. Eileen (1969) Professor, Education.
B.S., Edinboro University of Pennsylvania; M.Ed., Indiana University of Pennsylvania; Ed.D., Brigham Young University.

Aldstadt, Robert H. (1963) Professor, Educational Studies.
A.B., Gettysburg College; M.Ed., University of Delaware; Ph.D., University of Pittsburgh.

Allen, George S. (1971) Associate Professor, Speech Pathology and Audiology.
B.G.E., University of Omaha; M.S., Washington State College; Ph.D., Washington State University.

Andre, Nevin E. (1964) Professor, Industrial Arts and Technology.
B.S., Pennsylvania State University; M.Ed., Pennsylvania State University; Ed.D., University of Missouri.

Bailey, Mitchell M. (1959) Associate Professor, Biological and Environmental Sciences.
B.S., California University of Pennsylvania; M.Ed., Rutgers University.

Bakewell, Arthur L. (1973) Instructor-Administrator, Director of Veterans Affairs & Handicapped Services.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Baldridge, Bill J. (1969) Professor, Psychology.
B.A., Washington University; Ph.D., Washington University.

Baldwin, Georgianna (1967) Associate Professor, Special Collections Librarian.
B.S., Clarion University of Pennsylvania; M.L.S., University of Pittsburgh.

Balling, Jan W. (1966) Professor, Biological and Environmental Sciences.
B.A., University of Louisville; M.S., Purdue University; Ph.D., University of Louisville.

Barber, R. Michael (1976) Professor, Social Sciences.
B.S., Ohio State University; M.S., Ohio State University; Ph.D., Ohio State University.

Bauman, John F. (1969) Professor, History and Urban Affairs.
B.A., Ursinus College; M.A., Temple University; Ph.D., Rutgers University.

Bauman, Robert A. (1968) Professor, Special Education.
B.S., Geneseo State College; M.S., Indiana University; Ed.D., Indiana University.

Beardsley, William J. (1969) Assistant Professor, English.
B.A., West Virginia University; M.A., West Virginia University.

Beck, William L. (1970) Director of Library Services.
B.S., Indiana University of Pennsylvania; M.L.S., University of Pittsburgh.

Behrendt, William F. (1971) Associate Professor-Administrator, Director of Financial Aid.
B.S., California University of Pennsylvania; M.Ed., University of Pittsburgh.

Belch, Peter J. (1968) Professor, Special Education.
B.S., California University of Pennsylvania; M.A., West Virginia University; Ed.D., West Virginia University.

Benedetti, William R. (1965) Dean of the College of Education.
B.S., Slippery Rock University of Pennsylvania; M.A., University of Pittsburgh; Ed.D., University of Pittsburgh.

Bennett, William K. (1967) Assistant Professor, English, and Director of Student Publications.
B.A., University of Pittsburgh; M.A., University of Pittsburgh.

Berry, Robert M. (1968) Associate Professor, Mathematics and Computer Science.
B.A., University of Maine; M.A., University of Maine.

Beyer, John (1963) Associate Professor, Mathematics and Computer Science.
B.Ed., Duquesne University; M.Ed., Duquesne University; M.Math., University of South Carolina.

Biddington, William (1977) Assistant Professor, Athletics.
B.S., West Virginia University; M.S., West Virginia University.

Billheimer, Foster E. (1969) Professor, Biological and Environmental Sciences.
B.S., Pennsylvania State University; M.A., University of Texas; Ph.D., Rutgers University.

Birch, Richard M. (1957) Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.Ed., Pennsylvania State University.

Blank, William (1965) Associate Professor, Mathematics and Computer Science.
B.S., Indiana University of Pennsylvania; M.A.T., Duke University.

Blayney, Glenn H. (1966) Associate Professor, English.
B.A., Lafayette College; M.A., Brown University; B.Litt., University of Oxford.

Bloemker, Vernon L. (1962) Professor, English.
B.A., Midland-Lutheran College; M.A., University of Nebraska; Ph.D., University of Nebraska.

Blosel, William F. (1976) Associate Professor, Business and Economics.
B.S., Pennsylvania State University; M.B.A., University of Pittsburgh; C.P.A.

Blout, Marcella A. (1968) Associate Professor, Speech Communication.
B.S., California University of Pennsylvania; M.A., West Virginia University.

Boak, Gale H. (1967) Assistant Professor, Art.
B.S., Edinboro University of Pennsylvania; M.A., Syracuse University.

Bolosky, William A. (1969) Professor, Social Work.
B.A., Wabash College; M.S.W., West Virginia University; Ph.D., University of Pittsburgh.

Brady, Joseph K. (1970) Associate Professor, Social Sciences.
B.S., Shippensburg University of Pennsylvania; M.A., Ball State University.

Brammer, Clarence L. (1966) Professor, Speech Communication.
B.S., Western Montana College; M.A., Northern Colorado University; Ph.D., University of Missouri.

Brown, Edward (1967) Associate Professor, Social Work.
B.S., University of Pittsburgh; M.L.S., Carnegie-Mellon University; M.S.W., University of Pittsburgh.

Brown, Robert Alan (1969) Professor, Counselor Education and Services.
B.A., University of New Hampshire; M.Ed., University of Pittsburgh, Ph.D., University of Pittsburgh.

Buchovecky, Basil (1965) Associate Professor, History and Urban Affairs.
B.S., University of Pittsburgh; M.A., University of Pittsburgh.

Buckelew, Thomas P. (1969) Professor, Biological and Environmental Sciences.
B.S., Muhlenberg College; M.S., University of South Carolina; Ph.D., University of South Carolina.

Burd, Paul E., III (1969) Professor-Administrator, Dean for Student Services.
B.A., West Virginia University; M.A., West Virginia University; Ed.D., West Virginia University.

Burns, John J. (1969) Associate Professor, Philosophy.
B.A., University of Notre Dame; M.A., University of Toronto; J.D., Duquesne University.

Butler, Charles A. (1961) Assistant Professor, Educational Studies.
B.S., Duquesne University; M.A., Columbia University.

Callery, Malcolm P. (1978) Associate Professor, Theatre.
B.S., California University of Pennsylvania; M.F.A., Southern Illinois University.

Campbell, Dorothy J. (1973) Associate Professor, Elementary Education.
B.S., Indiana University of Pennsylvania; M.S., Bucknell University.

Carter, Walter A. (1969) Instructor-Administrator, Assistant Director of Admissions.
B.S., Geneva College; M.Ed., California University of Pennsylvania.

Catalano, Raymond A. (1967) Professor, Biological and Environmental Sciences.
B.S., Edinboro University of Pennsylvania; M.Ed., Indiana University of Pennsylvania; Ph.D., Brigham Young University.

Cerullo, Richard E. (1968) Director of Computer Services.
B.S., California University of Pennsylvania; M.S., West Virginia University; Ph.D., West Virginia University.

Chawdhry, M. Arshad (1976) Professor, Business and Economics.
B.S., West Pakistan Agricultural University; M.S., West Pakistan Agricultural University; M.S., University of Illinois; M.A., University of Maryland; Ph.D., University of Illinois.

Christ, Ronald A. (1970) Professor, Elementary Education.
B.S., University of Pittsburgh, M.Ed., University of Pittsburgh; Ed.D., Pennsylvania State University.

Cicconi, Mary Jean (1969) Associate Professor, English.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Cignetti, Jesse A. (1968) Associate Vice President for Academic Affairs.
B.S., Slippery Rock University of Pennsylvania; M.Ed., Duquesne University; Ph.D., Ohio State University.

Clendaniel, Clyde W. (1968) Associate Professor, Physical Science.
B.S., California University of Pennsylvania; M.A.T., Indiana University.

Coleman, Philip Y. (1967) Dean, College of Liberal Arts.
B.S., Southern Illinois University; M.A., University of Illinois; Ph.D., University of Illinois.

Conte, Donald J. (1968) Associate Professor, Earth Sciences.
B.S., California University of Pennsylvania; M.A., Indiana University of Pennsylvania.

Coode, Thomas H. (1965) Professor, History and Urban Affairs.
B.A., Middle Tennessee State College; Ph.D., University of Georgia.

Costello, Elaine I. (1966) Instructor, Physical Science.
B.S., California University of Pennsylvania.

Cowan, Robert A. (1968) Professor, Theatre.
B.A., Hanover College; M.F.A., Yale University; Ph.D., Purdue University.

Cowles, Robert C. (1965) Associate Professor, Speech Communication.
B.A., Marietta College; M.A., Bowling Green State University.

Crane, George W. (1969) Associate Dean of the College of Education.
B.S., State University of New York; M.S., State University of New York; Ph.D., Ohio University.

Crowley, Leslie E. (1955) Professor, Educational Studies.
B.A., University of South Carolina; M.Ed., University of South Carolina; Ed.D., George Peabody College.

Cuda, Joseph (1984) Residence Hall Director.
B.S., Slippery Rock University of Pennsylvania; M.S., Slippery Rock University of Pennsylvania.

Dascenzo, Albert (1972) Associate Professor, Special Education.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Davis, Ethel V. (1969) Associate Professor, Reference Librarian.
B.A., Virginia Union University; M.L.S., University of Pittsburgh.

Delisi, Joseph A. (1968) Associate Professor, Business and Economics.
B.A., Washington and Jefferson College; M.B.A. Duquesne University.

Demetrakis, Manuel (1966) Assistant Professor, Foreign Languages and Cultures.
B.A., West Liberty State College; M.A., West Virginia University.

Dickie, Robert F. (1966) Professor, Special Education.
B.S., Bridgewater State College; M.A., Michigan State University; Ed.D., Michigan State University.

Dillon, Robert W. (1970) Professor, English.
A. B. Fairfield University; M.A., Ohio University; Ph.D., Ohio University.

Dishong, Berlie E. (1964) Associate Professor, Special Education.
B.S., California University of Pennsylvania; M.Ed., Pennsylvania State University.

Dochinez, Joseph (1961) Associate Professor-Administrator; Director of Housing and Assistant Dean, Student Development & Services.
B.S., California University of Pennsylvania; M.Ed., University of Pittsburgh.

Dolinar, Paul P. (1968) Assistant Professor, Music.
B.S., Duquesne University; M.Ed., Duquesne University.

Dominick, Theodore L. (1969) Professor, Physical Science.
B.S., California University of Pennsylvania; Ph.D., West Virginia University.

Dreucci, Ronald G. (1973) Associate Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Dunlevy, Raymond (1978) Assistant Professor, Art.
B.S., Indiana University of Pennsylvania; M.Ed., Indiana University of Pennsylvania.

Edwards, Dilawar M. (1972) Professor, Educational Studies.
I. Sc., St. Aloysius' College, Jabalpur, India; B.E., Govt. Engineering College, Jabalpur; M.E., Indian Institute of Science, Bangalore, India; M.Sc. in Ed., Indiana University; Ph.D., Indiana University.

Edwards, Frank T. (1969) Professor, History and Urban Affairs.
B.A. Antioch College; B.S., Georgetown School of Foreign Service; M.A., Georgetown University; Ph.D., Catholic University of America.

Emelson, Roger C. (1961). Professor, Theatre.
B.A., Beloit College; M.F.A., Carnegie-Mellon University; Ph.D., Carnegie-Mellon University.

Ervin, Harry L. (1971). Instructor, Health, Physical Education and Safety.
B.S., Hardin-Simmons University.

Etheridge, James C., Jr. (1969) Associate Professor, Social Work.
B.S., California University of Pennsylvania; M.S.W., West Virginia University.

Fabian, Walter A. (1969) Professor, Psychology.
B.A., Pennsylvania State University; M.S., Pennsylvania State University; Ph.D., University of Buffalo.

Fear, Edward E. (1964) Associate Professor, Social Science.
B.S., California University of Pennsylvania; M.L., University of Pittsburgh.

Feldman, R. Michael (1969) Professor, Speech Pathology and Audiology.
B.A., University of Pittsburgh; M.A., University of Iowa; Ph.D., Northwestern University.

Fernandes, Antonio (1961) Associate Professor, Mathematics and Computer Sciences.
B.A., West Virginia University; M.S., West Virginia University.

Ferris, Sumner (1964) Associate Professor, English.
B.A., Harvard College.

Fisfis, Ann D. (1968) Associate Professor, Public Services Co-ordinator, Library.
B.S., University of Pittsburgh; M.L.S., University of Pittsburgh.

Flemings, Corinne K. (1969) Professor, Speech Communication.
B.A., University of Maryland; M.A., Northwestern University; Ph.D., University of California at Los Angeles.

Folmar, John K. (1969) Professor, History and Urban Affairs.
B.A., Sanford University; M.A., Birmingham-Southern College; Ph.D., University of Alabama.

Forsythe, R. L. (1969) Assistant Professor, English.
B.S., California University of Pennsylvania; M.A., North Dakota State University.

Frangos, George J. (1966) Professor, Physical Science.
B.S., California University of Pennsylvania; M.A., West Virginia University; Ph.D., Ohio State University.

Frickert, Richard E. (1969). Professor, Elementary Education.
B.S., Kutztown University of Pennsylvania; M.Ed., Rutgers University; Ed.D., Lehigh University.

Fusco, Gabriel C. (1967) Professor, Physical Science.
B.S., Duquesne University; M.S., Duquesne University; Ph.D., University of Colorado.

Gabor, William E. (1964) Professor, Biological and Environmental Sciences.
B.S., West Virginia University; M.S., West Virginia University; Ph.D., West Virginia University.

George, Henry R. (1965) Associate Professor, Social Sciences.
A.B., University of Pittsburgh; M.Litt., University of Pittsburgh.

Gibson, John S., Jr. (1967) Associate Professor, Mathematics and Computer Sciences.
B.A., Washington and Jefferson College; M.A., Michigan State University.

Gismondi, Charles A. (1969) Associate Professor, Speech Pathology and Audiology.
B.S., California University of Pennsylvania; M.S., West Virginia University.

Golden, Allan J. (1981) Vice-president for Administration and Finance.
B.A. Fairleigh Dickinson University; M.A.T., Fairleigh-Dickinson University; Ph.D., New York University.

Gonano, Max Anthony (1982) Associate Professor, Music.
B.F.A., Carnegie-Mellon University; M.F.A., Carnegie-Mellon University.

Goodstein, Jack D. (1967) Professor, English.
B.A., Queens College; M.A., New York University; Ph.D., New York University.

Graf, William (1980) Associate Professor, Speech Communication; Co-ordinator, Television Services.
B.A., Michigan State University; M.S., Syracuse University.

Graham, Albertha (1971) Assistant Professor-Administrator.
B.S., Morris College; M.Ed., Loyola University of Chicago.

Grilli, Eugene P. (1972) Associate Vice-president for Administration and Finance.
B.A., California University of Pennsylvania; M.B.A., University of Pittsburgh.

Grim, Richard C. (1983) Associate Professor, Industrial Arts and Technology.
B.S., Arkansas State University; M.Ed., Arkansas State University.

Grimes, Robert H. (1961) Assistant Professor, English.
B.A., West Virginia University; M.A., West Virginia University.

Grinstead, Richard H. (1972) Assistant Professor, Art.
B.A.E., Ohio State University; B.F.A., Ohio State University; M.F.A., Ohio State University; M.A.E., Ohio State University

Gross, Michael R. (1978) Professor, Mathematics and Computer Sciences.
B.S., Carnegie-Mellon University; Ph.D., University of Pittsburgh.

Hackett, Charles M. (1965) Associate Professor, Physical Science.
B.S., University of Delaware; M.S., University of Delaware

Halboth, Gene Patrick (1965) Associate Professor, English.
B.A., Marquette University; M.A., University of Chicago.

Hambacher, William O. (1968) Professor, Psychology.
B.A., Upsala College; M.A., University of Pittsburgh; Ph.D., University of Pennsylvania.

Hanchin, John Milan (1967) Professor, English.
B.A., Duquesne University; M.Ed., California University of Pennsylvania; Ph.D., Indiana University of Pennsylvania.

Hart, Mary A. (1982) Instructor, Gerontology.
B.S., Nebraska Wesleyan University; M.A., Duquesne University.

Hart, Richard B. (1968) Dean, College of Science and Technology.
B.S., Franklin and Marshall College; Ph.D., University of Minnesota.

Hasbrouck, Norman G. (1980) Dean, Admissions and Records.
B.A., Thiel College; M.A., Slippery Rock University of Pennsylvania.

Hashemi, Ali A. (1982) Associate Professor, Business and Economics.
B.S., University of Tehran; M.P.A., University of Tehran; M.B.A., St. Louis University; Ph.D., Northwestern University.

Hausher, Howard L. (1966) Professor, Mathematics and Computer Science.
B.S., Waynesburg College; M.A., West Virginia University; Ed.D., University of Virginia.

Hayes, Phil (1970) Professor-Administrator / Dean of Student Life
B.S., Fairmont State College; M.S., West Virginia University; Ed.D., West Virginia University.

Helsel, Jay D. (1961) Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.Ed., Pennsylvania State University; Ed.D., University of Pittsburgh.

Hepner, William D. (1956) Associate Professor, Social Sciences.
B.S., California University of Pennsylvania; M.A., West Virginia University.

Herron, Robert V. (1965) Associate Professor, English.
B.S., University of Pittsburgh; M.A., Duquesne University.

Hodge, Wallace D. (1968) Professor, Special Education.
B.S., Pennsylvania State University; M.Ed., Duquesne University; Ed.D., West Virginia University.

Hornung, Karen L. (1981) Professor, Director of Gerontology.
B.A., Geneva College; M.A., University of New Mexico; Ph.D., University of Nebraska.

Howard, Thomas C. (1970) Professor, Psychology.
B.S., Montana State University; M.A., Montana State University; Ph.D., Washington State University.

Hoy, Ronald C. (1969) Professor, Philosophy.
B.A., University of California, Berkeley; Ph.D., University of Pittsburgh.

Hunter, Barry B. (1968) Professor, Biological and Environmental Sciences.
B.S., California University of Pennsylvania; M.S., University of Minnesota; M.Ed., California University of Pennsylvania; Ph.D., West Virginia University.

Jack, Phil R. (1955) Professor, Social Science.
B.A., Pennsylvania State University; M.A., Pennsylvania State University; Ph.D., University of Pittsburgh.

Jacobs, Allan D. (1970) Professor, Elementary Education
B.S., Eastern Michigan University; M.A., Teachers College, Columbia University; Ph.D., Wayne State University.

Johnson, David L. (1968) Professor, Physical Science
B.S., University of Kansas; Ph.D., Louisiana State University.

Johnson, Donna (1969) Associate Professor, Health, Physical Education and Safety
B.S., Slippery Rock State University; M.Ed., University of Pittsburgh

Jones, Carolyn (1975) Assistant Professor, Special Programs
B.A., St. Augustine's College; M.A., North Carolina Central University

Jones, Geraldine (1974) Instructor, Special Programs.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Kaleita, Annette (1966) Professor, Speech Pathology and Audiology.
B.S., California University of Pennsylvania; M.A., Northwestern University; Ed.D., University of Maryland; M.Ed., Duquesne University.

Kania, William B. (1961) Associate Professor, Business and Economics.
B.S., West Virginia University; M.B.A., University of Pittsburgh; C.P.A.

Katusa, John H. (1966) Associate Professor, Health, Physical Education and Safety.
B.S., Mississippi State College; M.A., West Virginia University.

Keightley, Roger R. (1963) Associate Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.A., West Virginia University.

Kells, Milton C. (1966) Professor, Physical Science.
B.S., University of Washington; Ph.D., Massachusetts Institute of Technology.

Kennedy, Gary W. (1962) Professor, Elementary Education.
B.S., California University of Pennsylvania; M.A., West Virginia University; Ph.D., University of Pittsburgh.

Kiang, Clyde Y. (1972) Associate Professor, Chief Cataloger, Library.
B.A., National Taiwan University; M.A., Western Michigan University; M.A., Michigan State University.

Kimmel, William G. (1976) Associate Professor, Biological and Environmental Sciences.
B.A., Wilkes College; M.S., Pennsylvania State University; Ph.D., Pennsylvania State University.

Kline, Richard L. (1972) Instructor-Administrator, Assistant Director of Financial Aid.
B.S., Pennsylvania State University.

Kneisley, Benjamin R. (1968) Associate Professor, Industrial Arts and Technology.
B.S., Millersville University of Pennsylvania; M.Ed., Millersville University of Pennsylvania.

Knight, Arthur Winfield (1966) Assistant Professor, English.
B.A., San Francisco State University; M.A., San Francisco State University.

Knill, Isobell (1966) Associate Professor, Health, Physical Education and Safety.
B.S., Eastern Michigan University; M.A., Eastern Michigan University.

Koch, Dale R. (1971) Professor-Administrator, Director of Development, Alumni and Public Affairs.
B.S., Concordia College; M.S., Florida State University; Ed.D., Auburn University.

Kopko, Robert J. (1979) Associate Professor, Business and Economics.
B.S., Elan College; M.S., Pennsylvania State University; C.P.A.

Korcheck, Robert A. (1967) Associate Professor, English.
B.A., St. Bonaventure University; M.A., West Virginia University.

Kos, Kade (1961) Associate Professor, Cataloger, Library.
B.S., Clarion University of Pennsylvania; M.L.S., Syracuse University.

Krueck, Alan H. (1966) Professor, Foreign Languages and Cultures.
B.A., Syracuse University; M.A., Michigan State University; Ph.D., University of Zurich, Switzerland.

Krueger, Ewald C. (1967) Associate Professor, Biological and Environmental Sciences.
B.S., Oshkosh State College; M.S., West Virginia University.

LaBute, Daniel L. (1964) Associate Professor, Industrial Arts and Technology.
B.S., Indiana University of Pennsylvania; M.Ed., University of Pittsburgh.

Lackner, Vincent F. (1962) Professor, Philosophy.
B.S., Saint Vincent College; M.A., University of Toronto; Ph.D., University of Toronto.

Lancaster, Paul L. (1968) Associate Professor, Special Education.
B.S., California University of Pennsylvania; M.S., California University of Pennsylvania.

Lapisardi, Frederick S. (1968) Associate Professor, English.
A.B., Niagara University; M.A., Niagara University.

Lawrence, John R. (1966) Associate Professor, English.
B.A., University of Iowa; M.F.A., University of Iowa.

Lazor, Regis B. (1972) Associate Professor, Special Education.
B.S., California University of Pennsylvania; M.Ed., University of Pittsburgh.

Lazzaro, Anthony (1966) Professor, Physical Science.
B.S., California University of Pennsylvania; M.Ed., University of North Carolina; Ph.D., Pennsylvania State University.

Lebois, Gaston (1955) Professor, Educational Studies.
B.S., Pennsylvania State University; M.Ed., Pennsylvania State University; Ph.D., University of Pittsburgh.

Lentz, James P. (1983) Associate Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Levendos, Stephen (1961) Associate Professor, Psychology.
B.A., University of Pittsburgh; M.S., Illinois State College.

Lee, George (1984) Residence Hall Director.
B.S., California University of Pennsylvania; M.S., California University of Pennsylvania.

Linton, John R. (1967) Associate Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.Ed., University of Pittsburgh.

Lister, William R. (1963) Professor, Biological and Environmental Sciences.
B.S., University of Rhode Island; B.Ed., University of Rhode Island; M.S., University of Rhode Island; Ed.D., Boston University.

Little, Robert T. (1970) Associate Dean, College of Liberal Arts.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania; Ed.D., West Virginia University.

Little, Shirley Ann (1970) Professor, Counselor Education and Services, Director, PSN and CRNA Nursing Programs.
R.N., Uniontown Hospital School of Nursing; B.S., California University of Pennsylvania; Ed.D., West Virginia University.

Lizak, Leonard (1966) Associate Professor, English.
B.A., University of Massachusetts; M.Ed., California University of Pennsylvania.

London, Ira T. (1970) Professor, Psychology.
B.A., Rutgers University; M.A., University of Delaware; Ph.D., University of Connecticut.

Loomis, Tim (1980) Assistant Professor, Athletics.
B.S., Lock Haven University of Pennsylvania; M.A., California University of Pennsylvania.

Lopez, Raymond (1971) Associate Professor, Special Programs.
B.S., Geneva College; M.S., Westminster College.

Lownsbery, Norton E. (1969) Assistant Professor, Industrial Arts and Technology.
B.S., Millersville University of Pennsylvania; M.S., West Virginia University.

Lucy, John H. (1972) Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.A., West Virginia University; Ph.D., Ohio State University.

Maatta, Norma E. (1965) Associate Professor, English.
B.S., California University of Pennsylvania; M.A., West Virginia University.

Machusko, Andrew J. (1970) Professor, Mathematics and Computer Science.
B.S., California University of Pennsylvania; M.A., University of Georgia; Ph.D., University of Georgia.

Madden, F. Mel (1976) Associate Professor, Counselor Education and Services, Affirmative Action Officer, Human Relations Coordinator.
STB, St. Anthony-on-Hudson in affiliation with Catholic University of Washington, D.C.; M.A., Montclair State College; Ed.D., University of North Dakota.

Madia, Samuel (1966) Associate Professor, Industrial Arts and Technology.
B.S., West Virginia University; M.Ed., West Virginia University.

Marcinek, Margaret Ann (1983) Associate Professor, Nursing.
B.S., Pennsylvania State University; M.S.N., University of Maryland; Ed.D., West Virginia University; R.N.

Marino, Joseph D. (1968) Professor, Social Science.
B.S., Montana State University (Boxeman); M.A., Pennsylvania State University; Ph.D., Pennsylvania State University.

Martin, J. Gregory, Jr. (1969) Professor, Elementary Education.
B.A., Miami University; M.A.T., Cornell University; Ph.D., Cornell University.

Martin, Margaret (1964) Assistant Professor, Health, Physical Education, and Safety.
B.S., Slippery Rock University of Pennsylvania; M.Ed., University of Pittsburgh.

Maruskin, Albert F. (1966) Professor, Technical Services Coordinator, Library.
B.A., Pennsylvania State University; M.L.S., University of Pittsburgh; Ph.D., University of Pittsburgh.

Matovich, Richard M. (1968) Associate Professor, Interlibrary Loan Librarian.
B.S., California University of Pennsylvania; M.Ed., Duquesne University; M.L.S., University of Pittsburgh.

Maxwell, Lola E. (1967) Associate Professor, Curriculum Librarian.
B.S., Clarion University of Pennsylvania; M.Ed., University of Pittsburgh; M.L.S., Rutgers University.

May, Richard L. (1967) Associate Professor, Speech Communication.
A.B., Franklin College.

McConnell, Janice (1963) Assistant Professor, Health, Physical Education and Safety.
B.S., University of Pittsburgh; M.S., University of Washington.

McGrew, Anthony P. (1968) Associate Professor, History and Urban Affairs.
B.S., Brigham Young University; M.A., Brigham Young University.

McIlwain, Phyllis S. (1969) Professor, Elementary Education.
B.S., Slippery Rock University of Pennsylvania; M.Ed., Indiana University of Pennsylvania; Ph.D., University of Pittsburgh.

McKeithan, Janet (1984) Residence Hall Director.
B.S., Indiana University of Pennsylvania; M.S., Indiana University of Pennsylvania.

McKenzie, Claire M. (1983) Professor and Director, Nursing.
R.N., Mercy-Douglass Hospital; B.S.N., Teachers College, Columbia University; M.A., Teachers College, Columbia University; M.A., Teachers College, Columbia University; Ed.D., Teachers College, Columbia University; R.N.

McMahon, Carol (1974) Assistant Professor, Health, Physical Education, and Safety.
B.S., Slippery Rock University of Pennsylvania; M.Ed., University of Pittsburgh.

McVey, James T. (1966) Assistant Professor, English.
B.A., Youngstown University; M.A., University of Virginia.

Messinger, Milton A. (1969) Professor, Educational Studies.
B.A., Wichita State University; M.A., University of Texas; Ph.D., University of Texas.

Michael, Ronald L. (1969) Professor, Social Science.
B.S., Jamestown College; M.A., University of North Dakota; Ed.D., Ball State University.

Miller, C. Allen (1976) Associate Professor, Biological and Environmental Sciences.
B.S., Buena Vista College; M.A., Mankato State College; Ph.D., North Dakota State University.

Miller, Patrick L. (1967) Assistant Professor, Speech Communication.
B.S., Dickinson State College; M.A., Colorado State University.

Moon, Thomas C. (1969) Associate Dean, Graduate Studies and Continuing Education.
B.A., Kalamazoo College; M.A.T., Oberlin College; Ph.D., Michigan State University.

Moreschi, John P. (1972) Professor, Educational Studies.
B.S., California University of Pennsylvania; M.Ed., University of Pittsburgh; Ed.D., University of Pittsburgh.

Moses, Lawrence L. (1969) Associate Professor, Earth Sciences.
B.S., Edinboro University of Pennsylvania; M.Ed., Pennsylvania State University.

Mosher, Betsy (1980) Assistant Professor, Athletics.
B.S., Illinois State University; M.A., University of Northern Colorado.

Mule, Ben A. (1972) Assistant Professor, Special Education.
B.S., State University of New York; M.Ed., University of Rochester.

Mullins, Jeanette (1975) Professor, Biological and Environmental Sciences.
B.A., Wayne State University; M.S., Wayne State University; Ph.D., North Dakota State University.

Murdick, William (1969) Assistant Professor, English.
B.A., State University of New York; M.F.A., University of Iowa.

Myers, Sylvia J. (1978) Assistant Director of Admissions.
B.S., California University of Pennsylvania; M.A., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Natali, Elmo (1967) Vice President for Student Development and Services.
B.S., California University of Pennsylvania; M.A., California University of Pennsylvania.

Nelson, Jo Ann (1969) Professor, Educational Studies.
B.S., California University of Pennsylvania; M.L.S., University of Pittsburgh; Ph.D., University of Pittsburgh.

Nelson, Nancy Z. (1967) Vice President for Academic Affairs.
B.S., Indiana University of Pennsylvania; M.Ed., University of Pittsburgh; Ed.D., University of Pittsburgh.

Nemec, Richard R. (1967) Associate Professor, Speech Pathology and Audiology.
B.S., California University of Pennsylvania; M.S., West Virginia University.

Novak, George (1959) Associate Professor, Mathematics and Computer Science.
B.S., California University of Pennsylvania; M.Litt., University of Pittsburgh.

Nucci, Joseph Charles (1968) Professor, English.
A.B., University of Notre Dame; M.Litt., University of Pittsburgh; Ph.D., University of Pittsburgh.

O'Brien, Mary Catherine (1960) Associate Professor, Psychology.
B.S., Duquesne University; M.A., West Virginia University; Ph.D., Walden University.

Oliastro, Louis A. (1968) Associate Professor, Elementary Education; Director, Head Start Training Program.
B.A., Geneva College; M.Ed., University of Pittsburgh.

Olsen, Sandra J. (1983) Assistant Professor, Nursing.
B.A., College of St. Scholastica; M.S., University of Minnesota; R.N.

Omarzai, Mahmood A.K. (1979) Professor, Business and Economics.
B.A., Y.D. College, India; M.A., Karachi University, Pakistan; M.A., Indiana University; Ph.D., Indiana University.

Orlandi, Angelo J. (1966) Professor, Educational Studies.
B.A., St. Vincent College; M.A., West Virginia University; Ed.D., West Virginia University.

Orr, Roger J. (1969) Professor, Elementary Education.
B.S., Edinboro University of Pennsylvania; M.Ed., Pennsylvania State University; Ed.D., Pennsylvania State University.

Orsag, Harry J. (1967) Associate Professor, Earth Sciences.
B.S., Edinboro University of Pennsylvania; M.L., University of Pittsburgh.

Pajerski, David W. (1969) Professor, Physical Science.
B.S., University of Pittsburgh; M.S., University of New Hampshire; Ph.D., University of Pittsburgh.

Palermo, Philip (1966) Professor, Psychology.
B.A., New York University; M.A., New York University; Ph.D., New York University.

Pankey, Homer R. (1965) Dean, School of Graduate Studies and Continuing Education.
B.A., Shephard College; M.A., West Virginia University; Ed.D., West Virginia University.

Parascenzo, Raldo (1965) Associate Professor, Foreign Languages and Cultures.
B.A., University of Pittsburgh; M.Ed., University of Pittsburgh; M.Lit., University of Pittsburgh.

Park, Young J. (1977) Professor, Business and Economics.
B.P.A., Korea University; M.A., Temple University; Ph.D., Temple University.

Parker, Virjean (1970) Professor, Elementary Education.
B.A., San Francisco State College; M.S., California State College at Hayward; Ed.D., Boston University.

Parkinson, Leslie A. (1969) Assistant Professor, Art.
B.S., Indiana University; M.Ed., University of Pittsburgh.

Parkinson, William R. (1969) Associate Professor-Administrator, Dean of Student Life (Men).
B.A., Washington and Jefferson College; M.Ed., University of Pittsburgh.

Parnell, William G. (1968) Professor, Counselor Education and Services.
B.S., California University of Pennsylvania; M.A., Eastern Michigan University; Ed.D., West Virginia University.

Pavlak, Stephen A. (1971) Professor, Elementary Education.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania; Ph.D., University of Pittsburgh.

Pecosh, Joseph E. (1967) Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.A., West Virginia University; Ph.D., University of Pittsburgh.

Petrick, Thomas R. (1963) Associate Professor, Physical Science.
B.S., California University of Pennsylvania; M.S., Syracuse University.

Petrucci, Jeff (1981) Associate Professor, Athletics.
B.S., California University of Pennsylvania.

Pokol, Albert R. (1965) Associate Professor, Periodicals Librarian.
B.S., California University of Pennsylvania; M.Ed., Duquesne University; M.L.S., University of Pittsburgh.

Pollock, Fred (1968) Assistant Professor, Industrial Arts and Technology.
B.S., Stout Institute; M.Ed., University of Pittsburgh.

Powe, Alton N. (1973) Assistant Professor, Special Programs.
B.A., Slippery Rock University of Pennsylvania; M.Ed., California University of Pennsylvania.

Powell, Jay R. (1972) Professor, Special Education.
B.S., University of Illinois; M.A., Southern Illinois University; Ph.D., Southern Illinois University.

Procasky, William J. (1965) Professor, Earth Sciences.
B.S., California University of Pennsylvania; M.A., University of Nebraska; Ph.D., University of Pittsburgh.

Raleigh, Joanne (1975) Instructor, Special Programs.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Ramey, J. Wendell (1976) Associate Professor, Social Work.
B.S., Howard University; M.S.W., University of Pittsburgh.

Rea, Connie Mack (1963) Associate Professor, English.
B.A., Centenary College; B.S., Centenary College; M.Ed., University of Colorado; M.A., University of Southern California.

Reid, George A. (1968) Professor, Educational Studies.
B.A., Muskingham College; M.S., Westminster College; Ph.D., University of Pittsburgh.

Rider, Daniel E. (1969) Professor, English.
B.A., Albany State College; M.A., University of Minnesota; Ph.D., University of Minnesota.

Riegelnegg, Dennis (1978) Director of Student Association, Inc.
B.S., Slippery Rock University of Pennsylvania; M.Ed., Slippery Rock University of Pennsylvania.

Riggle, John H. (1964) Associate Professor, Mathematics and Computer Science.
B.A., Washington and Jefferson; M.Litt., University of Pittsburgh; M.A., University of Central Michigan.

Robin, Michael W. (1966) Associate Professor, Physical Science.
B.A., Hunter College; M.S., New York University.

Robson, John L. (1966) Professor, Speech Communication.
A.B., West Virginia University; M.A., University of Southern California; Ph.D., University of Southern California.

Rockinson, Robert J. (1971) Associate Professor-Administrator; Systems Analyst for Academic Programs.
B.S., California University of Pennsylvania; M.S., University of Washington.

Rockwood, Horace S., III (1969) Professor, English.
A.B., Boston University; M.A., University of Michigan; Ph.D., University of Michigan.

Rogers, Allen D. (1969) Professor, Elementary Education.
B.A., Parson College; M.A., University of Iowa; Ph.D., University of Iowa.

Rollison, Suzanne M. (1984) Assistant Professor, Nursing.
B.S.N., Edinboro University of Pennsylvania; M.S.N., University of Pennsylvania; R.N.

Romboski, Lawrence D. (1969) Professor, Mathematics and Computer Science.
B.A., Washington and Jefferson College; M.A., Rutgers University; M.S., Rutgers University; Ph.D., Rutgers University.

Sally, Melvin J., II (1973) Associate Professor, Special Programs.
B.S., West Virginia University; M.Ed., California University of Pennsylvania.

Saludis, Anthony J. (1969) Professor, Elementary Education.
B.S., Duquesne University; M.Ed., Duquesne University; Ph.D., University of Pittsburgh.

Sanfilippo, Joseph A. (1965) Associate Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.S., Ball State University.

Santee, Elsbeth E. (1966) Associate Professor, Foreign Languages and Cultures.
B.S., California University of Pennsylvania; M.A., West Virginia University.

Sapko, Donald R. (1961) Associate Professor, Mathematics and Computer Science.
B.S., California University of Pennsylvania; M.A., University of Pittsburgh.

Scarmazzi, Joseph D. (1967) Assistant Professor, Education.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Schaltenbrand, Philip E. (1968) Assistant Professor, Art.
B.S., Kutztown University of Pennsylvania; M.Ed., Temple University.

Schmidt, Elwyn M. (1966) Associate Professor, Mathematics and Computer Science.
B.S., Pennsylvania State University; M.S., West Virginia University.

Schuler, Charles A. (1966) Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; Ed.D., Texas A&M University.

Schweiker, William F. (1972) Professor, Social Sciences.
B.A., West Virginia University; M.A., University of Minnesota; Ph.D., University of Minnesota.

Scott, Richard D. (1971) Professor, Psychology.
B.A., Pennsylvania State University; M.S., University of Massachusetts; Ph.D., University of Tennessee.

Scott, Terry E. (1966) Associate Professor, Health, Physical Education and Safety.
B.A., William Jewell College; M.A., Washington University.

Serinko, Regis J. (1961) Professor, Biological and Environmental Sciences.
B.S., St. Vincent's College; M.S., West Virginia University; M.Ed., University of Pittsburgh; Ph.D., University of Pittsburgh.

Shuler, Floyd W. (1966) Assistant Professor, Health, Physical Education and Safety.
B.A., West Liberty State College; M.S., West Virginia University.

Siegel, Leonard (1960) Professor, History and Urban Affairs.
B.A., Western Reserve University; M.A., Western Reserve University; Ph.D., Western Reserve University.

Similo, R. Donald (1966) Associate Professor, Business and Economics.
B.S., University of Pittsburgh; M.Ed., University of Pittsburgh; C.P.A.

Simpson, Alfred E. (1976) Assistant Professor, Industrial Arts and Technology.
B.S., Southern University; M.A., West Virginia University.

Skocik, John S., Jr. (1967) Associate Professor, Mathematics and Computer Science.
B.S., California University of Pennsylvania; M.S., West Virginia University.

Slosky, William E. (1970) Associate Professor, Biological and Environmental Sciences.
B.S., California University of Pennsylvania; M.Ed., Pennsylvania State University.

Smith, Darrell (1968) Professor, Industrial Arts and Technology.
B.S., California University of Pennsylvania; M.Ed., California University of Pennsylvania; Ed.D., Texas A&M University.

Smith, Gary A. (1967) Assistant Professor, Philosophy.
B.A., Juniata College; M.A., Wayne State University.

Smith, G. Ralph, II (1964) Assistant Professor, English.
A.B., Franklin and Marshall College.

Stefanik, Jacqueline (1984) Assistant Professor, Nursing.
B.S.N., Pennsylvania State University; M.S.N., West Virginia University; M.P.A., West Virginia University; R.N.

Stephenson, Sarah (1968) Professor, Social Science.
B.S., California University of Pennsylvania; M.A., Carnegie-Mellon University; D.A., Carnegie-Mellon University.

Suskalo, Gene G. (1967) Associate Professor, Music.
B.S., Duquesne University; M.S., Duquesne University; Master of Music, Duquesne University.

Sutton, Shirley Joan (1964) Associate Professor, Music.
Bachelor of Music Education, Drake University; Master of Music Education, Drake University.

Sylvester, Marc A. (1973) Professor, Biological and Environmental Sciences.
B.A., Washington and Jefferson College; M.S., West Virginia University; Ph.D., West Virginia University.

Tait, Nancy J. (1971) Professor-Administrator; Dean of Women.
B.S., Lake Erie College; M.S., Northern Illinois University; Ed.D., Indiana University.

Talbert, Charles E. (1978) Assistant Director, Admissions.
B.A., California University of Pennsylvania; M.Ed., California University of Pennsylvania.

Tarullo, P. Ronald (1978) Professor, Business and Economics.
B.A., Marietta College; M.A., University of Pittsburgh; Ph.D., University of Pittsburgh.

Thomas, C. R. (1965) Professor, English.
A.B., West Virginia University; A.M., West Virginia University; M.Ed., California University of Pennsylvania; Ed.D., West Virginia University.

Thompson, Donald J. (1969) Professor, Earth Sciences.
B.A., Monmouth College; M.A., Indiana University; Ph.D., Washington University.

Tiberio, Albert Thomas (1969) Associate Professor, Music.
B.S., Juilliard School of Music; M.A., Columbia University.

Tselepis, Steve (1968) Associate Professor, Health, Physical Education and Safety.
B.S., California University of Pennsylvania; M.S., West Virginia University.

Uher, Martin (1967) Associate Professor, Health, Physical Education and Safety.
B.S., Western New Mexico University; M.A., Eastern New Mexico University.

Vargo, John R. (1970) Associate Professor, Education.
B.S., California University of Pennsylvania; M.A., West Virginia University.

Vulcano, Frank L. (1965) Associate Professor, Health, Physical Education and Safety.
B.A., Lock Haven University of Pennsylvania; M.Ed., University of Pittsburgh.

Wahl, Dean L. (1972) Assistant Professor, Special Programs.
B.S., Edinboro University of Pennsylvania; M.Ed., Slippery Rock University of Pennsylvania.

Walker, Maetroy A. (1969) Instructor-Administrator, Student Development and Services.
B.A., Benedict College.

Walsh, John H. (1961) Professor, Philosophy.
A.B., Duquesne University; M.A., Duquesne University; Ph.D., Georgetown University.

Watkins, John Pierce (1957) President.
B.S., California University of Pennsylvania; M.A., West Virginia University; Ph.D., University of Pittsburgh.

Webb, Richard H. (1969) Associate Professor-Administrator, Director of Placement.
B.S., California University of Pennsylvania; M.A., West Virginia University.

Welsh, Allen G. (1959) Professor, Social Sciences.
B.S., California Univeristy of Pennsylvania; M.A., West Virginia University; Ed.D., West Virginia University.

Weston, Bruce (1972) Professor, Foreign Languages & Cultures.
B.S., Northwestern University; M.A., University of Michigan; Ph.D., University of Michigan.

Williams, Sylvia S. (1965) Associate Professor, Psychology.
B.A., Pennsylvania State University; M.A., West Virginia University.

Willison, Beverly G. (1978) Assistant Professor, Social Work.
B.A., Duquesne University; M.S.W., University of Pittsburgh.

Wilseck, Robert F. (1967) Professor, Health, Physical Education and Safety.
B.A., Colorado State College; M.S., Colorado State College; Ed.D., University of Northern Colorado.

Wilson, Daniel E. (1967) Professor, English.
B.S., West Chester University; M.S., Kansas State University; Ph.D., Western Reserve University (Case-Western).

Wilson, Maurice E. (1969) Professor, Psychology.
B.A., Wofford College; M.A., William and Mary University; Ph.D., Emory College.

Witchey, Myles B. (1962) Associate Professor, Health, Physical Education and Safety.
B.A., West Liberty State College; M.A., West Virginia University.

Wodock, Donald B. (1966) Associate Professor, English.
B.S., West Chester University of Pennsylvania; M.A., Middlebury College; M.Litt., Middlebury College.

Womsley, William (1966) Professor, Social Science.
B.S., Grove City College; M.A., University of New Mexico; Ph.D., Pennsylvania State University.

Wright, John R. (1984) Associate Dean, College of Science and Technology.
B.S., Fitchburg State College; M.Ed., Rhode Island State; Ed.D., West Virginia University.

Yates, Albert E. (1964) Associate Professor, Speech Pathology and Audiology.
B.S., California University of Pennsylvania; M.A., West Virginia University.

Zadorozny, Edward (1962) Professor, Biological and Environmental Sciences; Director, Medical Technology and Pre-Professional Health-Related Programs.
B.S., University of Pittsburgh; M.S., University of Pittsburgh.

Zeffiro, Jay A. (1970) Associate Professor, Business and Economics.
B.A., Washington and Jefferson College; M.A., Duquesne University.

Zemo, George (1957) Professor, Social Sciences.
B.S., California University of Pennsylvania; M.Litt., University of Pittsburgh.

Zondos, Angela K. (1966) Associate Professor, Special Education.
B.S., Slippery Rock University of Pennsylvania; M.A., Michigan State University.

Zoppetti, Robert L. (1961) Associate Professor, Physical Science.
B.S., California University of Pennsylvania; M.Ed., Pennsylvania State University.

ADJUNCT

Allegheny General Hospital, Pittsburgh, Pa. 15212
Robert J. Hartsock, M.D., Medical Technology Program Director
M. L. Moore, M.T. (ASCP) Educational Coordinator

Altoona Hospital, Altoona, Pa. 16607
Eugene M. Sneff, M.D., Medical Technology Program Director
Jacqueline Yandle, M.T., (ASCP) Educational Coordinator

Brown, Kevin S., Captain (1984) Assistant Professor, Military Science
B.A., University of Kentucky

Conemaugh Valley General Hospital, Johnstown, Pa. 15905
S. A. Goldblatt, Technology Program Director
Teresa Palmer, M.T., (ASCP) Educational Coordinator

Koenig, Wayne L., Captain (1984) Assistant Professor, Military Science
B.A., Texas Technical University

Farmer, Rev. Regis M. (1982) Campus Ministry
B.A., St. Vincent's College; M. Div., St. Vincent's Seminary; M.S. Ed., Duquesne University

McClure, Sister Ellen, O.S.F. (1982) Campus Ministry
R.N., St. Francis School of Nursing; B.S.N., Marquette University; M.A., Providence College

McKeesport Hospital, McKeesport, Pa. 15132
Florante Paat, M.D., Medical Technology Program Director
Terry Susa, M.T., (ASCP) Educational Coordinator

Mercy Hospital, Pittsburgh, Pa. 15219
Jeanne A. Cooper, M.D., Medical Technology Program Director
Elaine Linkhauer, M.T., (ASCP) Educational Coordinator

Ridge, John H., Lieutenant Colonel (1983) Professor, Military Science
B.A., Indiana University; M.A., Webster College

St. Vincent Hospital, Erie, Pa. 16512
Kenneth H. Jurgins, M.D., Medical Technology Program Director
Susan Lawton, M.T. (ASCP) Educational Coordinator

Washington Hospital, Washington, Pa. 15301
E. L. Abernathy, M.D., Medical Technology Program Director
Cheryl Asbury, M.T. (ASCP) Educational Coordinator

Western Pennsylvania Hospital, Pittsburgh, Pa. 15224
Alexander Stavrides, M.D., Medical Technology Program Director
Virginia Craig, M.T. (ASCP) Educational Coordinator

Yost, Dennis E., (1983) Assistant Professor and Officer in Charge, Military Science
B.S., Youngstown State University

INDEX

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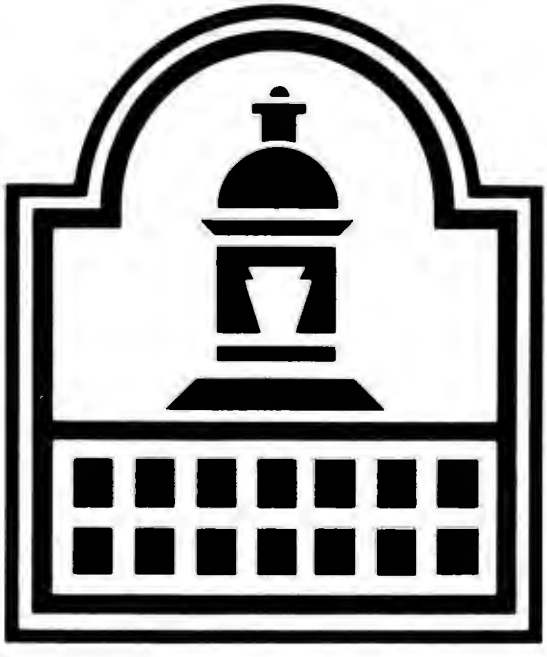

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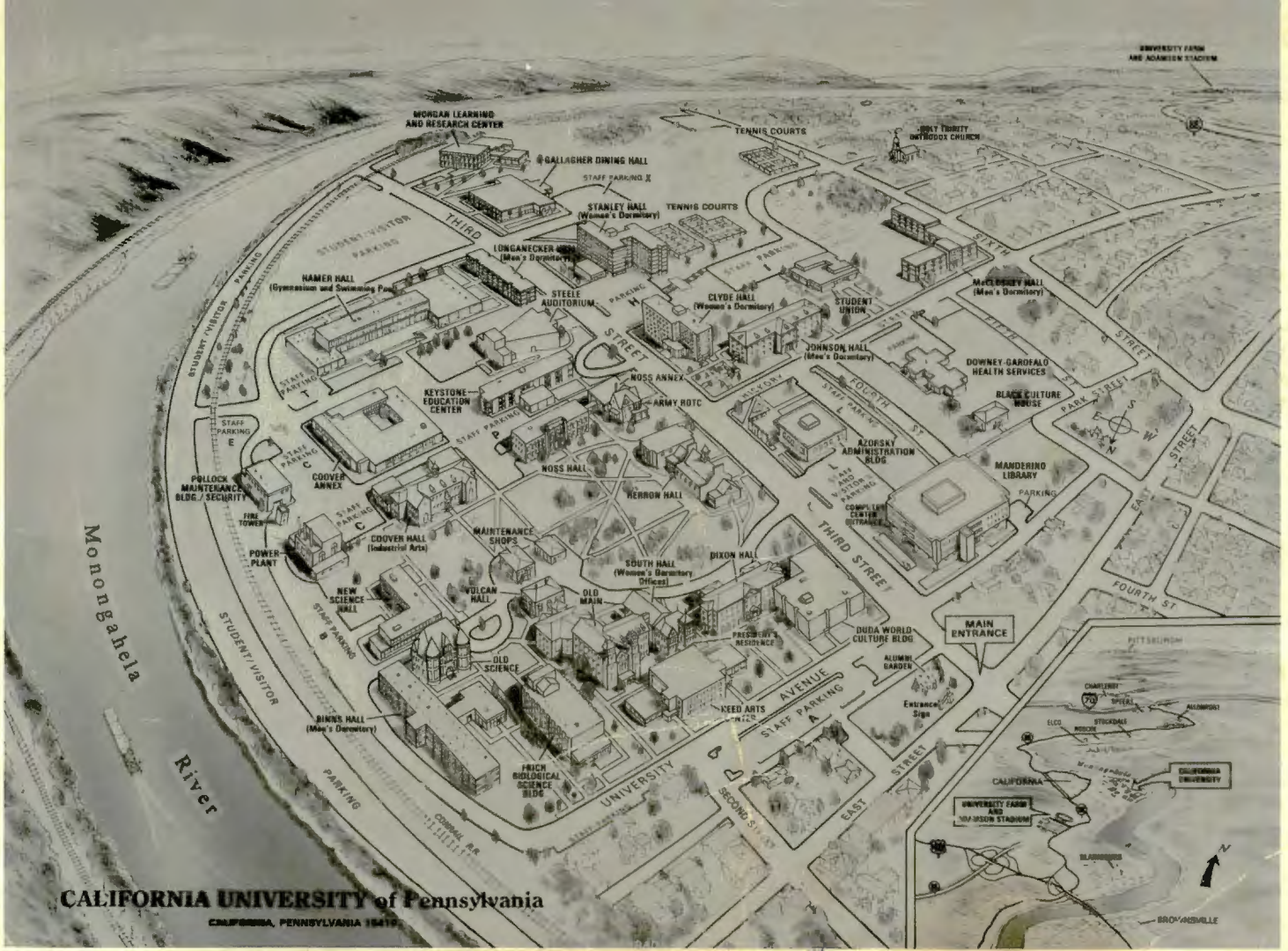
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STEELE AUDITORIUM
CLYDE HALL (Women's Dormitory)
STUDENT UNION
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UNIVERSITY FARM AND ADAMSON STADIUM
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CALIFORNIA UNIVERSITY of Pennsylvania
CALIFORNIA, PENNSYLVANIA 15419