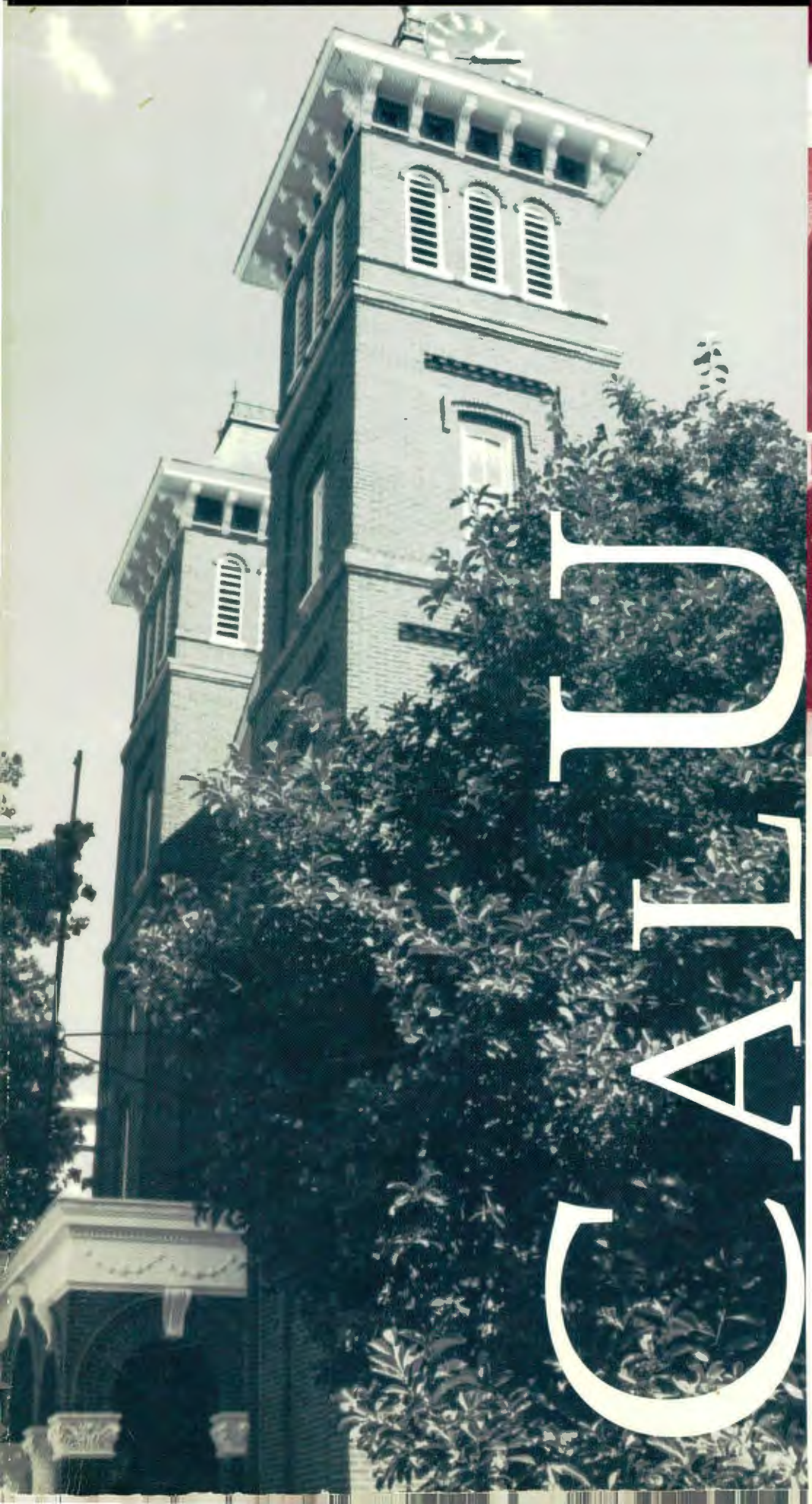
california university of pennsylvania



CALENDAR

undergraduate catalog

1997-1998

California University of Pennsylvania

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California, PA 15419-1394
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Undergraduate Catalog
1997-1998

Volume 94

Number 1

California University of Pennsylvania is a member of
the Pennsylvania State System of Higher Education

California University of Pennsylvania
is a
MEMBER
of the
Association of State Colleges and Universities
American Association of Colleges of Teacher Education

ACCREDITED
by the
Middle States Association of Colleges and Secondary Schools

Accredited in Teacher Education
by the
National Council for Accreditation of Teacher Education

Accredited in Social Work
by the
Council on Social Work Education

Accredited in Athletic Training
by the
National Athletic Trainers Association

Accredited in Nursing
by the
National League of Nursing

Equal Opportunity

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

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

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

California University of Pennsylvania prides itself on having created a workplace and learning environment free from discrimination and harrassment. If situations or conditions to the contrary occur, an immediate and appropriate redress will take place. Persons aware of such situations or conditions are encouraged to contact the Social Equity Officer (938-4014), the Title IX Coordinator (938-4351), or the Section 504 ADA Coordinator (938-4076).

California University of Pennsylvania is in the opportunity business. Since 1852, thousands of students have seied the opportunity we offer to improve, not only their lives, but the lives of the people they have touched.

Our alumni are practicing professionals in health care, education, law, public service, business, environmental studies, and government, and the list doesn't stop there. From South American rain forests to the Hubble space telescope, California University graduates are using their education to continue the never-ending search for knowledge. In all walks of life, California University graduates are helping make the world a better place.

At California, we place great emphasis on people. We have a dedicated faculty, a caring and concerned staff, excellent facilities, an exemplary educational program, and a variety of extra-curricular activities, all dedicated to helping students get the most from their college experience.

Learning is not confined to the classroom. The university experience should be a broad one. Personal growth is proportionate to the wise use of the many resources available. So we encourage our students to become involved in the total life of the university and its surrounding communities.

We also foster a family atmosphere. We are small enough to care about individuals, and yet large enough to be able to offer a variety of programs.

You should take time to read through this catalog. It can tell you much about the university and its programs. I hope each of you will become more interested in California University and make a personal visit.

You and your family are welcome any time.

Angelo Armenti Jr., President

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Mission

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

(1) offers undergraduate instruction in the liberal arts, education, human resources, the professions, business, science and technology;

(2) offers a graduate education to, and beyond, the master's degree, in certain areas of study;

(3) helps meet the region's economic, social, cultural, and recreational needs;

(4) fosters research and service;

(5) encourages the intellectual growth of its faculty, as well as its students.

Goals

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

California University of Pennsylvania is a multipurpose, regional university firmly committed to offering students of widely varied ages, backgrounds, interests and needs, a broad range of educational opportunities and experiences. Thus, the university endeavors to provide a contemporary array of degree programs-associate, baccalaureate and masters-which will enable the student to develop as an intelligent, caring individual who will be able to function as a contributing, productive member of society.

The university recognizes the important relationship that exists between those disciplines which enhance one's ability to think critically, reason analytically, communicate effectively, maintain historical perspective and promote good citizenship and those disciplines which provide the specialized knowledge and the critical intellectual skills to perform effectively in a wide variety of settings. To this end, it is the purpose of the university to prepare men and women to meet the challenges of the world of work in education, business, industry, government, the professions, the human services, and graduate and professional schools.

As a regional institution, the university strives to present a diversity of programs and services for those residing in its service area. A principal goal of the University Advancement, especially in its Mon Valley Renaissance program, is to provide different kinds of assistance related to economic development.

The university also offers to local residents access to many social and cultural activities.

The College of Education and Human Services

The principal goal of the College of Education and Human Services is to maintain a diversity of contemporary curricula appropriate for the preparation of new teachers and the improvement of teachers already in the field. In addition, the College sponsors the development and delivery of a variety of special programs for the purpose of educating practitioners in a number of human service areas.

The College of Liberal Arts

Through traditional courses of study, the College of Liberal Arts attempts to teach reflective thinking that enables graduates to make responsible social decisions in a multicultural world. The Liberal Arts programs are designed to present students with options that call upon precise knowledge, cultural perspectives, aesthetics, and personal and professional communication skills in order to create informed, as well as technologically literate, graduates.

The Eberly College of Science and Technology

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

The School of Graduate Studies and Research

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

Objectives

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

The objectives of the university are:

(1) to provide a liberal education which aims at developing analytical thinking and individual initiative and responsibility;

(2) to provide flexible, innovative programs and support services that are responsive to a broad range of student and regional needs;

(3) to provide a professional faculty and an effective administration;

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

(5) to provide a wide range of learning opportunities for students interested in associate, baccalaureate, graduate, and non-degree programs;

(6) to promote effective communication among faculty, students, administration, and the general public;

(7) to provide a diversity of intellectual, cultural, social and recreational activities and experiences for the university and surrounding communities;

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

(9) to require high standards of teaching and scholarship and to encourage participation in professional activities;

(10) to foster academic research which contributes to human knowledge and the vitality of the institution; and

(11) to maintain an on-going system of self-evaluation whereby the goals of the institution serve as the criteria for determining the institution's effectiveness.

The university is in the Borough of California, a community of approximately 6,000 residents, located on the banks of the Monongahela River, about an hour's drive south of Pittsburgh. It is accessible via Interstate 70, Exits 15 (PA 43), 16 (Speers), or 17 (PA 88, Charleroi) or via U.S. 40 (PA 43 or 88). The Mid-Mon Valley/ Fayette Expressway (PA 43) links California to the federal Interstate Highway system. The university is approximately 30 minutes from Exit 8 (New Stanton) on the Pennsylvania Turnpike, and an hour from Greater Pittsburgh International Airport.

The main campus consists of 38 buildings situated on 80 acres. An additional 104-acre recreation complex, George H. Roadman University Park, is located one mile from campus. This complex includes a football stadium, an all-weather track, tennis courts, a baseball diamond, a softball diamond, soccer and rugby fields, a cross country course, areas for intramural sports, and picnic facilities.

The geographic location of the university gives the resident student opportunities to explore and pursue a wide variety of activities.

Located on the Appalachian Plateau, an area of 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, located only 30 miles from campus.

This provides an opportunity to enjoy the Pittsburgh Symphony, the Pittsburgh Ballet, the Civic Light Opera, the David L. Lawrence Convention Center, the Pittsburgh Steelers, Penguins, and Pirates, various museums and all of the excitements and attractions of a metropolitan area.

The institution that is now California University of Pennsylvania began as an academy more than 140 years ago. It has evolved over the years until now it is a multi-purpose university. One of the fourteen state-owned institutions of higher education in the Pennsylvania State System of Higher Education, it has the strength and stability of a university system, but it retains its own flavor and unique history.

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 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 Normal School.

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

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

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

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

1983: On July 1, 1983, the college became a part of the State System of Higher Education and changed its name to California University of Pennsylvania. Under the leadership of President John P. Watkins (1977-1992), the College of Science and Technology became fully operational, offering programs in such varied areas as mathematics and computer science, industrial management, nursing, energy technology, robotics, and electrical engineering technology.

1992: Angelo Armenti Jr. appointed president of California University.

1996: College of Science and Technology renamed Eberly College of Science and Technology in honor of the Eberly Foundation for its philanthropic generosity.

1997: Cal U Southpointe Center in the Southpointe Technology Center in Canonsburg, PA, opened in January, offering a variety of courses and programs. Ground broken for the new Eberly Science and Technology Center –a state-of-the-art facility for the study of science and technology scheduled to open during 1998-99 academic year.

(Additional information may be found in the book by Regis J. Serinko, *California University of Pennsylvania: The People's College in Monongahela Valley*, published in 1992).

Admissions

How to Apply

To request application materials use the tear-out form inside the back cover.

Address inquiries to:

Admissions Office
California University of Pennsylvania
250 University Avenue
California, PA 15419-1394

(412) 938-4404 (TELEPHONE)
(412) 938-4564 (FAX)
E-mail Address: Inquiry@cup.edu
WWW.CUP.EDU

We encourage applicants to write or call for an appointment to visit the university.

All applications are individually evaluated. As soon as applications are complete, decisions are reached and applicants notified. Every attempt is made to complete this process within two weeks.

To be considered for admission the applicant must submit the following:

1. Completed application form
2. Application fee
3. High school transcript which includes class rank (or GED certificate)
4. Scholastic Assessment Test (SAT) or American College Testing (ACT) scores (may be waived for applicants who have been out of high school for at least three years or have an Associate, R. N., or Baccalaureate degree)

Transfer students must submit college transcripts. Students in special categories of admission should check the section on Specific Entrance Requirements.

Evaluation of Applicants

The admissions committee considers as many variables as possible: class rank, cumulative grade point average, type of curriculum completed in relation to proposed major, guidance counselor or other recommendations, on-campus interview, standardized test scores, activities, and maturity. Each of the variables contributes to the assessment of applicants.

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. Academics. An applicant must be a graduate of an approved or accredited secondary school or have an equivalent preparation as determined by any state's Department of Education.

2. Assessment and Ability Standards. An ability to do work in higher education should be evident from an assessment examination such as the Scholastic Assessment Test (SAT). In certain instances, other kinds of evidence may be used to determine the ability to do such work.

3. Character and Personality. Applicants must be able to demonstrate that they possess the personality traits, interests, attitudes, and personal characteristics necessary for higher education.

4. Admission to Special Curricula. A student seeking admission to a special curriculum may be required to complete additional requirements or have earned specific credentials.

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, official high school transcript including class rank, and GED certificate (if applicable). Results from the Scholastic Assessment Test (SAT) or the American College Test (ACT) must be sent, if available. These test results may be waived for applicants who have been out of high school for at least three years.

B. Transfers

Students seeking to transfer to California University from another post-secondary institution must submit a completed application, application fee, official transcripts from all institutions attended after high school and official high school transcripts, if applicable. If a degree has not been earned beyond high school, applicants must also submit high school transcripts, including the results of all standardized test scores.

Students must be in good academic and social standing at the last institution attended in order to qualify for admission to California University. In cases where students have been out of school for at least one semester, special consideration will be given.

See later in this section for information about how transfer credits are evaluated.

C. Visiting Students

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

An application with application fee must be submitted. Admission is granted for the approved semester only.

D. Early Admission for High–School Students

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

1. The student must submit a completed application and pay the application fee.
2. The applicant must have completed the sophomore year of high school and be enrolled in a college preparatory curriculum.
3. An early admission clearance form must be completed with all necessary signatures affixed.
4. The student's official high school transcript must be submitted and reflect a cumulative grade point average of 3.00 for the past two years. (For up–coming juniors, ninth– and tenth–grade averages will be used.)
5. The applicant must have taken the PSAT, SAT, or ACT examination and scored at least 1050 on the PSAT or SAT or 23 on the ACT.
6. The student's status will be classified as provisional for each session while still in high school.
7. The student must submit a completed early admission clearance form and a transcript for each session that enrollment at California University is desired.
8. At the completion of the student's high school program, a second application must be submitted with the final high school transcript. A second application fee is not required. At this time the student will be in a degree program.

E. Graduates of California University

Post–associate and post–baccalaureate students who graduated from California University and are seeking an additional degree must re–apply (with application fee) to the Admissions Office.

F. Other Post–Baccalaureate Students

Students who graduated from another institution and want to enroll in undergraduate programs at California University must submit a completed application, application fee, and official transcripts from each institution attended.

G. International Students

International students are required to submit an international student application form to California University. All official transcripts, TOEFL scores, a statement of financial support, and letters of recommendation must be submitted. Assuming that all records indicate that international 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 English as demonstrated through the Test of English as a Foreign Language (TOEFL) examination. The minimum TOEFL score is 450.

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

H. Non-Matriculating Students

Students who have completed all secondary school requirements may take courses at California University without being a candidate for a degree. Non-Matriculating students must submit a completed application, application fee, and all appropriate official transcripts. Tuition and fees are the same as for degree students.

I. Veterans

Veterans of the United States armed forces who have not attended an institution of higher education since their honorable discharge are admitted to California University upon following the general admission procedures.

Student Credentials

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

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

Social Security Numbers

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

Pennsylvania Residency

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

Advanced Placement Credit

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

Transfer Credit Evaluation

1. The university will transfer no more than 75 credits per student from an accredited two–year community or junior college, 98 credits from an accredited four–year institution, or 98 credits from combined accredited two–year and four–year colleges towards a Bachelor's degree (four years). No more than fifteen credits towards an associate degree (two years) at California University may be transferred.
2. Developmental courses are not transferable.
3. Courses are considered for transfer to California University in the following order:
   (a) Courses for which the grade earned was A, B, or C;
   (b) Courses for which a Pass grade was given;
   (c) Courses for which the student received a D grade as part of an earned degree.
4. Grades of D are not transferable unless they are counted as part of an associate degree granted at a public institution or a community college which has an articulation agreement with California University of Pennsylvania. No course for which a D grade was received will be transferred after a total of 64 credits has been transferred.
5. When credits are transferred, only the credits are counted as advanced standing; the grade point average of transfer courses is not calculated with California University earned courses.
6. Although credits will always transfer according to these provisions, regulations that govern the national professional accreditation of certain programs offered at California University of Pennsylvania may not permit some courses taken in programs not similarly accredited at other two– and four–year institutions to be transferred as the equivalents of courses that may be similarly entitled or described in this catalog.
7. As articulation agreements are ratified, changes to this policy may occur.

Community College Graduates

Special Provisions

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

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

Veterans: Course Credit for Military Service

Veterans may be awarded credit for their military training and military schools. All veterans, reservists, and National Guard members who have been honorably discharged (or honorably discharged from active duty) may be eligible for credits. Credits are awarded primarily in the category of Free Electives.

Each veteran or reservist seeking such an award must submit a copy of DD 214 to the Director of Veterans Affairs. Army veterans who entered the army after October 1, 1981, should submit an A.A.R.T.S. transcript; Air Force veterans who served after 1974 should submit a C.C.A.F. transcript. Evaluations based on the latest American Council of Education Guides will be forwarded to the appropriate Dean for approval.

Tuition

Pennsylvania Residents

Full Time Undergraduate (per semester)	
for 12 to 18 Credits	$1,684.00
for each additional Credit	140.00
Part Time Undergraduate (per semester)	
for each Credit (less than 12)	140.00
Full Time Graduate (per semester)	
for 9 to 15 Credits	$1,684.00
for each additional Credit	187.00
Part Time Graduate (per semester)	
for each Credit (less than 9)	187.00

Non-Pennsylvania Residents

Full Time Undergraduate (per semester)	
for 12 to 18 Credits	$4,283.00
for each additional Credit	357.00
Part Time Undergraduate (per semester)	
for each Credit (less than 12)	357.00
Full Time Graduate (per semester)	
for 9 to 15 Credits	$3,027.00
for each additional Credit	336.00
Part Time Graduate (per semester)	
for each Credit (less than 9)	336.00

NOTE: Summer tuition is billed at part time rates on a per credit basis.

Room and Board

Room (per semester)	
Single	$1,256.00
Double	998.00
Triple	802.00
Weekly Rate (Summer Session only)	$54.00
Board (per semester)	
19 meals	$998.00
14 meals	948.00
10 meals	TBA
Weekly Rate (Summer Session only)	
19 meals	$55.00
12 meals	$52.00

Off-Campus Dining Plans

Board (per semester)	
19 meals	$998.00
14 meals	948.00
10 meals	TBA
5 meals	TBA
Dine Dollars Plan (minimum starting balance)	$50.00

Fees*

Student Association Fee	
Undergraduate	
12 or more credits	$120.00
6 to 11 credits	57.00
1 to 5 credits	29.00
Graduate	
9 or more credits	$71.00
6 to 8 credits	$47.00
1 to 5 credits	$29.00
Student Union Building Fee	
12 or more credits	$75.00
6 to 11 credits	38.00
1 to 5 credits	19.00
University Service Fee	
9 or more credits	$85.00
1 to 8 credits	50.00
Student Center Operations and Maintenance Fee	
12 or more credits	$20.00
6 to 11 credits	14.00
1 to 5 credits	10.00
Academic Support Fee	
Fall/Spring	
12+ credits	$168.00
11 credits	154.00
10 credits	140.00
9 credits	126.00
8 credits	112.00
7 credits	98.00
6 credits	84.00
5 credits	70.00
4 credits	56.00
3 credits	42.00
2 credits	28.00
1 credit	14.00
Summer/Special Sessions	
Per credit	$5.00

*Southpointe Students should contact the Southpointe Center office for fee information.

NOTE: All university tuition, fees and room and board rates are subject to change upon proper approval of the Council of Trustees and/or the Board of Governors. The amounts listed on this page are for the 1996-97 academic year. At press time, the tuition and fees for the 1997-98 academic year have not been established by the Board of Governors or the Council of Trustees.

Payment Information

Students who take advantage of early registration will receive a billing statement with instructions by mail. Students who enroll at residual registration should be prepared to make payment at the time of registration.

Payment at Residual Registration

All fees will be assessed at the time of registration. Payment may be made by cash, check, money order, or certified bank draft made payable to California University of Pennsylvania, or by VISA, MasterCard, or Discover Card. If financial aid has been awarded, this amount will be deducted from the bill. Payment plans (with initial payment) may be contracted at this time.

Payment Plans

Payment plans are available each semester. Payment plans enable you to pay your costs on a monthly basis. Payment plan information and contracts will be included with each semester bill.

Third Party Billing

Some companies and government agencies pay tuition directly to the university. If tuition is to be paid in this manner, please supply authorizing forms or letters to the Bursar's Office.

Veterans Deferment

Military veterans receiving G. I. Bill benefits may request deferment, if needed, from the Veterans Affairs office.

University Refund Policy

This refund policy applies to any student who withdraws or changes enrollment status after their first semester of attendance at California University. Students who meet this basic criteria will have their university charges calculated according to the following schedule:

Time of withdrawal or drops:	Refund
First 10% (in time) of the enrollment period	90%
11% to 25% (in time) of the enrollment period	50%
26% to 50% (in time) of the enrollment period	25%
after 50% (in time) of the enrollment period	0%

Pro-Rata Refund Policy

This refund policy applies to any student who meets the following criteria: receives federal financial aid; attends the university for the first time; and withdraws or changes enrollment status on or before the 60 percent point of the enrollment period. Students who meet all three criteria will be assessed university charges (tuition and fees, room and board, etc.) equal to the portion of the enrollment period completed.

Schedule of Pro-Rata Refunds

Time of withdrawal or drop:	Refund
Prior to the second day of classes	100%
First 10% (in time) of the enrollment period	90%
First 20% (in time) of the enrollment period	80%
First 30% (in time) of the enrollment period	70%
First 40% (in time) of the enrollment period	60%
First 50% (in time) of the enrollment period	50%
First 60% (in time) of the enrollment period	40%
After the 60% (in time) of the enrollment period	0%

NOTE: Financial aid recipients should refer to "refund/repayment policies" located in the Financial Aid section of the catalog.

Advance Deposit

All first–year students, transfers and readmitted students are required to submit a $75.00 advance deposit payable to 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 Deposit

An advance room deposit of $100.00, held in the student's account and applied toward the spring semester, is required in order to reserve a room for the following academic year. First–year students will receive a housing contract with their Admissions Packet. The contract and card must be signed and returned to the Bursars Office with a $100.00 deposit.

Late Registration Fee

Students who register after the first day of the semester will be charged a $25.00 late registration fee.

Late Payment Fee

A late payment fee of $25.00 will be assessed when a student fails to pay the required fees by the due date or when a student fails to pay according to an approved payment plan.

Return Check Charge

A $25.00 fee will be charged for any check which is made payable to California University of Pennsylvania and returned by the bank.

Degree Fee

A fee of $10.00 must be paid by each candidate for a degree from California University of Pennsylvania. A student is not permitted to complete graduation from the university until this fee has been paid.

CLEP Fee

A one–time fee of $25.00 is charged for the administration and recording of CLEP (College Level Equivalency Program) credits regardless of the number of credits awarded.

Cooperative Education Fee

A one–time fee of $40.00 is charged for the recording of Cooperative Education experiences, at the time when the student wishes to have them recorded on the official transcript.

Financial Aid

Mission Statement

The primary mission of the Financial Aid Office at California University of Pennsylvania is to provide financial planning and assistance to students and their families in meeting the costs of education. In fulfilling this mission, each student will be given careful consideration and the university will determine financial assistance based on federal, state, and institutional guidelines. Financial aid programs have been established to provide access to higher education with guidelines to insure fairness in disbursing available funds to qualifying students. The Financial Aid Office strives to insure that courteous, timely, and accurate financial aid services are delivered to all students seeking assistance from our office.

Location & Office Hours

The Financial Aid Office is located on the first floor of the Azorsky Administration Building. The office hours are 8:00-4:00, Monday through Friday. Appointments are encouraged but a daily on-call counselor is available to assist walk-ins. Students can contact the Financial Aid Office by calling (412) 938-4415 or by Fax at (412) 938-4551. In addition, a 24-hour voice mail and question/answer box telephone system is available to assist students and parents with general financial aid information or to request financial aid materials.

Application and Awarding Information

Application Process

In order to qualify for assistance from federal, state, and university financial aid programs, a student must complete a paper or electronic version (see "Electronic FAFSA Options" section for information on filing electronically) of the *Free Application for Federal Student Aid* (FAFSA) and forward it to the Federal processor as soon as possible after January 1 of each year. Prior year aid recipients will receive a renewal version of the FAFSA which can be used to apply for financial aid for the new award year. Students who file their FAFSA (paper or electronic version) by April 1 will receive priority consideration for all Federal financial aid programs available at California University. Students can obtain a paper version of the FAFSA form from the Financial Aid Office (FAO), high school guidance counselor office, or local college/university.

Electronic FAFSA Options

FAFSA Express

A PC equipped with *Microsoft Windows* operating system and a modem can transmit an electronic version of the *Free Application for Federal Student Aid* (FAFSA) to the Department of Education. FAFSA Express users enjoy the benefits of Electronic Data Exchange, such as eliminating delays from mailing and insuring a faster receipt of an official Expected Family Contribution from the Department of Education. The software expedites the application process by automatically checking electronic FAFSA data, resulting in fewer rejected applications.

The Department of Education has also established a customer service line for FAFSA Express users. Students needing assistance with hardware, software, installation, transmission, or if they want to check the status of their pending application, should contact the **FAFSA Express Customer Service Line at 1-800-801-0576.**

FAFSA on the Web

Starting July 1, 1997 students will be able to complete the 1997-98 FAFSA on-line and transmit it to the Federal processor via the Internet's World Wide Web (WWW). Students can utilize this electronic filing option regardless of the type of computer system they are using. Students wishing to submit their FAFSA through the web can do so by contacting the Department of Education - FAFSA on the Web at the following web address: http//www.ed.gov

Financial Aid Formula/Eligibility

When a student applies for Federal student aid, the information reported on the FAFSA is used in a formula approved by Congress. This Federal formula determines a student's Expected Family Contribution (EFC), the amount the family (student and parents, if applicable) is expected to contribute toward the student's education. Remember, this formula only measures a family's ability, not willingness, to contribute toward the student's educational costs.

The basic elements included in determining the EFC are:

- contribution from the parents' income
- contribution from the student's income
- contribution from the parents' assets
- contribution from the student's assets

In addition to these basic elements, household size, number of students in college, and the age of the oldest parent are also reflected in the calculation of the student's EFC. If your EFC is below a certain amount, you will qualify for a Federal Pell Grant. To determine eligibility for other Federal aid, a student's EFC is used in the following equation:

Cost of Attendance – Expected Family Contribution = Financial Need

The EFC is then deducted from the total cost of attendance. The cost of attendance includes both direct costs and indirect costs (see "Elements in the Cost of Attendance" for additional information). The difference between the total cost and how much the student and family is expected to contribute is the difference in the student's eligibility for need-based financial aid. Most Federal aid is awarded on the basis of financial need. However, regardless of the student's financial need, **all students** will qualify for some type of Federal financial aid.

Elements in the Cost of Attendance

Each year the university establishes a total *"cost of attendance"* budget based on a student's housing status (commuter, dormitory, or off-campus), enrollment status (full-time or part-time), and residency status (in-state or out-of-state). The cost of attendance budget represents the total educational expenses a student may incur while attending our university, and is a critical element in determining a student's eligibility for financial aid assistance. The elements of this budget are both **"direct"** institutional expenses (tuition/fees and/or university room/board), as well as **"indirect/living costs"** (off-campus housing, books/supplies, and/or personal expenses) not billed by the university. *Please Note: The indirect/living expenses a student actually incurs will vary significantly from student to student. A student's program of study, year-in-school, housing/board arrangements, student's budgeting skills, and many other variables will impact the total expenses within this budget element. The university determines the indirect/living costs for each student based on data collected from students, local bookstores, and local landlords. This data is analyzed to arrive at "average" expenses incurred by most students.*

Awarding Process

The following steps are involved in the need analysis and awarding process:

1. Within two to three weeks after the student submits the completed FAFSA form (paper or electronic version) to the Federal processor, the Department of Education will send a Student Aid Report (SAR) to the student. This document includes the student's Expected Family Contribution (EFC). This is the amount the student's family is expected to contribute toward the student's educational costs.
2. The Financial Aid Office (FAO) will electronically receive the information contained on the student's SAR in order to determine the student's eligibility for financial aid.
3. Once the FAO has received the FAFSA results and other requested information, e.g., tax returns, verification material, a student's eligibility for financial aid assistance will then be determined.
4. The FAO will then mail a financial aid award letter to the student. The award letter will indicate the student's eligibility for one or more financial aid programs. Typically, the awarding process begins in early April of each year.

* ***Reapply Each Year*** Financial aid is not renewed automatically. Federal requirements and/or the student's and/or family's financial situation may change, therefore, students must reapply each year.

Revisions, Cancellations, Repayments

California University reserves the right to review, revise, or cancel a financial aid award at any time due to: (1) a change in the student's enrollment status at California University and/or a change in the student's financial aid eligibility; (2) failure to comply with policies, procedures, or laws pertaining to these programs; and (3) the availability of federal, state, and university funds for each program. Students will be notified of any revision and/or cancellation. Students who fail to meet the financial aid requirements may be required to repay all or a portion of the assistance used during any affected semester(s). See "How Registration Affects Financial Aid Eligibility" for additional information regarding adjustments to financial aid awards.

Rights and Responsibilities of Financial Aid Applicants

Every student has the right to apply for financial aid and to request and receive reconsideration of any financial aid decision. Students also have the right to know how their financial need and family contributions are calculated. Students and parents are expected to provide accurate information on all application materials and may be asked to provide photocopies of their latest federal income tax returns.

The Federal Government requires the Financial Aid Office to insure 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, 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 or veteran's benefits, receipt of scholarships, grants or other assistance, change in residency, etc.

Financial Aid Time Line Items to Complete	January	February	March	April	May	June	July	August
Gather financial aid documentation necessary for completion of the FAFSA	X	X	X	X	X			
Obtain a Free Application for Federal Student Aid (FAFSA)	X	X	X	X	X			
Mail your FAFSA to the Federal processor. **THE EARLIER THE BETTER!** (Keep a copy for your records!)	X	X	X	X	X			
Review your Student Aid Report (SAR) for errors and make any necessary corrections.		X	X	X	X			
Provide the Financial Aid Office with all requested information.			X	X	X	X	X	X
April 1 - FAFSA priority deadline for consideration for Federal Campus-Based Programs (FWS, FSEOG, & Perkins)				X				
Financial aid award letters mailed to students. Students must sign and return letter to FAO.				X	X	X	X	X
May 1 - FAFSA deadline for PHEAA State Grant					X			
File Stafford Loan application with lender. (See Stafford Loan Processing Cycle for additional information.)					X	X	X	X
Receive results of PHEAA Grant eligibility.					X	X	X	X
Receive billing statement from Bursar's Office.							X	
Due date for paying Fall semester bill.								X

FINANCIAL AID PROGRAMS

Federal Aid Programs

Grants

Federal Pell Grants are awarded to undergraduate students to assist with their educational costs. 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. The ***Federal Pell Grant*** Program will notify applicants of their eligibility through a Student Aid Report (SAR) mailed to their permanent address. The Pell Grant annual award ranges from $400 to $2700.

Federal Supplemental Educational Opportunity Grants (FSEOG)

are generally targeted to Pell-eligible recipients who demonstrate exceptional need. The FSEOG annual award typically ranges from $600 to $1200.

Student Employment

Federal Work-Study Employment provides part-time employment to undergraduate students who typically demonstrate exceptional financial need. Students are paid the Federal minimum wage and typically work eight hours per week during the academic year. During summer sessions both part-time (10 hours a week) and full-time (maximum of 300 hours during May-August) employment opportunities are available to qualified students. Students interested in summer employment must complete a *"Summer Work-Study Application"*.

Loans

Federal Perkins Loans provide low-interest loans to eligible undergraduate students who demonstrate exceptional need. The Perkins Loan award ranges from $1500 to $2500. Continued borrowing under the program from year to year depends on the availability of funds. This loan bears an interest rate of five percent a year, and repayment of principal may be extended over a ten year period. The normal minimum monthly repayment is at least $30. For borrowers who received their loan after June 30, 1987, repayment of principle and interest begins nine months after students end their studies. California University of Pennsylvania awards the loans and is responsible for collecting loan payments from borrowers in repayment.

Cancellation Provisions: Borrowers becoming full-time teachers in public or other nonprofit private elementary or secondary schools with a high enrollment of students from low income families or designated teacher shortage areas, in certain fields, may cancel all of their loans. Full-time teachers of handicapped children may be eligible for complete cancellation of the loan. In addition, a borrower who becomes a full-time staff member in a preschool program of the Economic Opportunity Act (Head Start), a full-time nurse, or medical technician, in certain states, may also be eligible for cancellation of the loan (subject to federal funding approval). Borrowers serving as volunteers in the Peace Corps are eligible for cancellation of 15-20% of the total Perkins Loan obligation, depending on the length of active service in the Peace Corps plus the accrued annual interest. Most government sponsored loans, such as Stafford Loans, defer repayment during the time a person serves in the Peace Corps. Borrowers serving in the Armed Forces of the United States can have a maximum of 50 percent of the loan canceled at the rate of 12 1/2 percent a year, plus interest, for each complete year of service in an area of hostilities.

Deferment Provisions: Interest and principle payments are deferred during any period in which the borrower is carrying at least 1/2 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).

Federal Stafford Loans provide low-interest loans to students regardless of income or financial need. A student who applies for a Stafford Loan and demonstrates financial need will be eligible for a "Subsidized" Stafford Loan. The federal government will pay the interest on this loan while the student is enrolled in school. A student who applies for a Stafford Loan but does not demonstrate sufficient or remaining financial need will qualify for an "Unsubsidized" Stafford Loan. The borrower is responsible for the interest on this loan while enrolled in school. For students whose loans were first disbursed after July 1, 1994 and who have no outstanding balance on a Stafford, PLUS, or SLS Loan, the interest rate is variable, but not higher than 8.25%. The maximum Stafford loan limit a student can borrow is as follows:

Stafford Loan Borrowing Chart

Grade Level	Annual Amount *
freshman	*up to $2,625*
sophomore	*up to $3,500*
junior/senior	*up to $5,500*
graduate	*up to $8,500*

** combined total of Subsidized & Unsubsidized*

Please Note: Independent students, and dependent students whose parents cannot obtain a PLUS Loan, may increase their "Unsubsidized" Stafford Loan limit by the following amounts:

Grade Level	Additional Amount
freshman/sophomore	*up to $4,000*
junior/senior	*up to $5,000*
graduate	*up to $10,000*

Federal Parents Loans for Undergraduate Students (PLUS) are available to parents who possess good credit and wish to borrow to provide for their son's or daughter's education. The annual loan limit is the cost of education less other financial aid received by the student. The interest rate is variable, but not higher than 9.00%.

State Programs

Grants

PHEAA Grants provide need-based state grant assistance of up to $2,700 per year. This grant program is funded by the State of Pennsylvania and is administered by the Pennsylvania Higher Education Assistance Agency (PHEAA). Students receive up to eight full-time semesters of PHEAA Grant assistance or sixteen semesters of part-time assistance.

Eligibility Criteria:

- The student must be a Pennsylvania resident.
- The student must complete the Free Application for Federal Student Aid (FAFSA) by May 1 each year.
- The student must be enrolled on at least a half-time basis in a PHEAA-approved undergraduate program of study.
- The student must be a high school graduate or the recipient of a GED.
- The student must demonstrate academic progress for continued aid.

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

Student Employment

State Work-Study Program (SWSP)

Institutional work-study that is funded through State and University matched funds. This program provides students with employment opportunities in high technology and community service positions. Students are paid the Federal minimum wage and typically work eight hours per week during the academic year. Students must complete the SWSP Student Application/Placement form (available in FAO in early September) and meet the following eligibility criteria:

- be a Pennsylvania resident;
- complete the FAFSA Form;
- be a state grant or Subsidized Stafford Loan recipient; and secure employment in one of the SWSP areas on-campus.

Limited summer employment opportunities are available through this program. During summer sessions (full-time students may be eligible to work up to 37 1/2 hours for a maximum of 300 hours during May-August) employment opportunities are available through this program. Students interested in summer employment must complete a *"Summer Work-Study Application"* in addition to the SWSP application. Additional information regarding this program can be obtained by contacting the Financial Aid Office.

University Programs

Student Employment - Institutional employment (Non-FWSP) provides employment opportunities to students regardless of financial need. Students are paid the federal minimum wage and typically work eight hours per week during the academic year. During summer sessions both part-time (10 hours a week) and full-time (maximum of 300 hours during May-August) employment opportunities are available to qualified students. Students interested in summer employment must complete a *"Summer Work-Study Application"*. Interested students must file the FAFSA form to qualify. Additional information regarding this program can be obtained by contacting the Financial Aid Office

Athletic Grant-in-Aid - California University of Pennsylvania offers athletic grant-in-aid assistance to outstanding student athletes in selected intercollegiate sports programs, for both women and men. Interested students should contact the Athletic Department.

Scholarships - California University of Pennsylvania offers a number of meritorious and need-based scholarships to new students. All students who complete the California University Admissions Application are automatically considered for all new student scholarships. However, selected applicants for some of the scholarship awards may be required to complete additional information for final determination of the award.

The scholarships offered range from $100 to full tuition for the academic year.

Many of the scholarships are renewable awards based on the student maintaining minimum academic standards and demonstrating financial need, if applicable.

The Faculty Scholarship is the most prestigious meritorious scholarship offered to new students. This renewable scholarship is awarded to students who score above 1200 on their SAT and rank in the upper 10% of their high school graduating class. The award amount is up to the value of in-state tuition.

California University Scholarships

AAUW Scholarship: The California Branch of the American Association of University Women awards a $400 per year scholarship to a full-time, female upperclassman over 30 who wants to complete her undergraduate degree at the University. The scholarship may be renewed upon maintenance of a 3.00 grade point average. Those interested should contact the Financial Aid Office (412- 938-4415).

Alumni Scholarships: Ten renewable scholarships up to $430 are given to freshmen entering with an SAT score of at least 1100, a grade point average of 3.25, and a rank in the first or second tenth of their graduating class. Inquiries should be directed to the Admissions Office (412-938-4404).

Colonel Arthur L. Bakewell Veterans Scholarships: Two $1,000 scholarships are offered by the Veterans Club to an honorably discharged veteran undergraduate sophomore attending the University full-time with a minimum 3.00 grade point average. Eligible individuals should contact the Veteran Affairs Office (412-938-4076).

Gabriel P. Bet Scholarship: This annual scholarship of $1,000 is awarded to a student or students who are juniors majoring in Geography. A departmental scholarship committee announces the award during the fall semester. Interested candidates should contact the Earth Science Department (412- 938-4180).

Board of Governors' Scholarships: These scholarships, which waive tuition every semester for four years, are given to 14 entering freshmen with at least a 2.5 grade point average and a combined SAT score of 850. Interested students should contact the Admissions Office (412-938-4404).

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

California PTA Scholarship: The California High School PTA awards a $500 scholarship to a freshman student who has graduated from California High School. The scholarship is based on academic performance and financial need. Applications are available in the California High School's Guidance Office after February 1st of each year.

California University of Pennsylvania Faculty Scholarships: The Cal U faculty awards a limited number of full-tuition (in-state) scholarships per year to a selected number of freshmen. Minimum qualifications are: (1) admission as a full-time student at California University of Pennsylvania; (2) a combined SAT score above 1200; and (3) rank in the upper 10% of their high school graduating class. Inquiries should be directed to the Chair, University Scholarship Committee (412-938-5863).

Sean Cavanagh Scholarship: One $500 scholarship is awarded each year to a freshman from each of the following high schools: Albert Gallatin, Brownsville, Frazier, and Laurel Highlands. The scholarship is based on academic performance (minimum 2.5 G.P.A.), financial need, and evidence of school or community service. Interested students should contact their guidance counselor or the Financial Aid Office (412-938-4415) for a scholarship application.

Charles and Mary Coen Scholarship: This annual non-renewable $605 scholarship is awarded to a junior who resides in Washington County. Selection is based on scholastic achievement and financial need. The Financial Aid Office will select the recipient of this award.

J. Robert Craig Scholarship: A $500 first-semester scholarship is awarded to an incoming freshman or transfer student exhibiting excellence in the natural sciences. Proof of this ability must be verified by a letter of recommendation from the applicant's science teacher. Interested freshmen should contact the Educational Studies Department (412-938-4140) or the Physical Sciences Department (412-938-4147).

Pete J. Daley II Government Scholarship: This $250 scholarship is awarded each semester to a deserving student majoring in Political Science who resides in the 49th Legislative District. The scholarship is based on academic performance and financial need. Inquiries regarding this scholarship should be directed to the Financial Aid Office (412-938-4415).

James T. & Martha E. Davis Scholarship: This annual non-renewable $1000 scholarship is awarded to an academically talented junior who demonstrates financial need and resides in one of the following Pennsylvania counties: Fayette, Greene, Washington, or Westmoreland. The Scholarship Committee will select the recipient of this award.

Earth Science Faculty Scholarship: This $500 scholarship is awarded to a student majoring in Earth Science, Geography, or Geology. The applicant must have a minimum 3.00 grade point average in their major. The award is made at the end of the student's junior year. Those interested should contact the Earth Sciences Department (412-938-4180).

Eberly Family Scholarships: These renewable scholarships are awarded to freshmen in non-education majors who have demonstrated academic promise. These scholarships are awarded first to Fayette County residents, second to Southwestern Pennsylvania Residents or third to Pennsylvania residents. The scholarship value is up to full tuition for an academic year. Each recipient must maintain sufficient academic progress to continue receiving the award. Interested students should contact the Admissions Office (412-938-4404).

Dr. Calvin Fleming Scholarship: A $1000 scholarship is awarded to an outstanding student in the Natural or Physical Sciences with a preferred composite SAT score of 1200. Inquiries should be directed to the Chair, University Scholarship Committee (412-938-5863).

Kenny Hager Memorial Scholarship for Graphic Communications: This variable amount, non-renewable scholarship is awarded to a student majoring in Graphic Communications, who has completed at least 64 credits, has a minimum grade point average of 3.00, and demonstrates financial need. Interested students should contact the Industry and Technology Department (412-938-4085).

The David W. Hambacher Scholarship: A $500 scholarship is awarded to a Psychology major who has completed at least 96 credits, has a minimum grade point average of 3.0, demonstrated financial need, and evidence of community service. Those interested should contact the Psychology Department (412-938-4100).

Delila C. Jenkins Scholarships: These renewable scholarships are awarded to freshmen Education majors demonstrating financial need. The scholarship value is up to full tuition for an academic year. Each recipient must maintain satisfactory academic progress in order to continue receiving the award. Applicants must submit the "Free Application for Federal Student Aid" to be considered. Those interested should contact the Admissions Office (412-938-4415).

Rotary District #733 Charles C. Keller Endowment Fund Scholarship: This annual scholarship is awarded to a student based on academic achievement and financial need. Priority is given to a student whose parents or grandparents were Rotarians from District #733, or to the student who participated in Rotary youth-related programs such as Interact, Rotaract, or youth exchange. If no applicant meets either of the Rotarian criteria, priority consideration will then be given to non-traditional students. Inquiries regarding this scholarship should be directed to the Financial Aid Office (412-938-4415).

Michael Keller Scholarship: This annual non-renewable scholarship is awarded to a non-traditional student who is at least 30 years old. This scholarship is based on academic performance (minimum 3.0 grade point average) and financial need. Interested students should contact the Office of Lifelong Learning (412-938-5840).

Paul J. Killius Jr. Special Education Scholarship: This annual scholarship of $900 is awarded to a freshman student majoring in Special Education who resides in the local area of the university and demonstrates financial need. Interested students should contact the Foundation Office (412-938-4553).

Debra Maley Scholarship: This annual non-renewable scholarship is awarded to a freshman from Bentworth High School. The scholarship is based on academic performance and financial need. The Financial Aid Office will select the recipient of this award.

Donald Maley Technology Education Scholarship: This annual scholarship of $1000 is awarded to an incoming freshman majoring in Technology Education. Selection is based on scholastic achievements and financial need. Interested students should contact the Chairperson of the Maley Scholarship Committee (412-938-4085) for an application and additional information.

Joseph Lynn Marino Memorial Award: An award of $200 to $500 is granted each semester to a full-time undergraduate with a 3.50 overall grade point average. The applicant must be enrolled in the College of Liberal Arts and must have completed six credits in Anthropology. Those interested should contact the Chair, University Scholarship Committee (412-938-5863).

Minor Major Memorial Award: This annual award (currently $350) is given to a scholastically outstanding junior in any of the English curricula. There is no application. Those interested should contact the English Department (412-938-4070).

Minority Scholarship: This annual non-renewable scholarship is awarded to a deserving minority student. Interested students should contact the Director of the Women's Center/Disabled Student Services (412-938-5857).

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

Elmo Natali Endowment Fund: This annual scholarship is awarded to a deserving student who is a member of the California University Football Team. Interested students should contact the Athletic Department (412- 938-4019).

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

Mary Noss Freshmen Scholarships: A $600 non-renewable scholarship is awarded to an incoming freshman from each of Washington County's fourteen public schools. The recipients, chosen by a committee in each high school, must attend the University full-time in order to receive the award. Eligible applicants should contact their guidance counselor.

Elsbeth E. Santee Scholarship: Awarded to an outstanding student majoring in one or more of the Foreign Languages. Minimum qualifications are a 3.00 grade point average in the Foreign Language Major(s) and at least two completed courses in the Foreign Languages. Inquiries should be directed to the Foreign Languages Department (412-938-4246).

Shaltenbrand/Westerwald Pottery Scholarship: This $550 per year, non-renewable scholarship is awarded to an incoming freshman who graduated in the upper 10% of his/her class. This scholarship is awarded first to anyone from the following counties: Allegheny, Fayette, Greene, Washington, or Westmoreland; and second to a Pennsylvania resident. Interested students should contact the Financial Aid Office at (412-938-4415).

Charles W. Slick Football Scholarship: This annual scholarship is awarded to a deserving student who is a member of the California University Football Team. The scholarship is awarded based on academic performance and good citizenship qualities. Interested students should contact the Athletic Department (412-938-4019).

Tselepis Football Scholarship: This annual scholarship is awarded to a freshman or upperclass student from Aliquippa High School who is a member of the California University Football Team. Interested students should contact the Athletic Department (412-938-4019).

Undergraduate Assistantships: Ten $1,000 renewable scholarships are awarded to outstanding first-time freshmen entering on a full-time basis. Minimum qualifications are a 3.25 grade point average and a combined SAT score of 1100. Interested students should contact the Admissions Office (412-938-4404).

Welsh Scholarship: This annual $600 scholarship is awarded to an Education major who has completed at least 96 credits, has a minimum grade point average of 3.00, and demonstrates financial need. The recipient is chosen by the Dean of the College of Education and Human Services. Inquiries should be directed to the College of Education and Human Services (412-938-4125).

Private Assistance

Scholarships/Grants -There are also many other agencies and organizations which provide financial assistance. These include civic clubs, fraternal organizations, religious groups, employers, organizations, unions, etc. Guidance counselors, local civic leaders or local librarians are of great help in researching such avenues of financial assistance. For additional information, see "Financial Aid World Wide Web (WWW) Sites" for help in locating assistance from these agencies/organizations.

Payment Plans - California University offers payment plans which enable you to pay college costs in specified increments on a monthly basis. Many families find monthly payment plans make paying for college more manageable. Contact the Bursar's Office at 938-4431 for additional information.

Private Education Funding - In addition to the Federal loan programs, there are also private sources of educational loans. These are typically private, credit-based loans sponsored by banks and state agencies or private guarantors. The results of the FAFSA are not used in determining eligibility for these programs. Contact the Financial Aid Office for additional information.

Special Benefits

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

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

IMPORTANT STEPS IN APPLYING FOR A STAFFORD LOAN

1. File the 1997-98 Renewal **FAFSA or FAFSA** form.
2. Obtain a Stafford Loan application from a lender or the Financial Aid Office. **Please Note: PHEAA Loan Division will mail a loan application to any Pennsylvania student answering "yes" to the question "interested in student loans" on the Renewal FAFSA or FAFSA form.**
3. Complete the borrower section of the application. The amount of the loan request cannot exceed the student's annual loan limit under the Stafford Loan Program (see "Stafford Loan Borrowing Chart" listed below). Please be sure that all questions are complete and that the student signs and dates the application.
4. Submit the completed loan application to the lender if the loan is being processed by a Pennsylvania lender or a PHEAA-approved, non-Pennsylvania lender. If applying for a Stafford Loan through a non-PHEAA-approved lender, submit the application to the Financial Aid Office at California University.
5. The certification step is the most important step in the application process. During this step the Financial Aid Office determines the student's actual loan amount and type of Stafford (subsidized and/or Unsubsidized) based on the student's financial need. If the application is filed with a Pennsylvania lender or PHEAA-approved, non-Pennsylvania lender, this certification process will be completed electronically through the Financial Aid Office's computer system. The non-PHEAA- approved loan will be certified and returned via the mail.
6. Once the application has been certified by the Financial Aid Office, the lender will authorize the disbursement of loan proceeds (Electronic Funds Transfer (EFT) or check) at the appropriate time. *First-year, first-time* Stafford Loan borrowers will not receive their loan proceeds until thirty days after the first day of classes. The lender will send a "Disclosure Statement" informing the student of the amount, type, and expected disbursement date of the loan proceeds. All first-time Stafford Loan borrowers are required to attend an *"Entrance Interview"* before receiving the loan proceeds.

DISBURSEMENT OF FINANCIAL AID

Crediting Financial Aid to a Student's Account

In general, once a student's financial aid award(s) has been finalized (all requested forms received, verification completed, enrollment verified, and default status reviewed), the student's semester award amount(s) (except Federal Stafford Loans and Federal College Work-Study) will be credited to his/her account beginning with the second week of the semester. Federal Stafford Loans will also be credited to a student's account once loan proceeds have been received and appropriate authorization (endorsement of loan check or a signed EFT authorization form) has been secured and all other eligibility criteria have been satisfied. Federal College Work-Study funds are disbursed bi-weekly to the student in the form of a payroll check based on the number of hours worked during the pay period. ***Please Note: Federal regulations prevent the delivery of the first disbursement of Federal Stafford Loan proceeds to first-year, first-time borrowers until thirty days after the first day of classes.***

How Registration Affects Financial Aid Eligibility

Federal regulations and institutional guidelines require students to be registered before any financial aid monies can be disbursed. In addition, all federal and state financial aid programs specify minimum enrollment requirements in order for a student to receive any (maximum or partial) assistance from these programs. These minimum enrollment requirements are broken into four enrollment classifications: full-time, three-quarter-time, half-time, and less-than-half-time. The chart below indicates the number of credits used to determine a student's enrollment status.

Listed below is an eligibility chart that defines the credit hour requirements for each of the five federal aid and PHEAA Grant programs, as well as the percentage of the maximum award a student may qualify for under all four enrollment classifications.

Enrollment Status	Number of Credits Registered
Full Time	12 credits or more (undergraduate) 9 credits or more (graduate)
Three-Quarter Time	9 to 11 credits (undergraduate) 7 to 8 credits (graduate)
Half-Time	6 to 8 credits (undergraduate) 5 to 6 credits (graduate)
Less-Than-Half-Time	Less than 6 credits (undergraduate) Less than 5 credits (graduate)

Determining Award Eligibility Based On Enrollment Status

Financial Aid Program	Enrollment Status	Eligible for Award	% of Maximum Award
Pell Grant	Full Time	Yes	100%
	3/4 Time	Yes	75%
	1/2 Time	Yes	50%
	Less than 1/2 Time	Yes	Varies
PHEAA Grant	Full Time	Yes	100%
	1/2 or 3/4 Time	Yes. Determined by PHEAA	Varies
	Less than 1/2 Time	No	No Award
Stafford Loans	Full Time to 1/2 Time	Yes	100%
	Less than 1/2 Time	No	No Award
Federal SEOG & Perkins Loan	Full Time	Yes	100%
	3/4 to 1/2 Time	Yes	50%
	Less than 1/2 Time	No	No Award
Federal Work Study	Full Time to 1/2 Time	Yes	100%
	Less than 1/2 Time	No	No Award

Please Note: Federal and state financial aid awards may be adjusted according to this chart for any student whose enrollment status (as defined above) changes before 60% of the enrollment period, e.g., fall or spring semester, or a special summer session, has elapsed. This would occur when a student drops a class(es) or withdrawals from the university.

Financial Aid Refunds

Financial aid which exceeds the amount the student owes to the university (direct costs) will be disbursed to the student in the form of a refund check to cover indirect educational costs such as books and supplies, off campus housing and transportation. These refunds will be available starting with the second week of the semester for Stafford Loan refunds and all other student financial aid refunds if the student has satisfied the eligibility requirements for each award. *Please Note: Even though refund checks will be available starting the first week of the semester, a financial aid refund check could be delayed if one or more of the following statements is true: 1) student is a first year, first time borrower (Stafford refund only); 2) student's federal and/or state aid has not been finalized; 3) student's loan application was filed late; and/or 4) the loan application or the "Free Application for Federal Student Aid" (FAFSA) is delayed at the processor (federal student aid program, guarantee agency/lender) due to missing or incorrect information.*

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 the second week of the semester for which the funds are intended. Students should plan to come to the university with enough personal money for early term purchases (books, materials, art supplies, etc.) without depending upon financial aid funds.

Maintaining Financial Aid Eligibility

Satisfactory Academic Progress Policy

Purpose of Policy

Federal regulations require **all** institutions that administer Title IV student assistance programs to monitor the academic progress toward a degree or certificate of those students applying for or receiving assistance from those programs. All California University students applying for Title IV federal assistance must meet the standards stated in this policy, regardless of whether or not they previously received aid. The financial aid programs governed by these regulations are as follows:

Federal Pell Grant
Federal Supplemental Educational Opportunity Grant (SEOG)
Federal Perkins Loan
Federal Stafford Loan (Subsidized/Unsubsidized)
Federal Plus Loan
Federal Work-Study

Satisfactory Academic Progress (SAP) standards include three elements: 1) maximum time frame within which a degree or certificate must be granted, (2) minimum credit hours earned per academic year, and (3) minimum cumulative grade point average (g.p.a.).

Review Period

The review of a student's "Satisfactory Academic Progress" (SAP) standing occurs annually at the end of the spring semester. A student's SAP standing will be based on his/her academic performance during the academic year [fall and/or spring semester(s)]. Students who are not making satisfactory academic progress are typically notified in early summer.

Maximum Time Frame

Maximum time frame is defined as the required length of time it will take a student to complete a degree program based on the appropriate enrollment status (full-time, three-quarter time, or half-time). For a student to remain eligible for federal aid, the student must conform to the following time frame for completion of a Baccalaureate Degree:

Enrollment Status *	Number of Eligible Semesters
Full-time (12 or more credits)	**11 semesters**
Three-quarter time (9 to 11 credits)	**16 semesters**
Half-time (6 to 8 credits)	**22 semesters**

Minimum Earned Credit Hours

In order to monitor a student's progress toward completing a degree in a prescribed amount of time, a measure of annual progress has been established. The minimum earned credit hours component requires student aid applicants and recipients to successfully earn a minimum number of credit hours per year based on a student's enrollment status. A student must meet the following earned credit hour standards based on his/her enrollment status:

Enrollment Status*	Total Earned Credits Per Year
Full-time (12 or more credits))	**24 credits**
Three-quarter time (9 to 11 credits)	**18 credits**
Half-time (6 to 8 credits)	**12 credits**

* Assumes a student's enrollment status (full-time, three-quarter time, or half-time) remained constant throughout the academic year. The minimum earned credit hours standard listed above will differ if the student's enrollment status varies throughout the academic year.

Minimum Cumulative Grade Point Average

Each semester the university reviews the *"grade point average"* (g.p.a.) of each student in order to determine whether the student is maintaining "good academic standing". The university has established **minimum** grade point averages that students must maintain in order to achieve "good academic standing". Listed below are the minimum grade point averages for each class level:

Freshman	**1.75**	**Junior**	**1.95**
Sophomore	**1.85**	**Senior**	**2.00**

A student who fails to meet minimum *academic standards* (required g.p.a), as defined by the university, will be placed on academic ***probation status*** for one semester. Students are eligible to receive financial aid during the probation semester(s). At the end of the probation semester(s), a student **must**: *(1) achieve the required minimum grade point average (student is removed from academic probation); or (2) achieve at least a 2.0 grade point average during the probationary semester (if this requirement is met, the student will continue on academic probation).* A student who is unsuccessful in attaining either one of these levels of academic performance **will be** academically dismissed from the university. Students who are academically dismissed are considered **ineligible** for Title IV federal aid. However, a student who is academically dismissed and is approved for re-admission (through the university's PASS Program only) will be placed on ***"financial aid probation."*** During financial aid probation a student is eligible to receive Title IV federal aid (see "Financial Aid Probation" section for additional information).

Special Grades

I (Incomplete): An incomplete grade does not earn credit or influence the grade point average in the semester in which the course work was taken. If an incomplete has been resolved and the student has earned a passing grade, the credit and grade will be counted toward satisfying the minimum credit hour standards and grade point average requirements.

W (Withdrawal): All withdrawal categories do not earn credit(s) toward graduation or toward satisfying the credit requirements of the SAP Policy.

P (Pass): If this grade is awarded, the credits apply toward graduation and toward satisfying the minimum earned credit hour standards, but will not impact a student's grade point average.

Repeated Courses: For a course that has been repeated, only the last grade earned is used in calculating the grade point average and the credits are awarded only for the semester in which it was repeated. However, each time a student enrolls in a course, the course is counted as part of the maximum time frame.

Military Transfer Credits

In most cases, military training and/or service school experience credits can be counted in the total credit hours earned by a student for satisfying the minimum credit hour progression requirement. However, the military training and/or service school experience will **only** be used in satisfying the minimum earned credit hour requirement during the student's first year of attendance at California University.

PHEAA Grant Progress Standard

Even though the PHEAA Grant is a non-Title IV aid program, the satisfactory academic progress requirements for this program are similar to the federal policy. For students to remain eligible for a PHEAA Grant, he/she must meet the following minimum earned credit hour standard after every two semesters of state grant assistance:

Enrollment Status*	Total Earned Credits Per Year
Full-time (12 or more credits)	**24 credits**
Part-time (6 to 11 credits)	**12 credits**

For PHEAA Grant purposes, the repeated course(s) can be counted only once in meeting the 12 or 24 credit hour test. Please Note: A student can only receive a maximum of 8 full-time or 16 part-time semesters of PHEAA Grant assistance.

Financial Aid Probation

If a student fails to achieve the Satisfactory Academic Progress Standards during the review period as outlined in this policy, the student will be placed on **financial aid probation.** Students who fail to meet progress standards should refer to the "Financial Aid Suspension" section listed below. Students will remain on financial aid probation for the next award year and will be eligible to receive federal Title IV financial aid assistance during this probationary period. **Please Note: Students will not be granted financial aid probation for two consecutive academic years.**

Financial Aid Suspension

If a student fails to achieve the minimum earned credit hour standard and/or the minimum grade point average upon the conclusion of a student's financial aid probationary period, the student will be placed on financial aid suspension. Students placed on financial aid suspension (progress) will become **ineligible** for future Title IV assistance until the student's SAP deficiency is resolved.

Eligibility for Reinstatement

In order to be reinstated, the student must successfully achieve the required grade point average as mandated by the SAP Policy and/or successfully make up his/her credit hour(s) deficiency at his/her own expense. The student may use the summer or any semester of the academic year to eliminate his/her deficiency. Students may take course work at another college or university to resolve the minimum credit-hour deficiency, provided that the credits earned at that institution are transferable to California University and the student's college dean or appointed designee has authorized the transient course work. Students who make up their credit-hour deficiency at an institution other than California University **must** have a Financial Aid Transcript sent to the Financial Aid Office.

Students who make up their deficiency must complete and return the **Satisfactory Academic Progress Form,** along with all required documents, to the Financial Aid Office before their deficiency status can be cleared. **Please Note:** Only successfully earned credits, not grades, are transferable back to California from another approved institution. Students can only improve their grade point average by taking and successfully completing course work at California University.

Appeal Procedures

All Title IV recipients have a right to appeal a financial aid suspension decision by submitting a "SAP Appeal Form" to the Financial Aid Office with a written explanation of the reason(s) the student failed to meet the Satisfactory Academic Policy Standards. Appeal forms are available in the Financial Aid Office. The deadline date for filing an appeal is the third week of classes in any semester that the student is applying for financial aid. Students will be officially notified within 7 to 10 days after filing the appeal form. If the appeal is denied, final appeal must be made to the Director of Financial Aid within 10 working days of the date of the denial letter.

Refund/Repayment Policies

Definition of "Refund"

The term "refund" is defined as financial aid and/or cash payments minus the amount retained by the institution for the student's actual period of enrollment. Any student who withdraws from the university may be eligible for a refund of university charges, according to the published refund policy. However, a student who receives financial aid and withdraws from the university may be required to refund all or a portion of the financial aid awards to the appropriate financial aid program(s).

University Refund Policies

Official withdrawal from the university may entitle the student to a refund of university fees. The amount of the refund of university fees will be based on one of two refund policies: **Pro-Rata** or **Federal Policy.** The student's enrollment status at the time of withdrawal from the university will determine which refund policy will be used. Listed below is the definition of each policy and appropriate schedule.

Definition of Pro-Rata Refund Policy

This refund policy applies to any student who meets the following criteria: receives federal financial aid; attends the university for the first time; and withdraws on or before the 60 percent point of the enrollment period. Students who meet all three criteria will be assessed university charges (tuition and fees, room and board, etc.) equal to the portion of the enrollment period completed.

Schedule of Pro-Rata Refunds

If the student withdraws:	**Refund**
Prior to the second day of classes	100%
First 10% (in time) of the enrollment period	90%
First 20% (in time) of the enrollment period	80%
First 30% (in time) of the enrollment period	70%
First 40% (in time) of the enrollment period	60%
First 50% (in time) of the enrollment period	50%
First 60% (in time) of the enrollment period	40%
After the 60% (in time) of the enrollment period	0%

Definition of Federal Refund Policy (University Refund Policy)

This refund policy applies to any student who withdraws after their first semester of attendance at California University. Students who meet this basic criteria will have their university charges calculated according to the following schedule:

Schedule of Federal Refunds

If the student withdraws during:	**Refund**
First 10% (in time) of the enrollment period	90%
11% to 25% (in time) of the enrollment period	50%
26% to 50% (in time) of the enrollment period	25%
after 50% (in time) of the enrollment period	0%

NOTE: Federal regulations require the university to use the refund policy (Pro Rata or Federal) that provides the largest refund to the federal aid program(s). Therefore, both the formulas are applicable in determining a refund for a federal aid recipient who withdraws during his/her first semester of attendance.

Distribution Policy

If it is determined that a portion of a student's eligible refund of university charges consists of student financial aid, the Federal Government requires that aid be returned to the financial aid program(s) in the following priority order:

Federal Unsubsidized Stafford Loan
Federal Subsidized Stafford Loan
Federal PLUS Loan
Federal Perkins Loan
Federal Pell Grant
Federal SEOG
Other Title IV Aid Programs
Other Federal, State, Private, or Institutional Aid Programs
The Student

Repayment Policy

Definition of "Repayment"

Repayment is defined as the amount a student must repay of student financial aid that is given directly to the student as a cash disbursement to cover non-institutional costs.

Repayment Procedures

A student who withdraws and receives a cash disbursement of student financial aid for non-institutional charges may be required to pay all or a portion of the student financial aid to the appropriate financial aid program(s). The following policies are used in determining the amount to be repaid by the student, if any:

1. Non-institutional housing/board costs are pro-rated based on the remaining months in the semester.
2. One half of the academic year allowance for books, supplies and personal/miscellaneous expenses is considered to be expended when a student begins classes.
3. Transportation costs are pro-rated based on the remaining weeks in the semester.
4. Once pro-rated expenses are determined for that semester, the institution will subtract this amount from the total cash disbursed to the student for the payment period. If it is determined that a repayment is necessary, the appropriate program will be refunded and the student will be billed. **Please Note:** If the repayment owed is $100 or less, the student will not be billed.

Distribution Policy

If it is determined that a student is required to repay all or a portion of the student financial aid disbursed to him/her, the Federal Government requires that it be returned to the appropriate program(s) in the following priority order:

1. Federal Perkins Loan
2. Federal Pell Grant
3. Federal SEOG
4. Other Title IV Aid Programs
5. Other Federal, State, Private, or Institutional Aid Programs

Financial Aid Resource Information

Financial Aid World Wide Web (WWW) Sites

The World Wide Web provides a wealth of information through the culmination of thousands of computers internationally. Many Web sites also provide links to other relevant information.

FastWEB

Scholarship resource locator created in 1995. You will be given an on-line questionnaire and personal mailbox ID. Scholarships will be posted to you and updated periodically. **http://www.studentservices.com/fastweb/**

The Student Guide

This site provides general information regarding Federal financial aid programs, eligibility, application process, deadlines, special circumstances, and a glossary. This site is provided by the Department of Education. **http://www.ed.gov/prog_info/FSA/Student Guide/**

Project EASI (Easy Access for Students and Institutions)

Provides information regarding "Planning for Your Education, Applying to School, Receiving Financial Aid, Repaying Your Loan," and various other pertinent financial aid information. **http://www.easi.ed.gov/**

Financial Aid Information Page

Subject Index - Provides an alphabetical subject index to the resources listed in the Financial Aid Information Page. Copyright 1995 by Mark Kantrowitz. **http:/www.finaid.org/**

Sallie Mae Home Page

Sallie Mae is a provider of financial services and operational support for higher education. **http://www.slma.com/**

HEATH Resource Center's 1996 Financial Aid for Students with Disabilities

The HEATH Resource Center of the American Council on Education operates a national clearinghouse on postsecondary education for individuals with disabilities. Disabled students may call 1-800-544-3284 or **e-mail at heath@ace.nche.edu**.

PNC Bank Education Loan Center

This web site provides an introduction to educational financing, a college savings plan calculator, an education loan payment calculator, education loan programs, a glossary, and other related web sites. **http://www.cs.cmu.edu/afs/cs/user/mkant/Public/FinAid/html/new.html**

PHEAA

This site provides financial aid options available to parents and students. **http://www.pheaa.org/**

College Board On-Line

This site attempts to orient parents and students to the process of applying to college and the financial aid process. **http://www.collegeboard.org**

Office of Postsecondary Education

This site provides brief summaries of the OPE and features guides on financial aid programs that can enable students to attend Postsecondary educational institutions. **http://www.ed.gov/offices/OPE/index.html/**

Important Financial Aid Telephone Numbers

Federal Government

Federal Student Aid Information	1-800-433-3243
Federal Student Aid Hotline TDD	1-800-730-8913
Pell Grant (Duplicate SAR)	1-319-337-5665
Immigration and Naturalization Services	1-415-705-4205
IRS Tax Listing (Form 1722)	1-800-829-1040
Selective Service	1-708-688-6888
Social Security Administration	1-800-772-1213

PHEAA

Grant Division	1-800-692-7435 1-717-720-2800
Loan Division	1-800-692-7392 1-717-720-2860

Student Loan Servicing Center

SLSC	1-800-233-0557

Financial Aid Glossary

1040 Form, 1040A Form, 1040E Form: The Federal Income Tax Return that is required to be filed by each person who received income during the previous year.

Academic Year: The period of time school is in session, consisting of 30 weeks of instruction.

Appeal: An appeal is a formal request made by the student to have a financial aid administrator review a student's unusual circumstances which may affect the student's aid eligibility (i.e., death of a parent, unemployment, etc.)

Award Letter: An official letter issued by the Financial Aid Office that lists the financial aid awarded to the student. Students are required to check the award(s) they wish to receive, sign the award letter, and return it to the Financial Aid Office.

Bursar's Office: The Bursar's Office is the university office responsible for the billing and collection of university charges, receives loan proceeds and issues refund checks.

Campus-Based Aid Programs: There are three financial aid programs funded by the Federal Government but administered by the school, using Federal Guidelines. These programs are the Federal Supplemental Educational Opportunity Grant (FSEOG), Federal Perkins Loan Program, and the Federal Work-Study Program.

College Work-Study: College Work-Study is a part-time job for undergraduate students. This is often referred to as the Federal Work-Study Program.

Commuter Student: A student who resides at home and commutes to school daily.

Cost of Attendance: The Cost of Attendance (COA) , also known as the cost of education or "budget", is the total amount used to calculate a student's aid eligibility. This amount includes tuition and fees, room and board, allowances for books and supplies, transportation, and personal and incidental expenses.

Custodial Parent: In the event a student's parents are separated or divorced, the custodial parent is the one who is providing more than 1/2 of the student's support. If both parents provide equal support, then the Custodial Parent is designated by the one with whom the student lived the most during the past 12 months.

Dependent Student: A student who is 23 years old or younger and is supported by their parents. A parent refusing to provide support for their child's education is not sufficient for the child to be declared independent.

Disbursement: Disbursement is the release of loan proceeds to the school for delivery to the borrower.

Disclosure Statement: The disclosure statement is a statement from the lending institution that provides the borrower with information regarding the approval amount of the loan, interest rate, origination and insurance fees, and any other finance charges incurred.

Electronic Funds Transfer: Used by most lenders to wire funds for Stafford Loan proceeds directly to participating schools without requiring a check for the student to endorse.

Enrollment Status: Indication of total credits scheduled for an enrollment period. For financial aid purposes, you must be enrolled at least half-time to receive aid.

Expected Family Contribution (EFC): The Expected Family Contribution is the amount of money that the family is expected to contribute to the student's education. This is based on the Federal Methodology need analysis formula dictated by Congress.

Financial Aid Transcript: The Financial Aid Transcript is a record of any federal aid received by the student at each post-secondary school attended.

Financial Aid Package: This includes any aid such as grants, scholarships, loans, and work-study offered to the student to assist in the funding of their education.

Free Application for Federal Student Aid (FAFSA): The FAFSA is used to apply for all need-based aid. The information contained within this document is used to calculate all financial aid for the student.

Gift Aid: Gift aid is financial aid which is not repaid, such as scholarships and grants.

Grant: Type of financial aid based on financial need that a student does not repay.

Independent Student: An independent student must meet at least one of the following criterion:

- Age 24 or older.
- Veteran of the U.S. Armed Forces
- Enrolled in a graduate or professional program beyond a bachelor's degree
- Married
- Orphan or ward of the court, or a ward of the court until age 18
- Legal dependents other than spouse for which you are responsible

Loan: Loans are borrowed money that a student must repay with interest.

Need: The difference between the Cost of Attendance and the Expected Family Contribution is known as financial need.

Pell Grant: A Pell Grant is a federal need-based grant.

Scholarship: A scholarship is gift aid which is not repaid.

Stafford Loan: A Stafford Loan comes in two forms, Unsubsidized and subsidized. Students are required to pay interest on an Unsubsidized loan; whereas, the government pays the interest on a subsidized loan while the student is in school, during the six-month grace period, and during any deferment periods.

Subsidized Loan: A subsidized loan is a loan which the government pays the interest on the loan while the student is in school, during a six-month grace period, and during any deferment periods. Subsidized loans are based on need, and may not be used to finance the family contribution.

Supplemental Educational Opportunity Grant (SEOG): The SEOG is a Federal grant program.

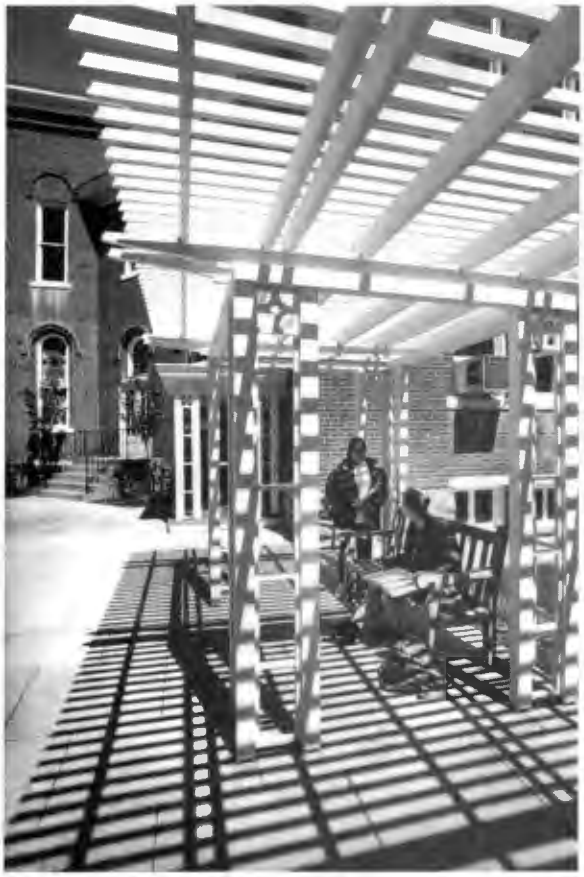
Unmet Need: Unmet need is the difference between the student's financial need and the total need-based aid.

Unsubsidized Loan: An Unsubsidized loan is a loan which the government does not pay the interest. The borrower is responsible for the interest on an Unsubsidized loan from the date the loan is disbursed, even while the student is still in school.

Untaxed Income: Contribution to IRAs, Keoghs, tax-sheltered annuities, and 401(k) plans, as well as worker's compensation and welfare benefits.

U.S. Department of Education: The US Department of Education administers several Federal student financial aid programs, including the Federal Pell Grant, the Federal SEOG, the Federal Work-Study, the Federal Perkins Loan, the Federal Stafford Loan, and the Federal PLUS Loan.

Verification: Verification is a review process in which the Financial Aid Office determines the accuracy of the information provided by the student and parents on their FAFSA. During this process, the student will be required to submit requested documentation.



ACADEMIC POLICIES

Student Responsibilities and Academic Advising

Students are responsible for securing current information about university policies and for meeting all relevant requirements. Students follow the requirements and provisions of the catalog that is in effect at the time of their initial enrollment. Students who have interrupted their education for more than one year are subject to the provisions of the catalog which is current at the time of their readmission to the university. The university reserves the right to change policies, curriculum requirements, and other provisions as needed.

Faculty advisors are available to assist students in planning their 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. They should feel free to consult with professors, academic advisors, department chairpersons, the deans, and the Provost. All of these university representatives maintain regular office hours for student consultations.

Attendance

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

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

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

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

Semester System

California University operates on a semester system with Fall and Spring semesters of approximately 15 weeks. In addition, there is a Summer term which typically includes a 10 week session and two five week sessions which run from June to August in addition to special sessions in May and August.

Course Numbering System

Courses numbered 100 to 499 are undergraduate courses. Courses numbered 500 may be taken for undergraduate or graduate credit, and courses numbered 700 & 800 are graduate level courses. In certain circumstances, undergraduate students are allowed to take graduate level courses for either undergraduate or for graduate credit.

Courses are numbered in the following way:

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

Generally, courses whose numbers end in 9 (such as 209 and 459) consist of independent study or internship and registering for such courses typically requires special permission.

Credits

Credit for course work is recorded in credit hours. For most courses, one credit hour represents one class meeting per week. For laboratory classes, the ratio may differ somewhat from one department to another, but usually two or three hours of laboratory work are worth one credit hour. A full–time student is one who is taking twelve or more credits. A student taking fewer than twelve credits is considered a part–time student.

Students expecting to progress from one class to the next on an annual basis and graduate in four years should complete an average of 32 credits per year, or 16 credits per semester.

Grading System

California University uses the following grading system for all courses:

Grade	Quality Points per Credit Hour	Interpretation
A	4	Superior Attainment
B	3	Above Average
C	2	Average
D	1	Below Average
F	0	Failure
AU	Not calculated	Audit
I	Not calculated	Incomplete
IF	0	Incomplete Failure
P	Not calculated	Passing
W	Not calculated	Official withdrawal
WP	Not calculated	Withdraw Passing
WF	0	Withdraw Failing
WX	Not calculated	Administrative Withdrawal
UW	Not calculated	Unofficial Withdrawal

Quality Point or Grade Point Average

To calculate a quality point average (QPA) or grade point average (GPA) divide the total number of quality points earned in regular courses at this university by the total number of credit hours attempted. For example, if a student has attempted a total of 60 credits, with 12 credits worth of A (= 48 quality 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 QPA/GPA of 2.60.

In computing QPA/GPA, the following courses are not counted: courses transferred from other institutions, advanced placement courses, courses passed by examination, courses in which a P grade was assigned, CLEP credits, or credits granted for military service.

If a student repeats a course, only the repeat grade is counted. Although developmental courses do not count towards graduation, the credits earned in them are used to determine a student's QPA.

Appealing a Grade or Other Academic Decision

In appealing a grade, a student should first contact the professor who issued that grade to discuss the reason for the grade. If the student is not satisfied with the professor's explanation, the student should then contact the professor's department chairperson. This latter contact must be in writing and must be filed with the chairperson within thirty university calendar days after the beginning of the subsequent fall or spring semester following the term in which the grade in question was given.

If accord is not reached at the chairperson level, the student may then appeal to the college dean. The final source of appeal is the Provost. This final step should be taken only if there is no possibility for a resolution at an earlier stage, and only if the student is convinced that arbitrary and/or capricious standards were applied.

In the case of other academic decisions, the student should follow the same appeal procedure insofar as possible.

In matters relating to student conduct and discipline, the Vice President for Student Development has authority to review appeals: see the section on University Conduct and Regulations in this catalog.

In matters relating to financial aid, see the section on Financial Aid in this catalog; in matters relating to teacher certification, see the relevant section in this catalog.

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

Cheating and Plagiarism

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

Good Academic Standing

Students who achieve the minimum Quality Point Average (QPA) or Grade Point Average (GPA) for their class rank are in good academic standing.

Class Rank	Total Number of Credits Earned	Minimum Grade-Point Average
Freshman	1-31	1.75
Sophomore	32-63	1.85
Junior	64-95	1.95
Senior	96 or more	2.00

All earned credits including transfer credits and other advanced standing credits that have been officially accepted are counted in determining a student's class rank. All attempted credits at California University are used in determining a student's GPA.

Students who do not achieve the minimum GPA for their class rank will be subject to Academic Probation or Academic Dismissal. Satisfactory Academic Progress is also required for continued eligibility for financial aid.

Academic Probation

A student whose total number of credits attempted has reached or exceeded twelve and whose overall GPA is below the specified minimum for his or her class rank will be placed on Academic Probation.

Before registering for a new term, students on Academic Probation must have their schedules approved by the Associate Provost for Student Retention and must agree to satisfy additional requirements during the probationary semester.

A student on Academic Probation who attains the minimum overall GPA for his or her class rank and satisfies other requirements will be removed from Academic Probation.

A student on Academic Probation who attains a 2.00 GPA during the probationary semester and satisfies other requirements, but fails to attain the minimum overall GPA for his or her class rank will be permitted to return to the university on Continuing Academic Probation.

A student on Academic Probation who does not attain the overall GPA for his or her class rank and does not achieve a 2.00 GPA for the probationary semester, or fails to satisfy other requirements will be dismissed from the university.

Academic Dismissal

The university reserves the right to refuse the privilege of further attendance to students who have failed to meet minimum academic requirements.

If a student's cumulative grade point average remains below the required minimum after a probationary semester, the term grade point average during a probationary semester is below 2.00, and the student fails to meet other requirements, he or she will be dismissed from the university.

Incomplete Grades

An Incomplete (I) is assigned when a professor is convinced the student can complete or make up work which has been missed or is incomplete because of reasons acceptable to the professor. However, in all cases, the professor has the option of submitting a final grade based on work completed and may refuse to accept late work. However, when appropriate explanation and documentation of an illness are given, professors will not penalize students if makeups are possible or if grading on work completed is reasonable.

After the required work has been completed, the professor will submit a Change of Grade form to the Registrar's Office. The student, however, is responsible for contacting the professor regarding arrangements which should be made to complete the work for the course. (Students are not required to register for the course again)

If the required work is not completed within one calendar year, the Incomplete grade will be converted to I–F. This conversion will occur even if the student has not been enrolled at the university during this calendar year. The I–F grade is considered in the computation of the student's grade point average as an F grade. Students who wish to have an extension of the time allowed to complete the work must obtain approval from the dean of their college.

Graduating seniors must resolve their Incomplete grades by the last day of classes of the term in which they intend to graduate. Otherwise, these Incompletes immediately become I–F's, and graduation may be correspondingly affected.

Grade Reports

At the end of each semester and summer session, grade reports are mailed to students at their permanent home address. For this reason, all students should be certain the Registrar's Office has their correct permanent address. In compliance with the Family Education Rights and Privacy Act of 1974, such grade reports are sent to students and not to their parents or guardian. A grade report will not be sent if a student's academic records have been sealed.

Midterm grades are also reported for some students. These reports are available from each student's academic advisor or in the Office of Student Retention.

Transcripts

Transcripts are issued by the Registrar's Office, Room 103 in the Administration Building. Each transcript costs $3.00, and payment must be received before the transcript is issued. Checks and money orders should be made payable to California University of Pennsylvania. All transcripts are issued according to the provisions of the Family Education Rights and Privacy Act of 1974 as amended: see also the section on Confidentiality of Records in this catalog.

A request for a transcript must be made in writing, to ensure that academic information is not improperly disclosed. Telephone requests for transcripts cannot be honored. The request may be made by completing a form in the Registrar's Office or by writing a letter to that office indicating (a) the number of transcripts required, (b) the type of transcripts required (i.e., undergraduate, graduate, or both), and (c) the name and address of the person or institution where the transcript should be sent. Transcripts will not be issued to a third party without the written consent of the student.

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

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

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

Registration

Eligibility to Register

All students who have been admitted to the university and who are in good academic, financial, and disciplinary standing are eligible to register. Students who are not in good standing with the university may, under special circumstances, be given clearance to register for classes.

Enrollment and Matriculation

A student seeking a degree or credit certificate from California University is considered a matriculated student and must meet the graduation or completion requirements for his or her declared major or program. An individual who enrolls for classes but is not seeking a degree or credit certificate from California University is considered a nonmatriculated student. A nonmatriculating student wishing to matriculate into a degree or credit certificate program must satisfy admission requirements for that program.

Registration Procedures

Registration for an upcoming semester may be completed during the registration periods identified in the *Schedule of Classes* published each semester. This publication contains specific information and instructions regarding these registration periods.

Registration includes academic advising, scheduling courses, and payment of tuition and fees. Prior to scheduling classes, each student should meet with his or her academic advisor to discuss his or her progress and develop a schedule for the upcoming semester. Entering a student's schedule into the university's registration system creates a financial obligation by the student to the university, and students who do not make payment arrangements by the announced due date will have their semester schedules canceled.

Credit Overload

During the Fall and Spring semesters, full-time students may register for 18 credits without special permission. Students wishing to register for 19 or more credits must obtain written permission from their advisor and the Dean of their college. Only in exceptional circumstances will a student be allowed to register for more than 21 credits. Additional tuition and fees are charged for all credits in excess of 18.

During the Summer terms, students may register for 6 credits in any one session or 18 credits for the summer without special permission. Matriculating students wishing to register for additional credits during the Summer terms must obtain written permission from the Dean of their college, and nonmatriculating students wishing to register for additional credits must obtain permission from the Director of the Summer School Program. Students are charged tuition and fees on a per credit basis for all courses during the summer.

Admission to a Closed Section

A student seeking admission to a closed section should obtain a schedule adjustment form and consult with the instructor or chairperson of the department which offers the course. Admission to a closed section requires the signature of the instructor or department chair and the dean of the college which offers the course.

Repeating a Course

A student may repeat a course previously taken at California University. In such cases, only the later grade will be counted in the student's QPA. The original grade, however, will remain on the student's transcript. Some courses may be repeated for credit and are exempt from this policy.

Auditing A Course

A student may audit a course with the understanding that he or she will receive neither a grade nor credit for the course. The course will be listed on the student's transcript without affecting the QPA. Once a course is registered for audit, it cannot be converted back to a credit course.

Students may register to audit a course according to the following schedule:

15 week session	within the first 6 weeks
5 week session	within the first 2 weeks
10 week session	within the first 4 weeks

Audit courses are billed at the same rate as courses taken for credit.

Audit forms are available in the Registrar's Office, Room 103 of the Administration Building.

Credit By Examination/Course Challenges

Students may earn credit for a course by passing an examination rather than taking the course. In order to do so, the student must obtain permission from the chairperson of the department that offers the course and the Provost. The student must register for the course and pay tuition and fees for the course. Once a student registers to challenge a course, it cannot be converted back to a regular course.

Students may register to challenge a course according to the following schedule:

15 week session	within the first 6 weeks
5 week session	within the first 2 weeks
10 week session	within the first 4 weeks

Only grades of P (Pass) or F (Fail) will be recorded, and the course will be further identified on the student's transcript by the symbol CE. A passing grade does not affect the QPA; however, a failing grade will lower the QPA. Earned credits will count towards graduation.

Course challenge forms may be obtained in the Registrar's Office, Room 103 of the Administration Building.

Schedule Adjustments (Add/ Drop)

Class schedules may be changed during the add/drop period using the schedule adjustment forms. All schedule adjustments are governed by the following regulations.

1. Prior to making schedule adjustments, a student should consult with his or her academic advisor to discuss how the adjustment will affect his or her academic progress.

2. Courses may be added prior to the second class meeting during the Fall and Spring semesters and during the first day of a summer term. Adding a course may require the signature of the instructor, department chair, and/or college dean.

3. Students may drop courses without having a grade assigned during the first six weeks of a semester; before the end of the second week of a five–week summer term; or before the end of the fourth week of a ten–week summer term.

4. After the deadline for dropping a course without grade assignment, students who drop a course or courses will receive WP or WF grades. Each professor will assign the appropriate grade and the College Dean will translate A, B, and C grades to WP, and D and F grades to WF.

5. No student is permitted to drop a course: during the last three weeks of a semester; during the last two weeks of a five–week summer term; or during the last three weeks of a ten–week summer term.

6. Ceasing to attend class does not constitute official withdrawal! Students must officially drop from a course. Leaving a course without officially dropping it may result in the assignment of an F grade by the professor. If the professor does not assign a grade, the designation of UW (unauthorized withdrawal) will be assigned by the Registrar.

Withdrawal from the University

A student who decides to withdraw from the university during any academic term, regardless of the reason, must contact the Registrar's Office 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 Registrar.

2. If the student withdraws officially during the first six weeks of a semester, a W grade is recorded for each course scheduled. A W grade carries no academic penalty and is not counted in the student's QPA. For an official withdrawal from a five-week session, W grades will be recorded during the first two weeks only.

3. After the sixth week of the semester, a student who makes an official withdrawal receives WP or WF grades in all courses scheduled. Professors assign A, B, C, D, or F grades, and the Dean assigns WP grades to A, B, and C, and WF to D or F grades. For five–week courses the WP–WF grades are assigned after the end of the second week.

4. No student is permitted to withdraw officially from the university during the last three weeks of a semester or summer term.

5. Leaving the university without notifying the Registrar's Office and making an official withdrawal may result in automatic failure for all courses scheduled. It also makes the student ineligible for refund of tuition and fees, and may affect academic status and financial aid. Improper withdrawals will be classified as unauthorized withdrawal and the designation UW used for all registered courses if another grade has not already been assigned by the professor.

Administrative Withdrawals

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

1. Registration in violation of university regulations (e.g., academic ineligibility to register).

2. Failure to comply with academic requirements (e.g., unsatisfactory class attendance, violation of the learning contract for students on academic probation, etc.).

3. Failure to pay university tuition and fees by the due date.

4. Disciplinary suspension or dismissal for the remainder of an academic term or longer.

5. Severe psychological or health problems such that the student cannot be permitted to continue in attendance.

6. Other reasons deemed appropriate by the proper administrative officer.

Grades of WP, WF, WX are recorded for Administrative Withdrawals. The grade of WX is not computed in the student's grade point average and therefore involves no academic penalty. The Registrar must authorize the recording of this grade.

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

In other cases of Administrative Withdrawal, the date of the withdrawal and the reason for the withdrawal are used to determine the grade to be recorded and the amount of tuition and fees to be assessed or cancelled. In most cases, the regular tuition and fee assessment and refund policies of the university prevail.

For Administrative Withdrawals during the first six weeks of a semester or two weeks in a five-week summer session, the grade of WX is recorded for all courses on a student's schedule. No other grades, such as Incomplete, are assigned. After this period, the date of the Administrative Withdrawal and the reason for the withdrawal are considered.

1. For failure to comply with academic requirements, only WP or WF grades are assigned.

2. For failure to pay tuition and fees, only WX is assigned.

3. For Disciplinary Suspension or Dismissal, only WP or WF grades are assigned.

4. For health or psychological reasons, WX or — only with the approval of the affected instructor — an Incomplete may be assigned.

5. For other reasons not covered in 1-4, grade assignments will be at the discretion of the Provost or his or her designee.

The Registrar has the authority to antedate an administrative withdrawal if circumstances warrant such action.

Disciplinary suspensions or dismissals are initiated by the appropriate authority in the Office of Student Development and written notification is sent to the Registrar, who cancels the student's registration and notifies other administrative offices and faculty members as necessary.

If faculty members have reason to inquire about a specific case of Administrative Withdrawal, they should consult the Registrar or the Office of the Provost. In certain cases, the student's right to confidentiality may not permit full disclosure of the circumstances.

Readmission to the University

Students who wish to return to the university after an absence of three consecutive terms and are in good standing with the university must apply for readmission to the dean of the undergraduate college in which they will be enrolled following their readmission.

In cases of Academic Dismissal, readmission to the university is not automatic. Students who have been dismissed for unsatisfactory academic performance will be considered for readmission only if they have satisfied the conditions for readmission that were stipulated at the time of their dismissal. Students who have been academically dismissed must apply for readmission through the Office of Student Retention.

Any student who has been academically dismissed will be denied Title IV financial assistance (federal grants, loans, and student employment). Therefore, if readmitted, the student must attend without the benefit of Title IV financial aid until the required minimum GPA for his or her class rank and/or the completion of the minimum credit hour standard have been achieved. Exceptions may be considered for students on Financial Aid probation or have filed a Satisfactory Academic Progress (SAP) appeal (please refer to the Satisfactory Academic Progress policy statement issued by the Office of Financial Aid).

In the case of Disciplinary Suspensions or Dismissals, students must satisfy the conditions for readmission that were stipulated at the time of their dismissal, and receive permission from the Vice President for Student Development to return to the university.

Applications for readmission should be submitted at least one week before the registration date for the term in which the student desires to enroll.

Former students will not be readmitted to the university until all past indebtedness has been paid.

College Level Equivalency Program (CLEP)

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

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

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

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

The university does not grant credits for Life Experience.

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 determine the prerequisites for each course. Graduate status may be a prerequisite for admission to some courses. Graduate credits used to fulfill undergraduate requirements may not also be used to fulfill requirements in a graduate program.

Graduate Credit Load for Seniors

Undergraduates who are in their last term on campus and who are completing or have completed all the requirements for their undergraduate degree may enroll in graduate classes for graduate credit. They must fulfill all requirements for entrance into Graduate School (other than the undergraduate degree or teaching certification).

Transfer Credits

Current students who wish to take courses at some other college or university to transfer back to California University, should get approval to do so from their advisor and from the dean of their college at California University before registering for and taking such courses. Students seeking to transfer credits to California University should note the following guidelines:

1. Transfer credits are usually determined by their equivalency to California University courses.

2. Only courses in which a grade of C or better is earned will transfer.

3. Credits transfer, but grades and quality points do not. Transfer credits cannot raise a student's QPA; therefore, do not take repeat courses at another institution.

4. Courses taken at a community college, the equivalents of which are designated as upper-level courses at California, may transfer only as electives rather than equivalents to courses offered at California University.

Dual Majors, Second Majors And Second Degrees

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

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

1. More than One Major:

(a) A Dual Major is the pursuit of two separate baccalaureate majors simultaneously. These majors may be in a single department or two departments, and each must be recorded in the appropriate dean's office. Courses from one major area may be used to satisfy requirements in the other major. Both majors are recorded on the transcript, but all requirements for each major must be satisfied before the degree is conferred, and only one degree is conferred.

(b) A Second Major may be pursued only (a) after the completion of a baccalaureate degree and (b) in the same degree area as a first major. It does not lead to a second degree. The prospective student must apply through the Office of Admissions, register the intention of pursuing a Second Major, and fulfill any of the requirements of that Second Major that have not yet been satisfied.

2. A Second Degree may be pursued by any student (a) who has previously earned an associate or baccalaureate degree from any regionally accredited institution (including California University) or (b) who is currently pursuing a degree at California University. The second degree must be in a different degree area from the degree already earned or being pursued. A student who is currently in a degree program at California University must apply for the second degree program through the Office of Admissions.

Transfer credits from other institutions and prior credits from California University of Pennsylvania may be used to satisfy requirements for the Second Degree. A minimum of 30 credits must be taken in the Second Degree program by transfer students.

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

Graduation Requirements

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

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

1. The period during which application for graduation must be made is posted throughout campus and printed in the *Schedule of Classes* and the *California Times*. Students must apply for graduation in the appropriate dean's office by the deadline. 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 may be delayed if a student's record is incomplete.

2. A minimum of 128 semester credits, including the satisfactory completion of all required courses, is necessary for graduation. Developmental courses, ENG 100, MAT 098, MAT 099, DMA 092, DMA 094, and EDE 100, do not count towards graduation, though the credits earned in them are used to determine class standing and grade point average.

3. Students in all curricula must complete a minimum of thirty credits of the last sixty credits at California University of Pennsylvania.

4. An overall grade point average of 2.5 is required in the Teacher Education curricula. An overall grade point average of 2.0 is required in most programs of study. Certain other programs may require minimum grades in courses within the major.

5. In the College of Education and Human Services, candidates in teacher education programs must complete Student Teaching.

6. All financial obligations to the university must be paid in full before graduation can be approved.

Conferring of Degrees

Degrees are conferred in May (at the end of the spring semester), in August (at the end of the summer session), and in December (at the end of the fall semester); but Commencement is 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.

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

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 1996, one is a member of the class of 1996 regardless of the year one may have attended Commencement.

Honors at Graduation

Commencement Honors are awarded to students in the graduating class who have earned 64 credits at California University in a baccalaureate degree program and achieved the required QPA.

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

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

Dean's List/Semester Honors

Full-time students are honored by being 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

Honors Convocation

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

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

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

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

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 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, e-mail address, 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 Registrar's Office 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 my inspect their own official records in the presence of the administrator in charge of records.

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

3. Limitations on the Right of Access by Students

The following are not subject to inspection by students:

a. Confidential letters and statements of recommendation which were placed in the educational records before January 1, 1975.

b. Financial records of the parents of the student, or any information contained therein.

c. Medical, psychiatric or similar records that are used solely in connection with treatment. Such records can be reviewed by a physician or other appropriate professional of the student's choice.

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

a. Disclosure of student information will be made to a third party if written consent is given by the student in question.

b. Information concerning a student will be released if properly subpoenaed pursuant to a judicial proceeding.

c. All necessary academic and/or financial records of students may be disclosed to the appropriate persons or agencies without a student's prior consent in connection with a student's application for, or receipt of, financial aid.

d. Further limited disclosure of certain kinds of information may be required in special circumstances in compliance with the federal law previously cited.

VI. Student Challenge to Record Entries

1. Students have the right to submit written or typed rebuttals to negative information contained in their files. A rebuttal statement shall become part of the file, and in cases where the negative information is reviewed by or transmitted to a third party, it must be accompanied by the student's statement of rebuttal.

2. Students may challenge the accuracy and/or appropriateness of material combined in their files. Once such a challenge has been made in writing, it will be the responsibility of the university official in charge of the file to determine the validity of the challenge, if possible. The university official shall make a written response to the challenge of the student, specifying the action taken. Should a factual error be found in any materials, the university official is authorized to make the appropriate corrections.

3. If options 1 and 2 of this section are unsatisfactory, students may request a formal hearing to challenge inaccurate, misleading, or inappropriate information in their records. The University Record Hearing Committee shall conduct a hearing in accordance with the procedures outlined in Public Law 93–380, as amended.

4. The substantive judgment of a faculty member or administrator about a student's work, as expressed in grades and/or written evaluations, is not within the purview of this policy statement. Such challenges by students may be made through the regular administrative channels already in existence for such purposes.

VII. Responsibility of University Officials

1. University officials in charge of student files are responsible for the reasonable care and protection of such files in accordance with University policy. This includes the responsibility for the release of confidential information only to authorized persons.

2. A log sheet, indicating the inspection or release of a student's file, must be kept in the student's file.

3. University officials may classify student materials and records under their supervision as active or inactive as circumstances warrant. At the discretion of the official in charge, inactive records may remain in the file but need not be circulated. Inactive records may be reviewed by a student upon request.

4. A University official may take the initiative in an attempt to purge unfavorable evaluations, or opinion records of a prejudicial nature, in a student's file. This may be done by returning the material to the person who submitted it or by requesting from the author that the material be destroyed.

VIII. University Officials Responsible for Student Records

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

1. Provost and Vice-President for Academic Affairs
2. Vice-President for Student Development and Services
3. Vice-President for Administration and Finance
4. Vice-President for University Advancement

These officers are responsible for the 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 .

Academic Organization

Under the direction of the Provost and Vice President for Academic Affairs, three undergraduate colleges and the Graduate School administer the academic affairs of the university. Each of these divisions is administered by a dean who is responsible for the operation of the college or school.

The College of Education and Human Services

The College of Education and Human Services is composed of the departments of Academic Development Services, Communication Disorders, Counselor Education & Services, Educational Studies, Elementary Education/Early Childhood, Health and Physical Education, Social Work and Gerontology, Special Education, and Sports Medicine.

Teacher education programs are offered through the departments of Educational Studies, Elementary Education/ Early Childhood, Industry and Technology and Special Education. The departments of Academic Development Services, Health and Physical Education, Social Work and Gerontology, and Sports Medicine form the human services component of the College. The Department of Communication Disorders offers an undergraduate program, but it does not lead to teacher certification. Certification in Communication Disorders is offered only at the graduate level. Counselor Education and Services offers programs leading to graduate degrees and to Elementary and Secondary Counselor certifications.

Teacher Education Programs

California University of Pennsylvania has a long and distinguished history of preparing teachers with nearly 30,000 teacher education alumni. The College of Education and Human Services has developed and maintained a reputation of excellence in the preparation of teachers. Because of its accreditation by NCATE, and its requirement of the NTE, California's graduates are able to obtain a teaching certificate in every state in the U.S.

If you attend California University as a teacher education student you may enroll in any of the following majors: Comprehensive Special Education, Elementary Education (Kindergarten to Grade Six), Early Childhood Education (Nursery School to Grade Three), Technology Education, and Secondary Education. The Secondary Education curriculum provides an opportunity to major in Science (Biology, Chemistry, Physics, Earth Science, General Science, or Environmental Education), English, Communication (Speech or Theatre), Mathematics, Modern Foreign Languages (Spanish, French, or German), and Comprehensive Social Science. Certification in Art Education is available through a co-operative program with other area colleges. It is also possible to have a dual major. For example, some students choose a dual major in Elementary and Special Education or Early Childhood and Special Education. For additional information on the curricular requirements for each certification program, consult the appropriate departmental description in this catalog.

In addition to professional studies courses and courses in an area of concentration, all students must complete general education courses. The College of Education & Human Services Council has adopted the following objectives for the general education portion of education programs. To develop in the prospective teacher:

1. the ability to communicate with adequate skill in the areas of speaking, writing, reading and listening;
2. knowledge, attitudes, skills, and understanding in the natural sciences, the social sciences, technology, and the humanities;
3. the ability to promote better understanding and relationships among individuals and groups; and
4. to provide the prospective teacher opportunities for development of leisure time and healthful living activities.

Upon completion of a Teaching Certification program, a student will receive a Bachelor of Science in Education degree and an Instructional I Certificate. All candidates for teaching certification must also take and pass the NTE. The Teaching Certificate is a 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 a teacher must have three years of successful teaching experience in PA and a Master's Degree or twenty-four credits. These credits may be undergraduate, graduate, or in-service credits or any combination. The only restriction is that these credits must be taken at a four-year institution.

The programs in Gerontology, Athletic Training, Communication Disorders, and Social Work lead to a Bachelor of Science degree, but not to teacher certification, although many students combine a major in Athletic Training with a teacher certification program.

Admission to Teacher Education

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

In order to be admitted, a student must complete the following steps:

1. By the completion of 32 credits, the student will complete 15 hours of field experience in an approved site and file a report in the departmental office, achieve a 2.50 Q.P.A., meet the entry requirements in reading, math and writing by test or course work, pass a speech and hearing test, and complete an initial admission orientation and the sign-off sheet.
2. By the completion of 64 credits, the student will achieve a 2.50 Q.P.A. overall and in the major, complete a cumulative total of 30 hours of field experience in approved sites and file reports in the departmental office, take and pass the General Knowledge and Communication Skills tests of Praxis Series of Core Battery Tests, and receive a positive recommendation from the department screening committee. (NOTE: Students who fail to meet the requirements of steps 1 and 2 may not be permitted to register for courses in their area of specialization).
3. By the completion of 96 credits, the student must receive a second positive recommendation from the department screening committee, complete a cumulative minimum of 45 hours in approved field experiences and file reports in the departmental office, and apply for student teaching.
4. By the completion of 96 credits and before student teaching, the student will maintain a 2.50 Q.P.A. overall and in the major, complete all courses required for student teaching (see department policy statement), present a portfolio which incorporates/demonstrates essential performance competencies established by the student's major department, and submit Act 34 and 151 clearance prior to student teaching (NOTE: Some departments may require this clearance prior to field experiences).
5. By the completion of a minimum of 128 credits and for graduation in a teacher education major, the student will maintain a 2.50 Q.P.A. overall and in the major, complete steps 1 through 4 of the admission and retention process, successfully complete student teaching, and complete all required forms and return them to the Dean's office by the posted deadline.
6. Requirements for receiving a recommendation for teacher certification. The candidate will complete steps 1 through 5 of the admission and retention process, take and pass the Professional Knowledge and appropriate Specialty Area sections of the Praxis Series, and complete and return the required documents to the Dean's office.

Transfer students will have two semesters to achieve the requirements for their step, determined by the number of credits transferred.

Professional Field Experiences

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

California University students are placed in clinical and field experiences, devised and supervised by faculty in their appropriate curricula, in a diversity of educational sites. Placement is first effected in the Policy Studies in American Education and Educational Psychology. The second tier of clinical experiences is included in subject-related courses. These vary depending on the curriculum. The third tier is student teaching. University students are supervised closely by a professor from California and a cooperating teacher in the schools. Gradually, student teachers are given increased responsibility for professional assignments, so that by the completion of the experience they are prepared to assume independent classroom authority.

Field-based and clinical experiences are systematically and sequentially selected to provide opportunities for education students to observe, plan, and practice in a variety of professional settings. Students participate in field-based and/or clinical experiences with culturally diverse and exceptional populations.

Graduation in General Education

Candidates who do not meet the standards for admission to Teacher Education on initial application have two semesters in which to correct deficiencies and obtain admission. If still not approved, they may elect to transfer to another curriculum or, with special permission of the Dean, take 12 credits in lieu of student teaching and graduate in General Education 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, both in writing and in person, a request to do so to the Director of Student Teaching.

Such requests must be reviewed and approved by the Director of Student Teaching. If the waiver request and course credits in lieu of student teaching credits are approved, the student may earn a degree B. S. in Education without teaching certification. (A notation to this effect is entered on the student's transcript.)

Student Teaching

Student teaching is conducted under the supervision of the Director of Student Teaching. Students who are candidates for certification are required to earn twelve semester hours of credit in student teaching. However, student teaching is a competency based program and may continue beyond one semester.

Candidates are certified to teach only if they demonstrate ability to teach effectively. Teaching competency is determined by the Director of Student Teaching, the university supervisor, and the cooperating teacher or teachers. The student teacher is also required to take a practicum while student teaching. Student teachers are not generally permitted to enroll in other courses during the student teaching experience.

Student teaching is normally conducted in selected public schools located in the service area of the university. Alternative programs on an Indian reservation and overseas experiences are also available. Interested students should discuss this possibility with the Director of Student Teaching. Students are required to declare their intentions to student teach during the student teaching meeting which is held the February prior to the student teaching assignment.

The institutional philosophy regarding student teaching is to prepare students adequately to assume their responsibilities in the teaching profession with the knowledge and skill essential to their areas of specialization. Student teaching is designed to provide a climate wherein the student may exhibit creativity and the ability to make critical judgments based upon knowledge and reason.

Applications for student teaching may be secured at the Dean's Office and must be submitted in February for the next academic year. An application and information meeting will be scheduled near February 1 each year.

Before students may be assigned to this vital part of the teacher education curriculum, they must:

1. be admitted to Teacher Education;
2. obtain departmental approval as having satisfactorily completed the required preparatory work;
3. maintain a quality point average of 2.50 in the specialization and overall; and
4. be admitted to Student Teaching.

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

Student Teaching for Experienced Teachers

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

Appeal Procedure for Certification Students

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

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 were applied.

U.S Citizenship - A Requirement for Teacher Certification in Pennsylvania

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

The College of Liberal Arts

The Liberal Arts are concerned with human values and social issues. They depend on the ability to think analytically, to understand other cultures and their history, as well as our own, and to appreciate artistic responses to our world.

Liberal Arts disciplines enrich life by giving it greater meaning, and by enabling people to adapt to changing employment, personal, and social demands. In essence, a liberal arts education stresses the transferability of knowledge and skills from one circumstance to another, ensuring that the individual can meaningfully adapt to new personal and professional situations.

The College of Liberal Arts is comprised of the departments of Art, Communication Studies, Earth Science, English, Foreign Languages and Cultures, History , Music, Philosophy, Psychology, Social Sciences, and Theatre. Those departments, and the Department of Business and Economics, collectively offer forty-two major programs of study and twenty-eight minors. Each program includes a general education component and an area of concentration.

The Liberal Arts philosophy informs all programs of study within the College. A broad general education course of study encourages students to explore a variety of course offerings and to become aware of the ways many different disciplines understand and view the world.

Students should select a major by the end of the third regular semester or upon the completion of 45 credit hours. This does not prohibit students from changing their major later in their careers; however, they will have difficulty completing requirements within eight semesters if they change majors after three semesters.

Students who do not want a major limited to a single discipline have two degree program options: the Humanities and Fine Arts Major, and the Social Sciences Major. The curriculum in each is flexible and permits interdisciplinary study.

Support Services

The College supports the Writing Center in Dixon Hall and the School Psychology Clinic in Morgan Learning Research Center. The Writing Center assists any student with writing problems, while the School Psychology Clinic provides free testing in several areas. Information about what tests are offered and when they are given can be obtained at the Psychology Department Office, Room 319, LRC.

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

An internship is a regularly offered course, usually taken at an off-campus location and is under the dual supervision of an agency as well as a faculty supervisor. Internships are not job training programs, and students are not paid accordingly, although some internships provide compensation for expenses incurred by the student. Guidelines and applications for internships are to be secured from the office of the sponsoring department.

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

The Eberly College of Science and Technology

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

The objective of the degree programs of the Eberly College of Science and Technology is to prepare men and women for responsible positions in business, government, industry, health care, and other complex organizations. As well, several of the college programs prepare students to undertake further study in graduate and professional schools.

Each curriculum includes both a general education component and a technical education component. The curricula are divided this way so that students will receive a well-rounded education and so that breadth of knowledge will increase their usefulness as professional employees and as citizens in the community. The general education component for all curricula of the Eberly 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.

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

General Education

The General Education component of the various majors offered by the University provides the foundation for students' liberal education, and all students, regardless of major, are required to complete this portion of their program. The required general education sequence for each program of study is outlined in the appropriate departmental description.

All students are expected to achieve competency in writing. In the College of Liberal Arts and the College of Education and Human Services this includes completing ENG 101 and ENG 102. In the Eberly College of Science & Technology, this includes ENG 101 and another writing course (e.g., ENG 102, ENG 211 or ENG 217) depending on the student's major. Students are encouraged to complete these courses within their first few semesters. The Eberly College of Science & Technology broadens the skill area for several of its majors to include courses in mathematics and communication. In the College of Education and Human Services, teacher education students must also take Oral Communication (COM 100), General Psychology (PSY 100), and courses in Health and Aids Prevention Education.

All students must complete courses in the categories of Humanities, Natural Sciences, and Social Sciences. Each student should consult the requirements for his or her major regarding specific courses which may be required or recommended for these categories, the number of credits required in these categories, and the number of disciplines which must be represented in each category. In addition, most programs include a category of Free Electives which the student can complete in consultation with his or her advisor.

Courses which satisfy Humanities General Education requirements include those with the following prefixes: ART, COM, ENG, FRE, GER, LIT, MUS, PHI, RUS, SPN, and THE. In the Eberly College of Science & Technology, students who select ENG or LIT courses for this category may use only general survey and literature courses, and students who select COM courses for this category may use only non-performance courses to fulfill this category. In the College of Liberal Arts, students must complete at least one course with an ART, MUS, or THE prefix in this category.

Courses which satisfy Natural Science General Education requirements include those with the following prefixes: BIO, CHE, CSC, EAS, ENS, MAT, PHS, and PHY. In the Eberly College of Science & Technology, students may not select courses from disciplines in which their area of concentration requires two or more courses from the discipline. In the College of Liberal Arts, students may not use CSC 101 Microcomputer and Application Software in this category.

Courses which satisfy Social Science General Education requirements include those with the following prefixes: ANT, ECO, GEO, HIS, POS, PSY, SOS, SOW, and SOC.

In the College of Liberal Arts and in some programs in the Eberly College of Science and Technology, students must also complete at least three courses designated as writing component courses and one course designated as a laboratory component course. More information on the courses which have been so designated is available in the College of Liberal Arts office.

Developmental Courses

All new freshmen (students attending a post-secondary institution for the first time) and some transfer students take placement tests before their first registration at California to determine their levels of ability in mathematics and writing. Students who do not submit SAT scores also take a placement test in reading.

Students who do not achieve predetermined scores on these tests must enroll in appropriate developmental courses. These courses, ENG 100 (English Language Skills), DMA 092 (Introductory Algebra), DMA 094 (Intermediate Algebra) and EDE 100 (Reading, Studying, and Listening Skills), are described in the course listings in this catalog.

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

University College

Philosophy

University College is a means to aid students in achieving educational, career and personal goals through the utilization of a full range of institutional and community resources. It helps to both stimulate and support students in their quest for an enriched quality of life. University College empowers students to identify and accomplish life goals consistent with their abilities and interests as well as to acquire skills and attitudes which promote life-long learning pursuant to intellectual and personal growth. In summary, University College promotes the California University of Pennsylvania's mission of total student development.

University College Provides

1) A guided transition from high school or the world of work into the University environment by:
a) developing personal advisor-advisee relationships (using faculty and peer/student mentors);
b) assessing basic skills and knowledge;
c) assessing career interests and related activities;
d) helping to develop an academic plan based on student skills and interests.

2) An introduction to a liberal education and its importance in life-long learning by:
a) developing proficiency in basic academic skills necessary for academic success at the University (reading, writing and mathematical skills);
b) developing proficiency in personal skills which support learning (study skills, time management and interpersonal skills);
c) introducing students to the breadth of human knowledge, including historical consciousness, issues of cultural ethnicity and nationality, global interdependence, and, values and ethics in personal, professional and community life.

3) Opportunities to explore various areas of interest, major areas of study and career options by:
a) introducing students to the concepts, strategies and resources associated with career planning;
b) providing students with on-the-job experiences (co-ops, internships and field experiences);
c) enabling students to evaluate career options, to set personal and realistic goals and to measure progress toward the attainment of those goals.

The components of University College which are operational as of Fall 1997 are:

Placement Testing/Advising Center

The Placement Testing/Advising Center serves to coordinate placement testing, coordinate schedule development for entering students, pre-register students in developmental courses, monitor successful completion of developmental course work, and provide retesting opportunities for students. The Center does not replace faculty advising but helps to coordinate and supplement it.

First-Year Seminar (FYS)

FYS is designed to help students make a smooth transition into the University environment. It is a one-credit course required of most first-time students. Topics covered in the course include: Time management, campus life issues, library, writing/studying skills, math/reading skills, financial aid, academic and career planning, health issues, and individual assistance. The FYS is taught by some of our best faculty.

Probationary Assistance (PASS) Program

The PASS Program provides the additional structure and support which may be necessary for student academic success. Participation in the PASS Program is required of students who are on First Academic Probation and students who have been dismissed for academic reasons and are subsequently readmitted. Students meet weekly with faculty, staff or graduate assistants to reinforce life/academic goals, time-management, study skills, campus resources (resource/referral), academic advisee responsibilities and the appeal process. Data indicate that students who participate actively in PASS have a greater probability of succeeding academically than those who do not.

Early Warning Notices (EWN)

The Early Warning Notices are voluntary responses from faculty and staff about students who may be experiencing academic difficulty. The Office of Student Retention contacts students who have been identified and offers assistance.

Ombudsperson

The Office of Student Retention is contacted by students who need information, general assistance or who encounter difficulties with processes, procedures or personalities on campus. Established means of dealing with such concerns are used (i.e. students are informed of the appropriate processes or procedures to follow and expected to use these). The Office of Student Retention monitors the concern(s) and becomes involved directly only if established means do not resolve the issue(s).

The School of Graduate Studies and Research

The School of Graduate Studies and Research offers twenty-eight academic majors within the school leading to either the Master of Education, Master of Arts, or Master of Science degrees.

In addition, there are state-accredited supervision certificates offered beyond the master's degree, in such areas as Industrial Arts/Technology Education and Reading.

Over the past twenty-five years, students completing master's degrees at this institution have enjoyed success in pursuing doctoral degrees in various professions at reputable graduate schools throughout the United States.

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

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

Southpointe Center

California University offers a number of programs and courses at an off-campus center located in the Southpointe Industrial Complex in Canonsburg, PA. Programs are geared to the needs of the population and businesses in the area. Most classes are offered at night and on weekends to accommodate adult student schedules. The facility includes a computer lab, science lab, library with electronic accessibility, and fiber optic connections for distance learning and video teleconferencing.

Students may earn degrees in several undergraduate programs. Bachelor degree programs are offered in business administration, humanities, social sciences, natural sciences, special education, and nursing. An associate degree program in computer science is currently available, as well as certificate programs in gerontology and computer science. Students pursuing degrees in education can take the professional education sequence of courses, required of all education majors, at the Southpointe Center. In addition, several graduate degree programs are offered.

For additional information on programs and admissions, please contact the California University Southpointe Center at 1-888-333-CALU or 412-873-2760.

Academic Departments and Programs

Academic Development Services

Purpose

The Department of Academic Development Services operates three grant-funded programs: ACT 101, Student Support Services and Upward Bound. These programs help students adjust to and cope effectively with academic and related non-academic challenges. Services are available to the entire student population; however, they are primarily intended for students whose educational or economic backgrounds make completion of a college degree program difficult. Faculty provide services in the following areas:

1 Instruction and Tutoring
Tutors review lecture notes, textbook and other course materials, teach course related vocabulary words, prepare students for completion of course assignments and demonstrate the use of course related technologies. Tutors are available for courses in most academic disciplines. A three-credit course entitled, Reading, Study and Listening Skills (EDE 100) is offered to first year students.

2. Academic Counseling
Counselors provide educational and career guidance and academic advisement. New students are interviewed and receive both an academic plan and an orientation. Counselors help students schedule and register for courses; monitor each student's academic performance, and provide students with information concerning academic policy, procedures, and practices. Students are encouraged to discuss personal problems with counselors. All discussions are treated confidentially. Students are often referred to one of the several other student service offices for additional assistance.

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

Faculty

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

ART

Purpose

The study of artistic expression is a study of the development of art forms such as sculpture and painting; the study of technique, that is the use of color, design, and perspective to achieve the artist's objectives; and a retrospective on what a culture and society has seen, valued, and understood about its place in the world order.

Art is a product of human creativity, a manifestation of the human spirit and meaning. The study of art is included in a liberal education because it informs students about the universal search for meaning and meaningful expression, about their past, and about how each person learns to move from a literal and concrete level of understanding to a more symbolic one.

Programs

The Art major can take (1) a general Art major or (2) an Art Certification program for teaching in either a primary or a secondary school. The certification program is undertaken in conjunction with area colleges since California University does not confer certification in art. Art courses are taken at California University; the Art Education and student teaching courses are taken through Carlow College or Washington and Jefferson College.

At Carlow College the student must complete Secondary Art Methods and Materials (AE 327), Elementary Art Student Teaching (AE 409), Secondary Arts Student Teaching (AE 410). AE 327 will be billed at current California University credit costs plus the usual studio fees. The student teaching courses will be billed at current rates for tuition and fees for full–time Carlow students. California University also has a similar agreement with Washington and Jefferson College.

Cooperative Programs

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

The junior year program with the Pittsburgh Art Institute permits students to take courses not available at California University in the areas of visual communication, illustration, interior design, photography, industrial design technology, etc. These courses of study prepare students for positions in commercial art–for example, advertising, publishing and corporate communication. Students acquire knowledge and experience in preparing art and layouts for reproduction.

Careers

The Art program is flexible. It directs students into various areas of art, including art history, basic technique courses, and a series of studio courses in one or more of the following: drawing, painting, sculpture, crafts, ceramics, and printmaking. The program of study prepares students to enter graduate school as well as to pursue careers in professions utiliing art.

Students can become professional artists in their area of specialiation, although most will need to undertake graduate education if they are to be successful professionals. Commercial art, in advertising and in broadcast media, continues to be a major employer of art students. The BA in Art Education will provide a student with K-12 certification for teaching art in the public schools in the elementary and secondary levels.

Graduates with studio art training have opportunities to work in various museum settings, in art galleries and in interior decorating establishments. They also can seek positions in design departments and as art directors in large corporations. Artists can use their talents in conjunction with other areas of specialty, such as Biology, History, and Archaeology. Artists can be illustrators in these areas.

Finally artists may link the study of art with another discipline. Examples include medical art; the utiliation of art in therapy, for persons interested in the areas of psychology and art; and the linkage of art, archaeology, and history in the recording of artifacts and in reconstructive work.

Bachelor of Arts in Art

Curriculum

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

(B) Area of Concentration: Required Art Courses (36 credits) Drawing I (ART 110); Design 2-D (ART 119); Design 3-D (ART 120); Ceramics I (ART 113); Painting I (ART 118); Printmaking I (ART 117); Sculpture I (ART 118); Advanced Drawing (ART 310); nine credits in Art History: Art History I (ART 102); Art History II (ART 103); Art History III (ART 104); Select one of the following three courses: Fiber Arts (ART 112); Jewelry I (ART 255); Stained Glass (ART 115); nine credits in a non concentration area with a faculty advisor; 12 credits in a studio concentration; 11 credits in related electives.

Faculty

Professor Richard Miecznikowski, chair. Associate Professor Raymond E. Dunlevy; Assistant Professors Richard H. Grinstead, Philip E. Schaltenbrand.

Bachelor of Arts in Art with K-12 Teacher Certification

Curriculum

(A) General Education: Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of education courses at California University which include: Policy Studies in American Education (EDF 290), Applied Instructional Technology (EDF 302), Student Teaching through Carlow.

(B) Area of Concentration: Required Art Courses (36 credits) Drawing I (ART 110); Design 2-D (ART 119); Design 3-D (ART 120); Ceramics I (ART 113); Painting I (ART 116); Printmaking I (ART 117); Sculpture I (ART 118); Advanced Drawing (ART 310); nine credits in Art History: Art History I (ART 102); Art History II (ART 103); Art History III (ART 104); Select one of the following three courses: Fiber Arts (ART 112); Jewelry I (ART 255); Stained Glass (ART 115); nine credits in a non concentration area with a faculty advisor; 12 credits in a studio concentration, 11 credits in related courses At California University: Art for Elementary (EDE 205); At Carlow: Secondary Art Methods and Materials (AE 327).

Pennsylvania Certification requires satisfactory scores on all three core batteries and the specialty, Art Education, on the PRAXIS (NTE).

Minors

A minor in art would be helpful if you are interested in building a "specialty" in another curriculum such as a business major with an art minor who wants to work in gallery art sales or as a curator. Perhaps you just love art as a hobby, and having a minor in art would help you improve your skills. A minor in art combined with a degree in education would provide a future classroom teacher with an area of concentration that could enhance employment opportunities. Minors are available in ceramics, crafts, painting, printmaking and sculpture.

Ceramics Concentration

Required: ART 113 Ceramics I, ART 293 Ceramics Studio, ART 393 Ceramics Studio, ART 493 Ceramics Studio (repeated for six credits)
Electives:
Select one of the following: ART 102 Art History I, ART 103 Art History II, ART 104 Art History III, ART 106 Art Appreciation
Select one of the following: ART 110 Drawing I, ART 310 Advanced Drawing

Crafts Concentration

Required: ART 213 Crafts Studio, ART 313 Crafts Studio, ART 413 Crafts Studio (repeated for six credits)
Electives:
Select one of the following: ART 102 Art History I, ART 103 Art History II, ART 104 Art History III, ART 106 Art Appreciation
Select one of the following:
ART 110 Drawing I, ART 310 Advanced Drawing
Select one of the following: ART 112 Fiber Arts, ART 115 Stained Glass I, ART 255 Jewelry I

Painting Concentration

Required: ART 116 Painting I, ART 296 Painting Studio, ART 396 Painting Studio, ART 496 Painting Studio (repeated for six credits)
Electives:
Select one of the following: ART 102 Art History I, ART 103 Art History II, ART 104 Art History III, ART 106 Art Appreciation
Select one of the following: ART 110 Drawing I, ART 310 Advanced Drawing

Printmaking Concentration

Required: ART 117 Printmaking I, ART 297 Printmaking Studio, ART 397 Printmaking Studio, ART 497 Printmaking Studio (repeated for six credits)
Electives:
Select one of the following: ART 102 Art History I, ART 103 Art History II, ART 104 Art History III, ART 106 Art Appreciation
Select one of the following: ART 110 Drawing I, ART 310 Advanced Drawing

Sculpture Concentration

Required: ART 118 Sculpture I, ART 298 Sculpture Studio, ART 398 Sculpture Studio, ART 498 Sculpture Studio (repeated for six credits)
Electives:
Select one of the following: ART 102 Art History I, ART 103 Art History II, ART 104 Art History III, ART 106 Art Appreciation
Select one of the following: ART 110 Drawing I, ART 310 Advanced Drawing.

ATHLETIC TRAINING

Purpose

The Department of Sports Medicine offers the Athletic Training Education Program (ATEP), approved by the National Athletic Trainers' Association, Inc. (NATA) and the State Board of Physical Therapy. Students may major in athletic training or combine athletic training with teacher education. The basic concept of athletic training involves prevention, care, treatment, and rehabilitation of athletic injuries.

Modern athletic training rooms are located in Hamer Hall and Adamson Stadium. The cadaver anatomy laboratory is also located in Hamer Hall. The California University intercollegiate athletic program, which is a strong NCAA Division II program and a member of Pennsylvania State Athletic Conference (PSAC), comprises 13 varsity sports that enable students to gain valuable experience as student athletic trainers. Students will also receive additional hours at many area high schools or local colleges as partial fulfillment of their required clinical experience.

Career Outlook

The high incidence of injuries occurring through athletic participation has become a national concern and has created demand for individuals who have completed athletic training courses, fulfilled clinical requirements, and earned a minimum of a bachelor's degree.

Job opportunities for certified athletic trainers have increased substantially, and the employment potential for athletic trainers should continue to increase. The ultimate goal of this program is to prepare graduates for certification by the NATABOC and for careers in athletic training.

Many high schools hire athletic trainers to help provide better health care for their interscholastic athletic programs. In addition, four–year colleges and universities as well as junior and community colleges provide significant possibilities for employment. Positions with professional teams exist; however, they are fewer in number than those associated with interscholastic athletic programs.

There is also growing employment in sports medicine and rehabilitation clinics for athletic trainers.

Admission to the Program

Admission into the Athletic Training Education Program is competitive, and only a limited number of students are selected each year. Applications for the Athletic Training curriculum are accepted during the second semester of the freshman year and screened by the Admissions and Academic Standards Committee (AASC). During this semester, the student submits a letter of application to the AASC, which screens, interviews, and selects the remaining students to be admitted.

Criteria for selection are a minimum of a 2.75 QPA, or a composite score of 17, minimum 100 observation hours, interview with a departmental faculty member, and completion of the freshman examination.

Bachelor of Science in Education: Athletic Training

Curriculum

This program will lead a prospective student to a Bachelor of Science degree in Education without teacher certification.

(A) General Education: 15 credits in Humanities including Oral Communication (COM 101); English Composition I–II (ENG 101, 102); nine credits in Natural Sciences; nine credits in Social Sciences; two credits in Physical Education and 34 credits of Free Electives.

(B) Area of Concentration: Practicum Athletic Training I, II (ATE 100, 110); Substance Abuse Education (ATE 120); Human Anatomy & Physiology I (ATE 205); Human Anatomy & Physiology II with Laboratory (ATE 215); Health (HPE 100); General Psychology (PSY 100); Kinesiology (HPE 308); Exercise Physiology (HPE 309); Athletic Training I–II (ATE 220, 260); Administrative Aspects of Athletic Training (ATE 230); Nutrition for Sports (ATE 240); Emergency Medical Technician (HPE 500); Practicum Athletic Training III (ATE 300); Modality Principles and Techniques with Laboratory (ATE 320); Therapeutic Exercise with Laboratory (ATE 330); Orthopedic Evaluations in Sports Medicine (ATE 400); Sports Medicine Practicum (ATE 405); Sports Medicine Research (ATE 460); and Pharmacology for the Allied Health Professions (ATE 500). Clinical hours: minimum of 800 hours.

Faculty

Professor William B. Biddington, chair; Professor Robert H. Kane, Jr.; Professor Bruce D. Barnhart; Assistant Professor, Joni L. Cramer-Roh

Bachelor of Science in Education: Athletic Training/Education Certification

(Dual Major)

Options for dual major are:
Biology, Chemistry, Communication (Speech), Communication (Theatre), Early Childhood, Earth Science, English, Foreign Languages, General Science, Mathematics, Physics, Social Studies, Special Education

The dual major in Athletic Training/Education Certification enables interested students to pursue the education and training necessary for a dual career as effective teachers and athletic trainers. The requirements listed below are for the Athletic Training component alone. Students interested in this program should contact the Program Director of the Athletic Training Education Program for details on the dual major. This program also requires satisfactory performance on the NTE.

Curriculum

(A) General Education: 15 credits in Humanities including Oral Communication (COM 101); English Composition I–II (ENG 101, 102); nine credits in Social Sciences; nine credits in Natural Sciences; three credits in Physical Education.

(B) Area of Concentration: Practicum Athletic Training I, II (ATE 100, 110); Substance Abuse Education (ATE 120); Human Anatomy & Physiology I (ATE 205); Human Anatomy & Physiology II with Laboratory (ATE 215); Health (HPE 100); General Psychology (PSY 100); Kinesiology (HPE 308); Exercise Physiology (HPE 309); Emergency Medical Technician (HPE 500); Athletic Training I–II (ATE 220, 260); Administrative Aspects of Athletic Training (ATE 230); Nutrition for Sports (ATE 240); Practicum Athletic Training III (ATE 300); Modality Principles and Techniques with Laboratory (ATE 320); Therapeutic Exercise with Laboratory (ATE 330); Orthopedic Evaluations in Sports Medicine (ATE 400); Sports Medicine Practicum (ATE 405); Sports Medicine Research (ATE 460); and Pharmacology for the Allied Health Professions (ATE 500).

Clinical experience: minimum of 800 hours during junior and senior years.

(C) Professional Education Requirements: As required by the College of Education and Human Services.

(D) Professional Specialization (Second Major): As required by the specific major.

BIOLOGICAL AND ENVIRONMENTAL SCIENCES

Purpose

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

Biology

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

Students have the opportunity to select a wide range of biological elective courses that best fulfill their needs for future work or graduate study, ranging from the molecular to the population level. Practical laboratory experience emphasizes critical thinking and the use of instrumentation to study living systems. Academic credit can be obtained for practical internship experiences.

Careers

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

Bachelor of Science in Biology

Curriculum

(A) General Education (60 credits):
English Composition I-II (ENG 101, 102); 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; 18 credits of Free Electives.

Students must successfully complete at least three designated writing component courses and one designated laboratory component course in the General Studies area. Students must successfully complete at least three semester hours from at least three different disciplines in the Humanities, Natural Science, and Social Science categories.

(B) Area Of Concentration (68 credits):
Required Major Courses (19 credits): Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany (BIO 125), Genetics (BIO 318), Evolution (BIO 478).

Related Courses (27 credits): General Chemistry I-II (CHE 101, 102), Organic Chemistry I-II (CHE 331, 332), General Physics I-II (PHY 121, 122), Calculus I (MAT 122), or Basic Calculus (MAT 273).

Core Electives (22 credits): (At least one course must be chosen from each core and ALL courses must be 300 and 400 level.)

Quantitative and Techniques Core: Scientific Photography (BIO 342), Electron Microscopy (BIO 431), Biometry (BIO 466), Cell Biology (BIO 480), Design & Analysis (ENS 495).

Botany Core: Plant Anatomy (BIO 307), Plant Ecology (BIO 314), Economic Botany (BIO 332), Soil Science (BIO 334), Plant Physiology (BIO 335), Plant Taxonomy (BIO 336), Mycology (BIO 407), Dendrology (BIO 442).

Faculty

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

Zoology Core: Comparative Vertebrate Anatomy (BIO 305), Human Anatomy (BIO 306), Embryology (BIO 317), Animal Histology (BIO 325), Parasitology (BIO 327), Ornithology (BIO 337), Mammalogy (BIO 400), Herpetology (BIO 433), Ichthyology (BIO 435), Entomology (BIO 445).

Physiology Core: Human Physiology (BIO 328), Plant Physiology (BIO 335), Environmental Physiology (BIO 486).

Cell and Molecular Biology Core: Microbiology (BIO 326), Genetics (BIO 318), Human Genetics (BIO 405), Clinical Microbiology (BIO 426), Cellular Ultrastructure (BIO 432), Immunology (BIO 450), Cell Biology (BIO 480), Neurobiology (BIO 520).

Ecology Core: Ecology (BIO 310), Plant Ecology (BIO 314), Soil Science (BIO 334), Ornithology (BIO 337), Mammalogy (BIO 400), Herpetology (BIO 433), Ichthyology (BIO 435), Ethology (BIO 441), Entomology (BIO 445), Water Pollution Biology (BIO 488), Principles of Wildlife Management (ENS 420), Wildlife Management Techniques (ENS 423).

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

This program gives students the biology and related scientific and math background appropriate for secondary teachers of biology. Students also receive extensive training in pedagogy.

Curriculum

(A) General Education (47 credits):
Humanities (15 credits) including: English Composition I (ENG 101) and English Composition II (ENG 102); Natural Sciences (11 credits) including: Organic Chemistry I (CHE 331), General Physics I (PHY 121), Basic Calculus (MAT 273**); nine credits in Social Science; three credits in Health and Physical Education; Oral Communication (COM 101); General Psychology (PSY 100); and three credits of Free Electives. **Based upon student competence other Mathematics pre-requisites may be required: Pre-calculus, Trig, Algebra. NOTE: Courses taken in the categories of Humanities, Natural Sciences and Social Sciences must be taken from at least two disciplines.

(B) Professional Education (41 credits):
Educational Psychology (PSY 208), Teaching in a Multicultural Society (EDU 210), Policy Studies in American Ed (EDF 290), Problems of Secondary Education (EDS 300), Computers for Teachers (EDF 301), Applied Instructional Technology (EDF 302), Mainstreaming the Exceptional Child (EDU 340), Educational Tests & Measurements (EDS 430), Student Teaching & School Law (EDS 461), Developmental Reading in Secondary Schools (EDS 465), Teaching of Sciences (EDS 467*). *Modern Methods in Secondary Schools may be taken in place of the "Teaching of" course with permission of your advisor.

(C) Academic Specialization (40 credits):
Required Biology Courses - 16 credits: Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany BIO (125), Genetics (BIO 318); Biology Core Electives (16 credits) One course must be chosen from each of the following cores:

Botany Core - Plant Anatomy (BIO 307), Plant Ecology (BIO 314), Economic Botany (BIO 332), Soil Science (BIO 334), Plant Physiology (BIO 335), Plant Taxonomy (BIO 336), Mycology (BIO 407), Dendrology (BIO 442).

Zoology Core: Comparative Vertebrate Anatomy (BIO 305), Human Anatomy (BIO 306), Embryology (BIO 317), Animal Histology (BIO 325), Parasitology (BIO 327), Ornithology (BIO 337), Mammalogy (BIO 400), Herpetology (BIO 433), Ichthyology (BIO 435), Entomology (BIO 445).

Physiology, Cell and Molecular Core: Microbiology (BIO 326), Human Physiology (BIO 328), Plant Physiology (BIO 335), Human Genetics (BIO 405), Clinical Microbiology (BIO 426), Cellular Ultrastructure (BIO 432), Immunology (BIO 450), Evolution (BIO 478), Cell Biology (BIO 480), Environmental Physiology (BIO 486), Neurobiology (BIO 520).

Ecology Core: Ecology (BIO 310), Plant Ecology (BIO 314), Soil Science (BIO 334), Ornithology (BIO 337), Mammalogy (BIO 400), Herpetology (BIO 433), Ichthyology (BIO 435), Ethology (BIO 441), Entomology (BIO 445), Water Pollution Biology (BIO 488), Field Biology (ENS 205), Principles of Wildlife Management (ENS 420), Wildlife Management Techniques (ENS 423).

Bachelor of Science in Education: Certification in Environmental Studies for Secondary Schools

This program gives students the ecological and environmental background appropriate for secondary teachers in environmental science.

Curriculum

(A) General Education (47 credits):
Humanities (15 credits) including: English Composition I (ENG 101) and English Composition II (ENG 102), Scientific Technical Writing (ENG 217); 11 credits in Natural Sciences including General Chemistry I (CHE 101), General Physics I (PHY 121), Basic Calculus (MAT 273**); nine credits in Social Science; three credits in Health and Physical Education; Oral Communication (COM 101); General Psychology (PSY 100); and three credits of Free Electives. **Based upon student competence other mathematics prerequisites may be required: Pre-calculus, Trig, Algebra. NOTE. Courses taken in the categories of Humanities, Natural Sciences and Social Sciences must be taken from at least two disciplines.

(B) Professional Education (41 credits):
Educational Psychology (PSY 208), Teaching in a Multicultural Society (EDU 210), Policy Studies in American Ed (EDF 290), Problems of Secondary Education (EDS 300), Computers for Teachers (EDF 301), Applied Instructional Technology (EDF 302), Mainstreaming the Exceptional Child (EDU 340), Educational Tests & Measurements (EDS 430), Student Teaching & School Law (EDS 461), Developmental Reading in Secondary Schools (EDS 465), Teaching of Sciences (EDS 467*). *Modern Methods in Secondary Schools may be taken in place of the "Teaching of" course with permission of your advisor.

(C) Academic Specialization (40 credits):
Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany (BIO 125); Environmental Science: Man and His Environment (ENS 100), Field Biology (ENS 205), Seminar in Environment Conservation (ENS 494), Environmental Ed Workshop (ENS 497).

Pennsylvania Certification requires a satisfactory score on the NTE.

Bachelor of Science in Environmental Studies

The Environmental Studies Program prepares students for careers in a variety of related fields and for graduate school. The major emphasis of the program is to provide students with a broad core of courses in biology and ecology, supplemented with chemistry, physics, and mathematics.

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 agencies. 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.

All students have the opportunity to select from a wide range of science elective courses in order to fulfill their objectives for future employment or graduate school. Almost all courses include a laboratory or field component in which students bring theory, methodology, and instrumentation to bear on specific problems. Internships with governmental and private agencies are available to qualified applicants for academic credit.

A senior independent research problems class (which limits enrollment to fewer than 14 students for more effective learning) gives students 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 examined include water pollution biology, small mammal population dynamics, plant and animal species diversity, comparisons between different types of habitats, shorebird food selection, the effects of acid mine drainage on the distribution of streamside terrestrial vegetation, and the effects of strip mining on ecological succession.

Options

Environmental Conservation
Environmental Science
Environmental Pollution Control
Wildlife Biology
Environmental Resources

Curriculum

Students are not permitted to select for General Education, courses in the Humanities, Social Sciences or Natural Sciences from a discipline in which their program requires two or more courses from that discipline. Exceptions to this policy are: ENGLISH: All general survey and literature courses are permitted in the Humanities area. COMMUNICATION STUDIES: 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.

Environmental Conservation Option

(A) General Education (48 credits):
English Composition I-II (ENG 101, 102), Scientific and Technical Writing (ENG 217), College Algebra (MAT 181), Basic Programming Language (CSC 105), Statistics (MAT 215), General Electives (30 credits): six credits in Humanities; six credits in Social Sciences; six credits in Natural Sciences; 12 credits of Free Electives.

(B) Area Of Concentration (80 credits):
Required Core Area (28 credits): Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany (BIO 125), Introduction to Geology (EAS 150), General Chemistry I-II (CHE 101, 102), Organic Chemistry I (CHE 331).

Area of Specialization (18 credits): Conservation of Biological Resources (BIO 206), Ecology (BIO 310), Dendrology (BIO 442), Biometry (BIO 466), Design & Analysis (ENS 495).

Related Core electives (14 credits): Plant Ecology (BIO 314), Soil Science (BIO 334), Plant Taxonomy (BIO 336), Ornithology (BIO 337), Mammalogy (BIO 400), Ichthyology (BIO 435), Ethology (BIO 441), Entomology (BIO 445), Environmental Physiology (BIO 486), Water Pollution Biology (BIO 488), Wildlife Management Techniques (ENS 423).

Ancillary Cores (20 credits): Earth Science, Parks and Recreation, Social Science, Physical Science or Business Management. All credits must be taken in a single core according to the students interests and approved by the faculty advisor, Director of Environmental Studies and Department Chairperson.

Business Core: Intro to Business (BUS 100), Business Law (BUS 242), Current Economic Issues (ECO 200), Intro Microeconomics (ECO 201), Principles of Management (MGT 201). Choice of BUS, ECO, or MGT courses with approval of advisor.

Parks and Recreation Core: Scenic Areas of the U.S. (EAS 264), Site Planning and Design (GEO 362), Geography of U.S. and Pennsylvania (GEO 220), Cultural Res. Management (ANT 205), Historic Sites Arch. (ANT 226). Choice of an additional course with advisors approval.

Social Science Core: Urban Sociology (SOC 235), Culture Change and Culture Shock (ANT 250), Intro to Public Policy (POS 300), History of Urban America (HIS 236). Choice of additional courses from the following: Social Stratification (SOS 210), Sociology of the Workplace (SOS 215), Cont. Social Problems (SOS 205), State and Local Government (POS 235), Municipal Government (POS 205).

Earth Science Core: Historical Geology (EAS 200), Earth Resources (EAS 232), Meteorology (EAS 241) or, Climatology (EAS 242). Choice of EAS courses 300 level or above and approval of advisor.

Physical Science Core: Organic Chemistry II (CHE 332), Analytical Chemistry I (CHE 261), Analytical Chemistry II (CHE 262), Geochemistry (CHE 255). Choice of additional CHE courses with advisors approval.

Environmental Science Option

(A) General Education (48 CREDITS):
English Composition I-II (ENG 101, 102), Scientific and Technical Writing (ENG 217), College Algebra (MAT 181), Basic Calculus (MAT 273) or Calculus I (MAT 281), Problem Solving & Programming Constructions (CSC 120) or Intro to Computer Science with Pascal (CSC 123). General Electives (30 credits): six credits in Humanities; six credits in Social Sciences; six credits in Natural Sciences; 12 credits Free Electives.

(B) Area Of Concentration (80 CREDITS):
Required Core Area (36 credits): Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany (BIO 125), General Chemistry I-II (CHE 101, 102), Organic Chemistry I-II (CHE 331, 332), General Physics I-II (PHY 121, 122).

Area of Specialization (26 credits): Ecology (BIO 310), Genetics (BIO 318), Evolution (BIO 478), Biometry (BIO 466), Environmental Physiology (BIO 486), Environmental Research Problems (ENS 459), Design and Analysis (ENS 495).

Related Electives (18 credits): Students can elect to specialize in the animal ecology core, or in the plant ecology core, or select courses from both areas. 18 credits from the following Animal Ecology and/or Plant Ecology Cores:

Animal Ecology Core: Comparative Vertebrate Anatomy (BIO 305), Parasitology (BIO 327), Ornithology (BIO 337), Mammalogy (BIO 400), Herpetology (BIO 433), Ichthyology (BIO 435), Entomology (BIO 445), Ethology (BIO 441), Water Pollution Biology (BIO 488), Principles of Wildlife Management (ENS 420).

Plant Ecology Core: Plant Ecology (BIO 314), Plant Taxonomy (BIO 336), Soil Science (BIO 334), Dendrology (BIO 442).

Environmental Pollution Control Option

(A) General Education (48 credits):
English Composition I-II (ENG 101, 102), Scientific and Technical Writing (ENG 217), Basic Calculus (MAT 273) or Calculus I (MAT 281), College Algebra (MAT 181), Problem Solving/Programming Constructions (CSC 120) or Intro to Computer Science with Pascal (CSC 123). General Electives (30 credits): six credits in Humanities; six credits in Social Sciences; six credits in Natural Sciences; 12 credits Free Electives.

(B) Area Of Concentration (80 credits):
Required Core Area (32 credits): Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany (BIO 125), General Chemistry I-II (CHE 101, 102), Organic Chemistry I-II (CHE 331, 332), Analytical Chemistry I (CHE 261).

Area of Specialization (39 credits): Ecology (BIO 310), Microbiology (BIO 326), Biometry (BIO 466), Environmental Physiology (BIO 486), Water Pollution Biology (BIO 488), Techniques in Water and Wastewater Analysis (ENS 341), Air Quality Monitoring (ENS 430), Solid Waste Management (ENS 431), Environmental Regulations (ENS 432), Environmental Research Problems (ENS 459), Design and Analysis (ENS 495).

Related Electives (9 credits): Soil Science (BIO 334), Plant Taxonomy (BIO 336), Ornithology (BIO 337), Mammalogy (BIO 400), Ichthyology (BIO 435), Dendrology (BIO 442), Entomology (BIO 445), Principles of Wildlife Management (ENS 420), Wildlife Management Techniques (ENS 423).

Wildlife Biology Option

(A) General Education (48 credits).
English Composition I-II (ENG 101, 102), Scientific and Technical Writing (ENG 217), College Algebra (MAT 181), Basic Calculus (MAT 273) or Calculus I (MAT 281), Problem Solving & Programming Constructions (CSC 120) or Intro to Computer Science with Pascal (CSC 123). General Electives (30 credits): six credits in Humanities; six credits in Social Sciences; six credits in Natural Sciences; 12 credits Free Electives.

(B) Area Of Concentration (80 credits):
Required Core Area (28 credits): Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany (BIO 125), General Chemistry I-II (CHE 101, 102), Organic Chemistry I (CHE 331), General Physics I (PHY 121).

Area of Specialization (34 credits): Ecology (BIO 310), Genetics (BIO 318), Ornithology (BIO 337), Dendrology (BIO 442) or Plant Taxonomy (BIO 336), Mammalogy (BIO 400), Biometry (BIO 466) or Design and Analysis (ENS 495), Principles of Wildlife Management (ENS 420), Wildlife Management Techniques (ENS 423), Environmental Regulations (ENS 432).

Related Electives (18 credits) - Students must take six credits from Group I and 12 credits from Group II.

Group I (six credits): Oral Communication (COM 101), Principles of Management (MGT 201), Urban Planning (HIS 234), Land Use Planning (GEO 317).

Group II (12 credits): Microbiology (BIO 326), Parasitology (BIO 327), Soil Science (BIO 334), Herpetology (BIO 433), Ichthyology (BIO 435), Ethology (BIO 441), Entomology (BIO 445), Evolution (BIO 478), Environmental Physiology (BIO 486), Water Pollution Biology (BIO 488), Environmental Research Problems (ENS 459).

Environmental Resource Option

(A) General Education (48 credits):
English Composition I-II (ENG 101, 102), Scientific and Technical Writing (ENG 217), College Algebra (MAT 181), Statistics (MAT 215), Problem Solving/Program Construction (CSC 120) or Pascal (CSC 123). General Electives (30 credits): six credits in Humanities; six credits in Social Sciences, six credits in Natural Sciences, 12 credits of Free Electives.

(B) Area Of Concentration (80 credits):
Required Core Area (14 credits): Man and His Environment (ENS 100), General Chemistry I-II (CHE 101,102), Contemporary Issues in Biology (BIO 103).

Area of Specialization (22/23 credits): Introduction to Geology (EAS 150), Hydrology (EAS 201), Earth Resources (EAS 232), Meteorology (EAS 241), Advanced Environmental Geology (EAS 541), Soil Science (BIO 334) or a Field Course (EAS*), two Field Courses (EAS*).
*Courses listed with asterisk denote a field course.

Related Electives (43/44 credits): At least six credits must be taken from each of the following groups and 24 credits must be 300 level or higher.

GROUP I: Geochemistry (CHE 255), Areal Geology (EAS 170)*, Historical Geology (EAS 200), Carbonate Geology (EAS 304), Mineralogy (EAS 331), Petrology (EAS 332), Micropaleontology (EAS 350), Sedimentology (EAS 421), Structural Geology (EAS 425), Optical Mineralogy (EAS 430), Field Course in Earth Science (EAS 491)*, Field Course in Geology (EAS 492)*, Tectonics (EAS 527), Reservoir Evaluation (EAS 547).

GROUP II: Introduction to Oceanography (EAS 163), Climatology (EAS 242), Synoptic Meteorology (EAS 251), Field Work in Hydrology (EAS 302)*, Field Work in Meteorology (EAS 341)*, Dynamic Meteorology (EAS 342), Geomorphology (EAS 343)*, Geology of Pennsylvania (EAS 366)*, Coastal Geomorphology and Marine Resources (EAS 563)*, Economic Geography (GEO 200), Physiography of the U.S (GEO 520).

GROUP III: Remote Sensing (EAS 255), Cartography (EAS 271), Computer Cartography (EAS 273), Field Mapping (EAS 372)*, Statistical Cartography (EAS 373), Map and Aerial Photo Interpretation (EAS 375), Field Methods in Earth Science (EAS 436)*, Field Methods in Geology (EAS 437)*, Quantitative Applications in Earth Science (EAS 528), Map Principles (GEO 110).

GROUP IV: Conservation of Biological Resources (BIO 206), Ecology (BIO 310), Plant Ecology (BIO 314), Air Quality Monitoring (ENS 430), Solid Waste Management (ENS 431), Environmental Regulations (ENS 432).

Bachelor of Science in Medical Technology

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

The Medical Technology program of this university is approved by the American Society of Clinical Pathologists, a member of the American Medical Association (AMA). California University of Pennsylvania is formally affiliated with seven hospital schools of medical technology.

The program involves a three–year program on campus and one year (12 months) at one of the approved affiliated schools or one acceptable to California University of Pennsylvania. Upon the completion of the clinical or internship year, the student is granted a Bachelor of Science degree from California University of Pennsylvania as well as a certificate in medical technology from the hospital school.

In addition, graduates take the national test given by the Registry of Medical Technologists of the American Society of Clinical Pathologists. The students who successfully pass this examination become registered medical technologists M.T. (A.S.C.P.)

The university's hospital affiliations include:

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

To enhance the student's opportunity of being accepted by one of 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 nuclear medicine, as well as in supervisory positions in laboratories.

Curriculum

(A) General Education (37 credits):
English Composition I (ENG 101), Principles of Management (MGT 201); six credits in Humanities; six credits in Social Sciences; six credits in Natural Sciences; 13 credits in Free Electives.

Students are not permitted to select for general education, courses in the Humanities, Social Sciences, or Natural Sciences from a discipline in which their program requires two or more courses from that discipline. Exceptions to this policy are: ENGLISH: All general survey and literature courses are permitted in the Humanities area. COMMUNICATION STUDIES: 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.

(B) Area Of Concentration (62 credits):
Biological Sciences (35 credits): Principles of Biology (BIO 115), General Zoology (BIO 120), Human Anatomy (BIO 306), Genetics (BIO 318), Microbiology (BIO 326), Parasitology (BIO 327), Human Physiology (BIO 328), Clinical Microbiology (BIO 426), Immunology (BIO 450).

Ancillary Courses (27 credits): General Chemistry I-II (CHE 101, 102), Analytical Chemistry I (CHE 261), Organic Chemistry I (CHE 331), General Physics I-II (PHY 121, 122), College Algebra (MAT 181).

(C) Approved School Of Medical Technology (29 credits):

The following courses are strongly recommended by the Hospital Schools of Medical Technology to be used as free electives in general education area: English Composition II (ENG 102), Organic Chemistry II (CHE 332), Mycology (BIO 407), Biochemistry I (CHE 411), Statistics (MAT 215).

Pre-professional Biology

Students in the health professions commit themselves to a lifelong process of self–education; therefore, the development of scholarly motivation, independence, and creativity are vital to professional medical competence. Acquiring an understanding of people, their societies, and their history is a valuable asset in the practice of the health professions. Consequently, a liberal education in the humanities and the arts, as well as in the social and natural sciences, provides the best professional preparation. In addition, the student should demonstrate competence and concentrated study in a curriculum or field of special interest. Although students interested in the health professions do not necessarily major in Biology, they should plan to take a significant number of biology courses.

Varied program offerings make it possible to satisfy requirements for pre–medical, pre–dental, pre–veterinary, pre–podiatry, pre–pharmacy, pre–chiropractic, and other pre–health fields. Those interested should contact the Biology Department to discuss their career plans. Academic credit can be obtained for practical internship experience.

Curriculum

(A) General Education (60 credits):
English Composition I-II (ENG 101, 102). 12 credits of Humanities; 12 credits of Natural Sciences; 12 credits of Social Sciences; and 18 credits of Free Electives.

Students must successfully complete at least three designated writing component courses and one designated laboratory component course in the General Studies area. Students must successfully complete at least three semester hours from at least three different disciplines in the Humanities, Natural Science, and Social Science categories.

(B) Area Of Concentration (68 credits):
Required Core Courses (39 credits): Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany (BIO 125), General Chemistry I-II (CHE 101, 102), Organic Chemistry I-II (CHE 331, 332), General Physics I-II (PHY 121, 122), Basic Calculus (MAT 273) or Calculus I (MAT 281).

Area of Specialization (20 credits): Genetics (BIO 318), Human Anatomy (BIO 306) or Comparative Vertebrate Anatomy (BIO 305)*, Human Physiology (BIO 328), Cell Biology (BIO 480), Microbiology (BIO 326).
*Recommended for pre-veterinary

Related Electives (nine credits): Embryology (BIO 317), Animal Histology (BIO 325), Parasitology (BIO 327), Clinical Microbiology (BIO 425), Immunology (BIO 450), Biochemistry I (CHE 411).

Bachelor of Science in Mortuary Science

Today the expansion of knowledge occurs at such a rapid rate that the average person cannot keep pace with all of the information that affects his or her life. In professional careers a broad understanding of the changing world is closely related to success. In the mortuary science profession, we find phenomenal growth in knowledge, technology and improved delivery systems of service to the public. An awareness of changes in the areas of embalming, funeral home management, business management, sociological and pyschological patterns will enhance the effectiveness of the practitioner.

Careers

Highly qualified individuals can achieve success as members of well–established mortuary firms or as self-employed practitioners. Careers in teaching and research are also available.

Objectives

The program objectives are:
to prepare students with academic background for entry into school of mortuary science
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

The mortuary science year, through affiliation with the Pittsburgh School of Mortuary Science, is accredited through the American Board of Funeral Service Education, National Association of Colleges of Mortuary Science, National Conference of Funeral Service Examining Boards of the United States, Inc. This program is designed for three years of approved study on campus and one year of study at the Pittsburgh Institute of Mortuary Science.

Upon completion of the program, the student is granted a Bachelor of Science degree from California and a diploma from the Pittsburgh Institute. Upon completion of a one–year resident intern period, the candidate applies for the State Board Examinations and licensure as a funeral director and embalmer.

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

(A) General Education (42 credits):
English Composition I-II (ENG 101, 102), General Psychology (PSY 100), Elements of Economics (ECO 100), six credits in Humanities; six credits in Social Sciences; six credits in Natural Sciences; 12 credits of Free Electives.

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

(B) Area Of Concentration (58 CREDITS):
Required: Principles of Biology (BIO 115), General Zoology (BIO 120), General Botany (BIO 125), Biology Elective*, Human Anatomy (BIO 306), Human Physiology (BIO 328), Microbiology (BIO 326).
*Requires advisor approval.

Ancillary Courses (15 credits): General Chemistry I-II (CHE 101, 102), Organic Chemistry I (CHE 331), College Algebra (MAT 181).

Complementary Courses (15 credits): Accounting I (ACC 201), Ethics (PHI 220), Mental Health (PSY 310), Social Psychology (PSY 211), Principles of Sociology (SOC 100).

(C) School Of Mortuary Sciences (28 credits):
Strongly recommended electives: Introduction to Political Science (POS 100), Basic Programming Language (CSC 105), Sculpture I (ART 118), Mathematics of Finance (MAT 171), Business and Professional Writing I (ENG 211), Principles of Management (MGT 201), The Family (SOC 220), Introduction to Social Work (SOW 150), Death and Dying (EDF 318), Oral Communication (COM 101), Animal Histology (BIO 325), Parasitology (BIO 327), Organic Chemistry II (CHE 332). These are suggested electives to be used in the general education components.

The Washington Hospital School Of Nursing - Registered Nurse Program

The Washington Hospital School of Nursing (WHSN) Registered Nurse Program is a cooperative venture between California University and the WHSN. Entrance into the program requires successful performance by the prospective student on the qualifying examination given by the WHSN and subsequent acceptance for admission to both the WHSN and California University of Pennsylvania. The program of study leading to the certificate of completion given by WHSN and licensure as a registered nurse, following successful completion of the prescribed curriculum and examinations as required by law, is 27 months in duration.

The cooperative nature of this program is based upon the university providing a minimum of 40 credits in traditional science and general education courses and the WHSN providing the traditional nursing courses and clinical experiences required for certification as a registered nurse.

Because of the necessity to limit enrollment at WHSN, the availability of university classes may be limited. This is particularly critical with regard to the science classes, Anatomy and Physiology I and II, Chemistry for the Health Sciences, Basic Microbiology and Basic Principles of Nutrition where, depending upon circumstances, enrollment may be restricted to students who have been formally accepted into the WHSN Program. Individuals who wish to earn a degree from the university may continue in the Bachelor of Science Nursing Program offered by the university following completion of the WHSN Program. However, other qualifications and/or examinations may be required prior to entry into the university BSN Program. (See the description of the Nursing Program).

Minors

Biology Concentration

Required: BIO 115 Principles of Biology, BIO 120 General Zoology, BIO 125 General Botany.
Electives: A minimum of nine credits from the biology core electives listed under the Bachelor of Science in Biology degree requirements. Courses must come from at least three different core areas.

Environmental Sciences Concentration

Required: BIO 115 Principles of Biology, BIO 120 General Zoology, BIO 125 General Botany, BIO 310 Ecology.
Electives: Two approved courses from the animal and plant ecology cores listed under the Environmental Sciences option of the degree program in Environmental Studies.


Laws of war on sea
- neutral shipping may not be harmed
- indiscriminate mining is prohibited
- unrestricted submarine
- survivors of sinking
be fired upon
not
Laws

BUSINESS AND ECONOMICS

Purpose

The Business and Economics Department offers a number of unique degree programs, with emphasis given to the development of fundamental skills that will be beneficial to graduates in both their professional and private lives. The department recognizes that the keys for success are flexibility and adaptability. The department's programs are fully supported with state-of-the-art computer facilities including current software utilized in the business community.

After careful analysis of the current demands in the labor marketplace, the department has designed four distinct degree approaches, each serving a specific student interest and potential employment. The four degree approaches are:

1. Bachelor of Arts in Economics
2. Bachelor of Arts in Administration and Management
3. Bachelor of Science in Business Administration (with various specialized options)
4. Two-year Associate Degree programs (in the fields of Accounting, Administration/Management, Banking, and Computer Based Management)

Additionally, many department courses will be of value to students enrolled in other fields. The practical nature of course material will assist any student desiring to gain knowledge of business principles regardless of major. The faculty and office staff within the department will gladly assist students to determine courses meaningful to their fields.

Awards

Achievement is recognized in several ways. Membership is open to qualified successful students in Omicron Delta Epsilon, an honorary Economics Fraternity, the Accounting Club, the Economics Club, the Marketing Club, and the Society for the Advancement of Management. These organizations are involved in a variety of social and scholastic activities. In addition, the achievements of outstanding graduating seniors are recognized with the following awards:

- Wall Street Journal Award for outstanding achievement in the study of Business or Economics;
- Alfred Zeffiro Award for excellence in the study of Business Management;
- Pennsylvania Institute of Certified Public Accountants Award for high scholastic achievement in the study of Accounting;
- John Apessos Award for excellence in the study of Management.

Bachelor of Arts in Administration and Management

Bachelor of Arts in Administration and Management provides for a broad-based flexible curriculum that meets the needs of a business student with liberal arts interests. The graduation requirements for this degree make it ideal for the transfer student since it permits maximum utilization of previously completed course work.

Graduates will be prepared for a variety of management positions in business, industry and government.

Curriculum

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

(B) Area of Concentration: Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Money and Banking (ECO 304); Labor Economics (ECO 311); six additional credits of upper level Economics courses; Accounting I (ACC 201) & II (ACC 202); Managerial Accounting (ACC 321); Principles of Management (MGT 201); Principles of Marketing (MKT 301); Financial Management (FIN 301); Labor Relations (MGT 362); six additional credits of upper–level courses in Accounting, Business, Finance, Management or Marketing; Technical Mathematics (MAT 182) or College Algebra (MAT 181); Business Statistics (MAT 225); Micros & Applications Software (CSC 101); Oral Communication: Management (COM 250); Business Writing I (ENG 211); Industrial Psychology (PSY 326); and five credits of related electives approved by one's advisor.

Faculty

Professor Burrell Brown, chair; Associate Professor Clyde Roberts, assistant chair; Professors Ismail Cole, Ali A. Hashemi, Karen L. LeMasters, Mahmood A. K. Omarzai, Young J. Park, P. Ronald Tarullo; Associate Professors William F. Blosel, Debra Clingerman, David T. Jones, Robert J. Kopko, Susan J. Mongell, Michael K. Rich, Louise E. Serafin, Jerzy Zderkowski; Assistant Professor Edward Mendola.

Bachelor of Arts in Economics

Bachelor of Arts in Economics is a multipurpose program, with the objective of providing students with a liberal arts background and an understanding of the behavior of people as both producers and consumers. The program develops an understanding of the economic problems facing us today at all levels of government and business. This approach has been found to be attractive to many employers in industry, government, and business and is an excellent preparation for graduate study in economics, business administration, hospital administration, law, public administration and urban planning. Many students successfully enter the labor market immediately following graduation, bypassing graduate studies.

Curriculum

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

(B) Area of Concentration: Economics Core: Introduction to Microeconomics (ECO 201); Introduction to Macroeconomics (ECO 202); Money and Banking (ECO 304); Intermediate Microeconomics (ECO 301); Intermediate Macroeconomics (ECO 302); 14 additional credits of Economics electives (at 200 level or above). Communication Skills: Business Writing I (ENG 211) or Advanced Writing (ENG 375); Quantitative Skills: Technical Math I (MAT 182) or College Algebra (MAT 181), Mathematics of Finance (MAT 171); Micros and Application Software (CSC 101); Business Statistics (MAT 225); Mathematical Economics (ECO 320). Related Courses: Accounting I (ACC 201) and Accounting II (ACC 202); five related courses approved by one's advisor.

Bachelor of Arts in International Studies: Business & Economics Option

(A) General Education (60 credits): Composition I-II (ENG 101, 102), 12 credits of Humanities and Fine Arts, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration (68 credits): Business & Economics: (ACC 201) Accounting, (MGT 201) Principles of Management, (ECO 201) Introductory Microeconomics, (ECO 202) Introductory to Macroeconomics, (FIN 301) Financial Management, (MKT 301) Principles of Marketing, (MKT 431) International Business Management. Languages Select courses from FRE, GER, or SPN: (203) Intermediate I, (204) Intermediate II, (311) Conversation, Composition and Phonetics I, (312) Conversation, Composition and Phonetics II, Culture and Civilization Elective, Language Elective. Geography (GEO 200) Economics of Geography, Area Study Electives (six credits). Restricted Electives (18 credits) Selected in consultation with advisor. Related Electives (two credits)

Bachelor of Science in Business Administration

Bachelor of Science in Business Administration offers several degree programs that can be tailored to the needs of each student. Often, when students begin their college studies, they have not fully determined career direction.

The various specialized options of this degree permit modification of emphasis as the student's interests become defined without loss of credits earned toward graduation.

The faculty offers a diverse background of practical business experience and scholarly achievement to equip the graduating student with the skills necessary for success in business.

Students may focus on one of the following specialized options: Accounting, Computer Based Management, Marketing, Finance, Human Resource Management, Management, Business Economics, and General.

The business world grows increasingly complex, as computer applications permit more sophisticated decision-making. California University's Bachelor of Science in Business Administration is designed to insure that students acquire sufficient background for a broad range of careers in business, industry and government. Labor Relations, Marketing, Accounting, Production, Management, Finance and Communications are emphasized.

Career opportunities are in such positions as those of accountant, banker, city manager, general manager, government agency administrator, hospital administrator, industrial relations manager, insurance agent, office manager, personnel manager, production manager, purchasing agent, retail manager, sales manager, sales representative, securities analyst, and stock broker.

Curriculum

(A) General Education: Composition I (ENG 101); Business Writing I (ENG 211); Group Discussion Management (COM 102); College Algebra (MAT 181) or Technical Math I (MAT 182); Mathematics of Finance I (MAT 171) or Basic Calculus (MAT 273); Business Statistics (MAT 225); six credits in Humanities; six credits in Social Sciences; six credits in Natural Sciences; 12 credits of Free Electives.

(B) Area of Concentration: Business Writing II (ENG 212) or Advanced Writing (ENG 375); Oral Communication: Management (COM 250); Micros & Applications Software (CSC 101); Industrial Psychology (PSY 326); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Money and Banking (ECO 304) or Intermediate Macroeconomics (ECO 302); Labor Economics (ECO 311) or Intermediate Microeconomics (ECO 301) or Managerial Economics (ECO 322); Introduction to Business (BUS 100) or Business elective. Accounting I (ACC 201) and II (ACC 202); Cost Accounting I (ACC 331) or Managerial Accounting (ACC 321); Principles of Management (MGT 201); Principles of Marketing (MKT 301); Financial Management (FIN 301); Labor Relations (MGT 362); Strategic Management (MGT 402).

Options

Accounting

Intermediate Accounting I (ACC 301); Intermediate Accounting II (ACC 302); nine credits of additional upper-level Accounting (ACC) courses (no internship credits); 11 credits in Accounting, Business, Economics, Finance, Management or Marketing courses 200 level or above (Recommended: Business Law I [BUS 242] and Business Law II [BUS 243]).

Business Economics

Intermediate Microeconomics (ECO 301); Intermediate Macroeconomics (ECO 302); Mathematical Economics (ECO 320); 11 credits of Economics electives 200 level or above; five credits from Accounting, Business, Finance, Management, Marketing electives.

Computer Based Systems Management

15 credits of selected computer science courses; Management Information Systems (MGT 371); Computer Based Management Systems (MGT 373); Applied Econometrics (ECO 421); Upper level Accounting, Business, Economics, Finance, Management or Marketing elective.

Finance

Introduction to Finance (FIN 201); Personal Money Management (FIN 211); Advanced Financial Management (FIN 302); Investments (FIN 305); Financial Markets and Institutions (FIN 411); Applied Econometrics (ECO 421); and seven credits from the following (three to six of which may be 200 level or above): Accounting, Business, Economics, Finance, Management or Marketing electives); Bank Management (FIN 531); Upper Level Finance elective; International Business Management (MGT 431); Industrial Organization (ECO 401); Public Finance (ECO 405); International Economics (ECO 431); Real Estate Fundamentals (FIN 351); Real Estate Practice (FIN 352), Business Law I (BUS 242).

General

26 credits of Accounting, Business, Economics, Finance, Management, Marketing electives (200 level or above).

Human Resource Management

Business Law I (BUS 242), Human Resource Management (MGT 352); Organizational Behavior (MGT 301); Compensation Management (MGT 353); Development of Interviewing Skills (PSY 370); 11 credits from the following (may include up to three credits of Management electives): Demographic Analysis (GEO 217), Human Ecology (GEO 240), Social Psychology (PSY 320), Psychology of Gender Roles (PSY 311), Psychology of Stress Management (PSY 222), Psychology of Personality (PSY 405), Psychological Testing (PSY 340), Advanced Industrial Psychology (PSY 428), Men, Women, and Work (SOC 125), Sociology of Workplace (SOC 215); Business, Society and Government (BUS 342).

Management

Organizational Behavior (MGT 301); Human Resource Management (MGT 352); Business Law I (BUS 242); nine credits of Upper level Management (MGT) courses (no internship credits) and eight credits of Management related courses to be selected with the approval of one's advisor.

Marketing

Principles of Selling (MKT 222); Sales Management (MKT 321); Marketing Management (MKT 401), Advertising Management (MKT 351), Consumer Behavior (MKT 431), Marketing Research (MKT 431), Business Marketing (MKT 452); five credits of the following (which may be 200 level or above of Accounting, Business, Economics, Finance, Management or Marketing (MKT) electives): Applied Econometrics (ECO 421), International Business Management (MGT 431), Real Estate Fundamentals (FIN 351), Real Estate Practice (FIN 352), Insurance and Risk Management (FIN 341), Retailing (MKT 331), Marketing for Non-profit organizations (MKT 341), Business Law I (BUS 242).

Associate Degree Programs

An alternative for students not wishing to make an immediate four-year commitment to education is the two-year associate degree program in several disciplines.

The accounting student may wish to pursue a two-year course of study in Accounting preparatory to entering a junior–level accounting position. Those interested in a two-year program in Administration/Management or Computer Based Management can also pursue an Associate Degree program.

These curricula provide sufficient background in basic management skills to qualify graduates for many entry-level supervisory positions in business and industry. For students desiring a career in the financial service industry or for the employees of financial institutions, an option in Banking is available in the Administration and Management Associate Degree curriculum.

Of course, a student can transfer all of the course work completed at any time to the appropriate four-year program leading to a Bachelor's Degree. No more than fifteen credits can be transferred from another institution to fulfill the requirements for the Associate Degree programs. The Department of Business and Economics offers this two-year associate degree to provide students with high quality training in accounting. In the career ladder concept, the university has designed the program so that students may transfer into many four-year business programs.

Careers are available in a number of fields in business and government, including purchasing, sales, bookkeeping, and accounting.

Associate of Science in Accounting

Curriculum

(A) General Education: English Composition I (ENG 101); Business Writing I (ENG 211), College Algebra (MAT 181) or Technical Mathematics I (MAT 182); Micros & Applications Software (CSC 101); Science, Technology and Society (PHI 246); three credits in Humanities; three credits in Social Sciences; three credits in Natural Sciences; three credits of Free Electives.

(B) Area of Concentration: Intro to Business (BUS 100); Accounting I (ACC 201) and II (ACC 202); Cost Accounting (ACC 331); Principles of Management (MGT 201); six credits from Elements of Economics (ECO 100), Current Economic Issues (ECO 200), Intro Micro (ECO 201), and Intro Macro (ECO 202); six credits of Accounting electives to be selected with approval of advisor; six - 11 credits of accounting, Business Economics, Finance, Management and Marketing electives (with the approval of advisor some of these electives may be selected from Industrial Psychology (PSY 209), Mathematics of Finance I (MAT 171), Business Statistics (MAT 225), Oral Communication Management (COM 250).

Associate of Science in Administration and Management

This two-year associate degree provides students with the basic instruction for an entry level management position with business or industry. In addition, all of the credits earned in this program are transferable to the four-year degree.

Careers available to the graduate of this program include a number of junior management positions in business and government, including sales, purchasing, employee relations, and general management.

Curriculum

(A) General Education: English Composition I (ENG 101); Business Writing I (ENG 211); College Algebra (MAT 181) or Technical Mathematics (MAT 182); Micros & Applications Software (CSC 101); Science, Technology and Society (PHI 246); three credits in Social Sciences; three credits in Natural Sciences; three credits of Free Electives.

(B) Area of Concentration: Introduction to Business (BUS 100); Accounting I-II (ACC 201 & 202); Principles of Management (MGT 201); six credits from Elements of Economics (ECO 100), Current Economic Issues (ECO 200), Introductory Microeconomics (ECO 201), Introductory Macroeconomics (ECO 202); 20 credits of Restricted Electives to include 12-18 credits of Accounting, Business, Economics, Finance, Management, and Marketing courses; and three-nine credits from Computer courses, Industrial Psychology (PSY 326), Mathematics of Finance I (MAT 171), Business Statistics (MAT 225), Sociology, or Social Science, Psychology elective, Oral Communication Management (COM 250).

Associate of Science in Administration and Management Banking Option

The two-year associate degree in Banking is an option under the Administration and Management program. This curriculum is designed to meet the needs for junior level management positions in the financial services industry.

Curriculum

(A) General Education: English Composition I (ENG 101); Business Writing I (ENG 211); College Algebra (MAT 181) or Technical Mathematics I (MAT 182); Micros & Applications Software (CSC 101); Science, Technology and Society (PHI 246); three credits in Humanities; three credits in Social Sciences; three credits in Natural Sciences; three credits of Free Electives.

(B) Area of Concentration: Accounting I (ACC 201) and II (ACC 202); Managerial Accounting (ACC 321); Elements of Economics (ECO 100); Introductory Microeconomics (ECO 201); Introductory Macroeconomics (ECO 202); Principles of Management (MGT 201); Financial Management (FIN 301); Money and Banking (ECO 304); two credits of Finance elective; nine credits from A.I.B. courses or from a list of selected courses in Business, Mathematics, and Finance.

Associate of Science in Computer-based Management Systems

The Business and Economics Department offers this two-year associate degree to provide students with general management and computer skills.

Curriculum

(A) General Education: English Composition I (ENG 101); Business Writing I (ENG 211); College Algebra (MAT 181) or Technical Mathematics I (MAT 182); Micros & Applications Software (CSC 101); Science, Technology and Society (PHI 246); three credits in Humanities; three credits in Social Sciences; three credits in Natural Sciences; three credits of Free Electives.

(B) Area of Concentration: Introduction to Business (BUS 100); Accounting I (ACC 201) and II (ACC 202); Principles of Management (MGT 201); Management Information Systems (MGT 371) or Computer Based Management Systems (MGT 373); six credits from Elements of Economics (ECO 100), Current Economic Issues (ECO 200); Introductory Microeconomics (ECO 201), and Introductory Macroeconomics (ECO 202); nine credits of selected computer courses; Managerial Accounting (ACC 321) or Cost Accounting (ACC 331); three credits of Economics elective; two credits of Accounting, Business, Economics, Finance, Management or Marketing elective.

Minors

Minors in the Business and Economics field are available to students majoring in disciplines other than Business and Economics. The various minors offered and required courses for each are as follows:

Accounting Minor

BUS 100, Intro Business; ECO 100, Elements of Economics; ACC 201, Accounting I; ACC 202, Accounting II; ACC 331, Cost Accounting I.
Upper Level (300- and above) Accounting Electives (six credits).

Business Minor

BUS 100, Intro Business; ECO 100, Elements of Economics; ACC 201, Accounting I; MGT 201, Principles of Management.
Upper Level (300- and above) Business (ACC/BUS/FIN/MGT/MKT) Electives (nine credits).

Economics Minor

BUS 100, Intro Business; ECO 201, Intro Microeconomics; ECO 202, Intro Macroeconomics; ECO Elective.
Upper Level (300- and above) Economics Electives (nine credits).

Finance Minor

BUS 100, Intro Business; ECO 100, Elements of Economics; ACC 201, Accounting I; FIN 211, Personal Money Management; FIN 301, Financial Management.
Upper Level (300- and above) Finance Elective (six credits).

Management Minor

BUS 100, Intro Business; ECO 100, Elements of Economics; MGT 201, Principles of Management;
MGT 301, Organizational Behavior; MGT Elective.
Upper Level (300- and above) Management Electives (six credits).

Marketing Minor

BUS 100, Intro Business; ECO 100, Elements of Economics; MKT 222, Principles of Selling; MKT 301, Principles of Marketing, MKT Elective.
Upper Level (300- and above) Marketing Electives (six credits).

CHEMISTRY AND PHYSICS

Purpose

The Chemistry & Physics Department houses both the Chemistry and Physics programs at the university. These programs are located in the New Science building which was renovated in 1984. Along with the building renovation the department acquired
state-of-the-art chemical instrumentation, and more recently has acquired a number of computers for use in both the physics and chemistry programs.

Bachelor of Science in Chemistry

This program focuses upon studies of the nature and structure of matter and provides a strong foundation in the fundamentals of chemistry, physics and mathematics. Upon successful completion of this program, the graduate is qualified to assume a position as a chemist in either the private or public sector. Program graduates should also be well prepared to undertake graduate studies leading to the M.A., M.S., or Ph.D. in Chemistry.

Through consultation with an advisor, students obtain information that will guide them toward a proper selection of electives in General Education. Such a judicious selection of electives based upon the student's objectives may help to promote additional career opportunities and also satisfy the admissions standards of various professional and graduate schools. Some graduates have thus chosen to continue their education or to pursue careers in medicine, dentistry, pharmacy, management, college and university teaching, and research.

Career opportunities include positions as analytical chemist, quality control specialist, industrial management trainee, technical writer, chemical purchasing agent and sales person with the chemical industry.

The program also provides preprofessional training in medicine, dentistry, and law, as well as preparation for graduate school.

Curriculum

(A) General Education: Composition I–II (ENG 101, 102), 12 credits of Humanities, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration: General Chemistry I–II (CHE 101, 102), Inorganic Chemistry (CHE 205), Analytical Chemistry I (CHE 261), Instrumental Analysis (CHE 262), Organic Chemistry I–II (CHE 331,332), Individual Work (CHE 368), Physical Chemistry I–II (CHE 451,452), Chemistry Seminar (CHE 495) and four credits of Required Chemistry electives, Calculus I–II (MAT 281,282), College Physics I–II (PHY 101, 202), 16 additional credits of related electives.

Bachelor of Arts in Physics

The program leading to the Bachelor of Arts degree in Physics offers the student a variety of choices which may be tailored to one's needs. From the physics curriculum the student may choose between a diversity of courses in classical and contemporary physics, including such courses in applied physics as Plasma Physics, Quantum Mechanics, Special and General Relativity, and Astrophysics. Advanced laboratories include facilities for studies in photometry, holography, X–ray diffraction, and digital electronics.

The flexibility of the program allows the graduate to prepare for many occupations, including admission to an advanced degree program in physics or engineering, and technical or research positions with industry or government.

Curriculum

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

(B) Area of Concentration: College Physics I–II–III (PHY 101, 202, 203), Intermediate Mechanics (PHY 221), Intermediate Electricity and Magnetism (PHY 301), Modern Physics I (PHY 331), Calculus I–II–III (MAT 281, 282, 381), Differential Equations (MAT 406), General Chemistry I–II (CHE 101 102), six credits of Physics Electives, 19 credits of Advanced Related Electives.

Faculty

Associate Professor Clyde W. Clendaniel, chair; Professors Theodore L. Dominick, Gabriel C. Fusco, David L. Johnson, Anthony Lazzaro, David W. Pajerski; Associate Professors Gregg Gould, Robert L. Zoppetti; Instructor Elaine S. Costello

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

Curriculum

(A) General Education: 15 credits in Humanities, including Composition I–II (ENG 101–102), 11 credits in Natural Sciences, including Principles of Biology (BIO 115), Organic Chemistry (CHE 322), and an approved Earth Science elective, nine credits in Social Sciences, three credits in Health or Physical Activities, Oral Communication (COM 101), General Psychology (PSY 100), six credits of Free Electives, including a science elective.

(B) Professional Education: Educational Psychology (PSY 208), Policy Studies in American Education (EDF 290), Problems in Secondary Education (EDF 300), Computers for Teachers (EDF 301), Applied Instructional Technology (EDF 302), Mainstreaming the Except. Child (EDU 340), Teaching in a Multicultural Society (EDU 210), Educational Tests & Measures (EDS 430), Developmental Reading in Secondary Schools (EDS 465), Teaching of Science (EDS 467), Student Teaching and School Law (EDS 461).

(C) Professional Specialization: General Chemistry I–II (CHE 101, 102), Geochemistry (CHE 255), Analytical Chemistry I (CHE 261), Organic Chemistry I (CHE 331), Biochemistry (CHE 441), Physical Chemistry I (CHE 451), Individual Work I (CHE 368), Calculus I (MAT 281), Calculus II (MAT 282), Principles of Biology (BIO 115), College Physics I (PHY 101).

Pennsylvania certification requires a satisfactory score on the NTE.

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

Curriculum

(A) General Education: 15 credits in Humanities, including Composition I – II (ENG 101, 102), 11 credits in Natural Sciences, including Principles of Biology (BIO 115), General Chemistry II (CHE 102), and an Earth Science elective, nine credits in Social Sciences, three credits in Health or Physical Activities, Oral Communication (COM 101), General Psychology (PSY 100), three credits of Free Electives.

(B) Professional Education: Educational Psychology (PSY 208), Policy Studies in American Education (EDF 290), Problems in Secondary Education (EDF 300), Computers for Teachers (EDF 301), Applied Instructional Technology (EDF 302), Mainstreaming the Except. Child (EDU 340), Teaching in a Multicultural Society (EDU 210), Educational Tests & Measures (EDS 430), Developmental Reading in Secondary Schools (EDS 465), Teaching of Science (EDS 467), Student Teaching and School Law (EDS 461).

(C) Professional Specialization: College Physics I–II–III (PHY 101, 202 and 203), Intermediate Mechanics (PHY 221), Intermediate Electricity and Magnetism (PHY 301), Modern Physics (PHY 331), Mathematical Methods of Physics I (PHY 341), Physics Seminar (PHY 495), Calculus I–II–III (MAT 281, 282 and 381), General Chemistry I (CHE 101).

Pennsylvania certification requires a satisfactory score on the NTE.

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

Curriculum

(A) General Education: 15 credits in Humanities, including Composition I–II (ENG 101, 102), nine credits in Natural Sciences, including Pre-Calculus (MAT 199), nine credits in Social Sciences, three credits in Health or Physical Activities, Oral Communication (COM 101), General Psychology (PSY 100), six credits of Free Electives, including a science elective and College Algebra (MAT 181).

(B) Professional Education: Educational Psychology (PSY 208), Policy Studies in American Education (EDF 290), Problems in Secondary Education (EDF 300), Computers for Teachers (EDF 301), Applied Instructional Technology (EDF 302), Mainstreaming the Except. Child (EDU 340), Teaching in a Multicultural Society (EDU 210), Educational Tests & Measures (EDS 430), Developmental Reading in Secondary Schools (EDS 465), Teaching of Science (EDS 467), Student Teaching and School Law (EDS 461).

(C) Professional Specialization: General Zoology (BIO 120), General Botany (BIO 125), General Chemistry I–II (CHE 101, 102), General Physics I–II (PHY 121 and 122), Intro to Geology (EAS 150), Introduction to Oceanography (EAS 163), and 5 credits of Science electives from BIO, CHE, EAS, or PHY.

Pennsylvania certification requires a satisfactory score on the National Teachers Examination.

Cooperative Engineering Program

California University of Pennsylvania participates in cooperative liberal arts engineering programs with both the Pennsylvania State University and the University of Pittsburgh. The student undertakes a three–year curriculum at California University of Pennsylvania concentrating on studies in liberal arts and pre–engineering courses in natural sciences.

Upon successful completion of that curriculum and the recommendation of faculty, the student spends two years at the Pennsylvania State University or the University of Pittsburgh, at which time the student will complete the engineering course requirements as specified by the institution.

Some advantages of such cooperative programs include the following:

1. For students who have yet to choose between engineering or another discipline as a field endeavor, the programs provide initial studies in both the arts and sciences at California University of Pennsylvania, during which time they may ascertain whether their abilities and interests lie in the field of engineering or another discipline.
2. The program permits qualified students to receive both a liberal and technical education at relatively low cost.

Curriculum

(A) General Education: nine credits in Humanities including Perspectives in Philosophy (PHI 100), six credits in Natural Sciences, 12 credits in Social Sciences, including Elements of Economics (ECO 100), Composition I–II (ENG 101, 102), Oral Communication (COM 101).

(B) Area of Concentration: Technical Drawing I (IND 110), Seminar, General Chemistry I–II (CHE 101, 102), College Physics I–II–III (PHY 101, 202, 203), Calculus I–II–III–IV (MAT 281, 282, 381, 382), Linear Algebra I (MAT 341), Computer Science I (CSC 121), Differential Equations (MAT 406), Mathematical Methods of Physics (PHY 341) 13 credits of Engineering Discipline Courses.

Bachelor of Arts in Natural Sciences

This extremely flexible program provides the student with an opportunity to structure a course of study that encompasses the broad areas of science and mathematics. Students enrolling in this program are expected to work carefully and regularly with their academic advisor to develop a program that meets their individual needs. Information on the curricular structure of this program is available in both the Chemistry & Physics Department office and the office of the Eberly College of Science and Technology.

COMMUNICATION DISORDERS

Purpose

The coursework and practicum experiences in the Communication Disorders program are integrated within the overall undergraduate program in order to provide students with a broad understanding of the scientific bases of normal speech and hearing processes and the diagnostic and rehabilitation procedures necessary to remediate communication disorders. The department provides clinical services for individuals who have communication disorders. Students observe and/or assist in diagnostic evaluations and therapy programs. Their involvement includes experiences with people of all ages, ranging from pre-school to adult.

The Department of Communication Disorders is accredited by the Council on Academic Accreditation (CAA) of the American Speech, Language and Hearing Association (ASHA).

The undergraduate program in the Department of Communication Disorders (CMD) is a preprofessional degree program. Students, therefore, should be aware that they are preparing themselves for future graduate training in the profession of Speech/Language Pathology. An Education Certification track is available at the graduate level only. Students who desire the Pennsylvania Certificate must complete certain required courses in Education, pass the NTE, and successfully complete the graduate program in CMD.

Students planning to complete the undergraduate program in CMD should maintain a grade point average (GPA) sufficient to enhance the probability that he/she will be admitted to a graduate program. The student must also understand that most graduate programs in CMD require a minimum GPA of 3.0 in order to apply and many programs, including that at California University of Pennsylvania, require a GPA higher than 3.0 to insure admission.

To facilitate the attainment of a 3.0 or better GPA, the faculty in CMD have determined that students should maintain the following minimum GPAs at the indicated points in their undergraduate program:

	Overall	CMD
End of Freshman Year (32 crs.)	2.5	2.5
End of Sophomore Year (64 crs.)	2.8	2.8
End of Junior Year (96 crs.)	3.0	3.0
Graduation (128 crs.)	3.0	3.0

Students who are not achieving the above minimum standards will be counseled each semester concerning the options which are available to them: (1) make a more concerted effort to improve their level of performance, (2) consider transferring to some other program, or (3) graduating from the program with the minimum allowable GPA (2.5), but with the understanding that employment opportunities in the profession with only the B.S. degree will be extremely limited if not totally nonexistent. Every effort will be made to assist students with whatever option they choose.

Objectives

The objectives of this program are to:

- Develop an understanding of the basic acoustical, anatomical and neurological development of normal speech, language and hearing,
- Develop knowledge of the various disorders affecting speech and language and the underlying pathologies and symptoms of the disorders,
- Create awareness of the instruments and procedures available to assess speech and language disorders and develop the ability to select and use such instruments correctly,
- Develop the clinical skills to effectively perform therapeutic procedures to correct or improve speech and language disorders,
- Instill the principles and practices of ethical professional behavior.

Faculty

Associate Professor Albert E. Yates, chair; Professor R. Michael Feldman; Associate Professors Barbara Bonfanti, Charles A. Gismondi, Richard R. Nemec.

Bachelor of Science in Education: Communication Disorders

Curriculum

(A) General Education (56 credits): Humanities: 18 credits (from two disciplines), including Composition I–II (ENG 101–102) and Oral Communication (COM 101), Natural Sciences: nine credits (from two disciplines), Social Sciences: nine credits (from two disciplines), three credits Health or Physical Activities, General Psychology (PSY 100), Free Electives: 14 credits.

(B) Related Professional Courses (33 credits selected from adviser–approved university courses), including Developmental Psychology (PSY 207); Teaching in a Multicultural Society (EDU 210) or Ethnic, Racial, and Social Minorities (SOC 110); Computers for Teachers (EDF 301)

(C) Communication Disorders (39 credits): ASHA Basic Science Requirements (selected from matrix): six credits in Biological Sciences, Physical Sciences, or Mathematics, six credits in Behavioral or Social Sciences, Survey of Speech Pathology (CMD 100), Language and Speech Development (CMD 105), Phonetics (CMD 203), Anatomy and Physiology (CMD 204), Acoustics and Psychoacoustics (CMD 213), Speech Pathology I (CMD 300), Speech Pathology II (CMD 301), Introduction to Audiology (CMD 305), Assessment of Speech and Language (CMD 320)*, Clinical Practicum (CMD 400). * strongly recommended for all CMD students

Speech And Hearing Clinic

The Speech and Hearing Clinic is primarily a training facility for the students in the Department of Communication Disorders. Speech and hearing services are available to the immediate community and surrounding counties, as well as to students and faculty of the University.

Programs offered during the regular semester include:

1. A preschool program offering a developmentally appropriate curriculum for three to five year-old children within a classroom setting. Class size is limited to 20 students. Hours of operation are: MWF from 9:30 a.m. to 11:30 a.m.
2. Diagnostic and therapeutic services are available to individuals of all ages with various speech and language disorders.
3. Hearing screenings and comprehensive hearing evaluations are provided to the pediatric and adult population. Recommendations and assistance with hearing aid selection is also available.

The Speech and Hearing Clinic is located in the Learning Research Center, Room 296, and the phone number is 938-4175. The Clinic is a free service to all university students.

COMMUNICATION STUDIES

Purpose

Communication Studies is the discipline which focuses on human communicative behavior and its influence on our personal, professional, social and cultural lives. The faculty in Communication Studies believes that human communication is fundamental to an individual's capacity to function as an effective and ethical participant in an information society. To that end, students should understand communication from both broad theoretical and specifically applied perspectives. Accordingly, the department offers courses and activities designed to help students deal with the demands of varied communication situations. The curriculum provides the student with an opportunity:

- to understand more fully the human communication process and how it affects the ways people interact when making decisions, developing relationships, and influencing each other, and
- to develop communication skills which enhance the individual person's capacity to function in communication situations at work, home, social gatherings, and in civic organizations.

Programs

Students majoring in Communication Studies have four academic program options:

(1) The Speech Communication Option focuses on developing an understanding of the uniquely human capacity for producing and using symbols. Throughout life, during nearly every conscious minute, humans are either formulating messages or passing judgment on the messages formulated by others. Students in this program develop an understanding of and skill in the human ability to share and examine facts, ideas, opinions, values, and attitudes.

(2) The Radio/Television Option emphasizes the application of mass communication theory to audio and video production. The electronic communication media have had an immense impact on human communication. Understanding the dynamics of these technologies and their effects is the most important focus on this degree program. Graduates will have an understanding of the dynamics, as well as, skills necessary to function in entry level jobs in many organizations concerned with mediated messages.

(3) The Public Relations Option seeks to create graduates who understand how public opinion emerges and changes. It seeks to provide the tools graduates will need for helping clients track changes in public opinion and create messages using an ever increasing variety of media. Students who complete the degree requirements may advise a wide variety of organizations regarding their publics' responses to policies, programs, campaigns, and messages.

(4) The fourth option is for persons who want to teach in the area of Communication. The Communication Studies Department in cooperation with the College of Education and Human Services provides course work necessary for secondary school certification in communication with a speech concentration.

In addition to the four options identified above, students majoring in any other program on campus may minor in one of three programs available in Communication Studies. The minors available in the department are Public Communication, Public Relations, and Television Production. Successful completion of any of the three minor programs requires that the student complete twenty-one (21) credits.

The academic programs are enhanced by co-curricular activities offered in each option area. In addition, junior and senior students who have maintained a 3.0 grade point average are encouraged to seek internship opportunities in regional radio-television studios, public relations agencies, advertising firms, municipal governments, school districts, hospitals, labor organizations, and businesses.

The on-campus television studio and radio station provide students with "hands-on" production experience in the electronic media. The television studio supports student video production.

The radio station, WVCS, broadcasts regionally. It is a student-operated and student-managed station with a faculty member from Communication Studies serving as educational advisor.

Honor Society

Pi Kappa Delta is the honor society for intercollegiate debaters, individual events competitors, and teachers of communication. The Penn Zeta Chapter was organized in 1963. Undergraduate students can achieve membership in this society if they meet the minimum standards of forensic participation and are extended an invitation to join. Further information can be obtained at the departmental office.

Awards

Each year the faculty in Communication Studies selects a deserving graduating senior as an Outstanding Graduate. The honoree receives a plaque, a one–year membership in the Speech Communication Association, the national organization for communication professionals, and a one year subscription to one of its five professional journals.

Faculty

Assistant Professor Dencil K. Backus, chair; Professor Marcella A. Rye Blout; Associate Professors, Rick A. Cumings, Sylvia L. Foil, MacDonald N. Kalé, Patricia Milford, George Yochum; Assistant Professors, James O. Carter, Patrick L. Miller, Sylvia E. Sholar.

Careers

Aside from the obvious careers in broadcast journalism or public relations, graduates can obtain positions in management training programs, as speech writers and as salespeople. Communicating effectively and evaluating the communication efforts of others are inescapable activities associated with any job. By understanding the theory and mastering the skills associated with a Communication Studies degree program, graduates who can demonstrate their capabilities make themselves attractive to a wide variety of employers.

An undergraduate major or minor in communication studies is an asset for careers in law, religion, education, labor relations, politics, marketing and human resource development. Unless one seeks employment in which highly technical, specialized knowledge is required (e.g. accounting, medical technology, computer programming, and others) the career opportunities with a Communication Studies degree are extensive. Those considering a degree in this department are urged to consult with the chairperson or other faculty in the department to identify additional possibilities.

Bachelor of Arts in Communication Studies: Speech Communication Option

(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: Core Courses (27 credits): Perspectives on Communication (COM 100), Oral Communication (COM 101) or Oral Communication Management (COM 250); Fundamentals of Discussion (COM 107) or Group Discussion Management (COM 102); Survey of Radio, Television, and Film (COM 105); Interpersonal Communication (COM 165); Persuasion (COM 350); Communication Criticism (COM 461); Communication Research Techniques (COM 481); Communication Theory (COM 490);
Major Courses: Intercollegiate Forensic Activities (COM 201); Voice and Articulation (COM 210); Introduction to Oral Interpretation (COM 224); Argumentation and Debate (COM 230); Presidential Rhetoric (COM 235); Language and Behavior (COM 315); Advanced Oral Interpretation (COM 324); Public Communication Law and Policy (COM 370).
Related Courses: A minimum of seventeen (17) additional credits —nine of which must be at the 300 or 400 level— which both the student and advisor agree enhance achievement of the student's academic objectives.

Assuming that it is desirable to graduate in the normal four-year period, it is expected that students will:

1. Register for and complete 16-18 credit-hours each semester.
2. Complete both ENG 101 & 102 before taking other writing courses.
3. Select courses to compensate for Internship ineligibility.
4. Complete major courses on schedule and make-up shortcomings in General Education and electives during summer terms.

Bachelor of Arts in Communication Studies: Radio & TV Option

(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: Core Courses (27 credits): The core courses in the Radio & TV Option are the same as those listed above in the Speech Communication Option.
Major Courses (12 credits): Audio Production I (COM 141; Video Production I (COM 142); Media Criticism (COM 463); Radio & Television in a Free Society (COM 445).
Performance **or** Production (six credits from one area)
Performance: Voice and Articulation (COM 210); Introduction to Oral Interpretation (COM 224); Radio & Television Announcing (COM 246); Broadcast Reporting (COM 336).
Production: Audio Production II (COM 241); Video Production II (COM 242; Audio Aesthetics & Applications (COM 341); Video Aesthetics & Applications (COM 342). WRITING (6 credits): Radio & Television Commercials (COM 331); Radio & Television News (COM 332); Radio & Television Drama (COM 335). Management (three credits): Broadcast Management (COM 355); Public Communication Law & Policy (COM 370); Professional Video Communications (COM 410).
Related Courses: 14 credits in advisor-approved related area. At least six credits from outside Communication Studies and at least six credits at the 300/400 level.

Assuming graduation is desirable in the normal four-year period, it is expected that students will:

1. Register for and complete 16-18 credit-hours each semester.
2. Complete both ENG 101 & 102 before taking other writing courses.
3. Select courses to compensate for Internship ineligibility.
4. Complete major courses on schedule and make-up shortcomings in General Education and electives during summer terms.

Bachelor of Arts in Communication Studies: Public Relations Option

(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: Core Courses (27 credits.): The core courses in the Public Relations Option are the same as those listed above for the Speech Communication Option. Major Courses (18 credits); Introduction to Public Relations (COM 203); Public Relations Applications (COM 303); Language & Behavior (COM 315); Communication Law and Policy (COM 370); Public Relations Campaign Management (COM 438); Public Relations Cases & Problems (COM 484).
Restricted Electives (23 credits): Writing Courses (six - nine credits): Radio & Television Commercials (COM 331)* or Radio & Television News (COM 332); Journalism I (ENG 167) or Journalism II (ENG 169) or Journalism III (ENG 312); Advanced Writing (ENG 375) or Copywriting (ENG 401)* or Article Writing (ENG 435) or Advertising (ENG 437). Business, Society & Government Courses (six - nine credits): Principles of Management (MGT 201), Introduction to Public Administration (POS 220), Principles of Marketing (MKT 301), Advertising Management (MKT 351), Business Society & Government (BUS 342). Technical Skills Courses (six - nine credits): Electronic Desktop Publishing (GCT 240) is a required course in this category; Graphic Communications Process I (GCT 100), Black & White Photography (GCT 220), Principles of Layout & Design (GCT 225), Communication Design (ART 211), Video Art/Design (ART 361), Audio Production I (COM 141), or Video Production I (COM 142). Internship (zero – five credits): Students majoring in Public Relations are encouraged to plan to take Communication Internship (COM 459) but must have a 3.0 GPA in the major to do so.
* Students are not permitted to satisfy this requirement by taking both COM 331 and ENG 401.

Assuming that the goal is to graduate in a normal four-year period, it is expected that students will:

1. Register for and complete 16-18 credit-hours each semester.
2. Complete both ENG 101 & 102 before taking COM 203.
3. Have extensive writing instruction and experience before taking COM 303.
4. Select courses to compensate for Internship ineligibility.
5. Complete major courses on schedule and make-up shortcomings in General Education and electives during summer terms.

Bachelor of Science in Education: Certification In Communication (Speech Concentration) For Secondary Schools

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, as well as a resource person for facilitating communication in educational and community settings.

The Communication teacher not only helps young people develop communication competency, both verbal and nonverbal, but also encourages students to be sensitive to creative expression. Communication teachers assist students in developing effective speaking and listening skills, facilitate the development of critical skills in reading and writing, encourage appreciation of aesthetic expression in film, theatre, and television.

A Communication teacher is certified for grades seven through 12 and is qualified to teach the traditional English areas, such as literature, writing and linguistics, as well as speech and theatre.

At California University this multi–disciplinary, comprehensive program has been broadened to include teaching competencies in media such as radio, television, film, and photography. Students majoring in Communication take a common core of courses, which includes a number of English, Speech, and Theatre courses, and, choose a concentration in either Speech or Theatre.

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.

Pennsylvania Certification requires a satisfactory score on the NTE.

Curriculum

(A) General Education: 15 credits in Humanities, including Composition I–II (ENG 101–102) and Communication Theory (COM 490); nine credits in Natural Sciences; nine credits in Social Sciences; three credits in Health or Physical Education; Oral Communication (COM 101); General Psychology (PSY 100)

(B) Professional Education: Educational Psychology (PSY 208), Policy Studies in American Education (EDF 290), Computers for Teachers (EDF 301), Applied Instructional Technology (EDF 302), Problems of Secondary Education (EDS 300), Educational Tests and Measurements (EDS 430), Teaching of English (EDS 440), Developmental Reading in Secondary Schools (EDS 465), Teaching in a Multicultural Society (EDU 210), Mainstreaming Exceptional Learners (EDU 340), Student Teaching & School Law (EDS 461).

(C) Academic Specialization: **Speech Concentration**

ENGLISH: English Grammar and Usage (ENG 345); Advanced Writing (ENG 375), English Literature I (ENG 301) or English Literature II (ENG 302), Shakespeare (ENG 425). Select two of the following courses—American Literature to 1865 (ENG 365), American Literature 1865-WWI (ENG 366), or American Literature from WWI (ENG 367)

THEATRE: Select courses to total six credits: Fundamentals of Acting (THE 131), Stagecraft I (THE 141), Fundamentals of Directing (THE 320) or Practicum (THE 350-358)

COMMUNICATION: Audio Production I (COM 142), Intercollegiate Forensic Activities (COM 201), Introduction to Oral Interpretation (COM 224), Argumentation and Debate (COM 230), Persuasion (COM 350). Select one (1)of the following: Language and Behavior (COM 315), Communication Criticism (COM 461), Communication Research Techniques (COM 481). Select one of the following: Video Production II (COM 242), or Advanced Oral Interpretation (COM 324).

Minor

Public Communication Concentration

Courses required for completing this minor are: Oral Communication (COM 101); Survey of Radio, TV, & Film (COM 105); Introduction to Public Relations (COM 203); Presidential Rhetoric 1960 to the Present (COM 235); Public Communication Law & Policy (COM 370); Radio & TV in a Free Society (COM 445); Communication Criticism (COM 461)

Public Relations Concentration

The course requirements for completing a minor in Public Relations are: Introduction to Public Relations (COM 203); Public Relations Applications (COM 303); Language and Behavior (COM 315); Public Communication Law & Policy (COM 370); Public Relations Campaign Management (COM 438); Communication Research Techniques (COM 481); Public Relations Cases and Problems (COM 484)

Television Production Concentration

The required courses for completing this minor are: Survey of Radio, TV, and Film (COM 105); Audio Production I (COM 141); Video Production I (COM 142); Video Production II (COM 242). Select from the following six credits in Script Writing: Radio & Television Commercials (COM 331); Radio & Television News (COM 332); and/or Radio & Television Drama (COM 335). Students electing to minor in TV Production should also select three credits from the following: Broadcast Reporting (COM 336); Appreciation of Film (COM 360); or Professional Video Communications (COM 410).

EARTH SCIENCE

Purpose

The Department of Earth Science is committed to the practical advancement of knowledge; to serving the local, national, and world community; and to the education of earth scientists and geographers. To fulfill this commitment, the department offers a broad spectrum of courses, tutoring, research, and services that enable a student, with the help of an advisor, to acquire a body of knowledge and variety of skills that serve as a basis for a professional career. The department is also committed to research and to the enhancement of the human condition through cooperation with individuals, communities, departments, institutions, organizations, and government agencies.

A student in geography or in the traditional earth sciences can attain his education within the department by fulfilling the requirements listed in published distribution sheets that include core courses, required electives, and related electives. The department provides its students with opportunities to work with modern technologies, software, data bases, and field methods. In addition to the traditional lecture, seminar, discussion, and laboratory courses, the department offers field courses designed to give practical experiences.

The Department of Earth Science has adopted a holistic philosophy of geography and the earth sciences that lays the foundation for interdisciplinary relationships. Traditional academic disciplines, such as physical geography, cultural geography, regional geography, and economic geography, or divisions such as meteorology, geomorphology, and hydrology, are presented in a manner that ties together information or principles from related disciplines. The goal of the department is to produce a well- rounded, well-trained individual who is ready for a professional career.

Programs

The department has five programs and, within those programs, nine study options. The Earth Science major has three study options: General, Meteorology, and Oceanography. There is a Geography major with three options: General, Applied, and Travel and Tourism. The Earth Science and Geography majors and options each have a common core of required courses. Finally, there are three single option majors: Geology, International Studies: Geography, and Parks and Recreation Management.

The department, in conjunction with the College of Education and Human Services, provides a teacher certification program for those interested teaching Earth Science in secondary schools. In order to be certified to teach in Pennsylvania, students must pass the NTE. Students interested in the latter should secure further information through the College of Education and Human Services. See also the section on General Science Certification and Comprehensive Social Studies in this catalog.

All majors stress the equal importance of general education and professional development. Field experiences and internships help the student to integrate classroom activities with "real world" experiences. This planned and progressive problem-solving approach is central to the educational program.

Honors

The national Earth Science honor society, Sigma Gamma Epsilon, has a chapter (AZ) on campus. Students recognized for their academic and professional achievements are elected to it. Honor students in Geography are eligible for induction into Gamma Theta Upsilon. Membership is also available to students of high scholastic attainment in the California University Chapter of Rho Phi Lambda Fraternity. Rho Phi Lambda is the professional honor society for parks and recreation majors.

Careers

A student who desires a professional career in the earth sciences or in geography in most instances will need to have an advanced degree. This is the case for such professions as geologist, meteorologist, hydrologist, climatologist, oceanographic technician, environmental geologist, regional planner, and cartographer. Undergraduates seeking employment, however, will find opportunities in businesses undertaking environmental assessments.

Students with undergraduate majors in Parks and Recreation Management or Travel and Tourism can enter the job market, in such positions as directors or staff persons in schools, governmental agencies (municipal and military, for example), industries or resorts with recreational programs or as travel managers, sales staff or meeting planners.

Faculty

Professor Lawrence L. Moses, chair; Professors William J. Procasky, Donald J. Thompson, Robert A. Vargo; Associate Professors Donald J. Conte, William A. Gustin, Anthony P. McGrew.

Bachelor of Science in Earth Science: General Option

Curriculum

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

(B) Area of Concentration: Common core courses include Astronomy (PHY 145), Introduction to Geology (EAS 150), Introduction to Oceanography (EAS 163), Historical Geology (EAS 200), Meteorology (EAS 241), General Chemistry I (CHE 101), General Physics I (PHY 121), Hydrology (EAS 202), Map Principles (GEO 110), College Algebra (MAT 181), or Technical Math I (MAT 182), and a field experience course (EAS).

31 credits of required electives from these four groups of earth science courses; a minimum of six credits must be taken from each group. At least 15 credits must be at the 300 level or above. Group I: Carbonate Geology (EAS 304), Mineralogy (EAS 331), Petrology (EAS 332), Micropaleontology (EAS 350), Sedimentology (EAS 421), Stratigraphy (EAS 422), Optical Mineralogy (EAS 430). Group II: Introduction to Environmental Geology (EAS 131), Climatology (EAS 242), Synoptic Meteorology (EAS 250), Dynamic Meteorology (EAS 342), Geomorphology, (EAS 343), Advanced Environmental Geology (EAS 541), Coastal Geomorphology (EAS 563), Physiography of the United States (GEO 520). Group III: Earth Resources (EAS 232), Structural Geology (EAS 425), Tectonics (EAS 527), Reservoir Evaluation (EAS 547). Group IV: Remote Sensing (EAS 255), Cartography (EAS 271), Computer Cartography (EAS 273), Field Mapping (EAS 372), Statistical Cartography (EAS 373), Map and Air Photo Interpretation (EAS 375), Quantitative Applications in Earth Science (EAS 528).

Any of the following courses will count as the field experience: Geology of Pennsylvania (EAS 166), Areal Geology (EAS 170), Field Work in Hydrology (EAS 302), Field Work in Meteorology (EAS 341), Field Mapping (EAS 372), Field Methods in Earth Sciences (EAS 436), Field Methods in Geology (EAS 437), Field Course in Earth Science (EAS 491), Field Course in Geology (EAS 492), Coastal Geomorphology (EAS 563), Field Methods in Geography (GEO 445), Field Course in Geography (GEO 491).

Bachelor of Science in Earth Science: Oceanography Option

Curriculum

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

(B) Area of Concentration: Common core courses include Astronomy (PHY 145), Introduction to Geology (EAS 150), Introduction to Oceanography (EAS 163), Historical Geology (EAS 200), Meteorology (EAS 241), General Chemistry I (CHE 101), General Physics I (PHY 121), Hydrology (EAS 202), Map Principles (GEO 110), College Algebra (MAT 181), or Technical Math I (MAT 182), and a field experience course (EAS).

12 credits of required oceanography courses: Micropaleontology (EAS 350), Sedimentology (EAS 421), Seminar in Oceanography (EAS 463), and Coastal Geomorphology (EAS 563), and 19 credits of related electives with consent of advisor.

Any of the following courses will count as the field experience: Geology of Pennsylvania (EAS 166), Areal Geology (EAS 170), Field Work in Meteorology (EAS 341), Geology of Pennsylvania (EAS 366), Field Mapping (EAS 372), Field Methods in Earth Sciences (EAS 436), Field Methods in Geology (EAS 437), Field Course in Earth Sciences (EAS 391), Field Course in Geology (EAS 492), Field Methods in Geography (GEO 445), Field Course in Geography (GEO 491).

Bachelor of Science in Earth Science: Meteorology Option

Curriculum

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

(B) Area of Concentration: Common core courses include Astronomy (PHY 145), Introduction to Geology (EAS 150), Introduction to Oceanography (EAS 163), Historical Geology (EAS 200), Meteorology (EAS 241), General Chemistry I (CHE 101), General Physics I (PHY 121), Hydrology (EAS 202), Map Principles (GEO 110), College Algebra (MAT 181), or Technical Math I (MAT 182), and a field experience course (EAS).

25 credits of required meteorological courses: Climatology (EAS 242), Synoptic Meteorology (EAS 250), Field Work in Hydrology (EAS 302), Field Work in Meteorology (EAS 341), Dynamic Meteorology (EAS 342), Seminar in Meteorology (EAS 464), Regional Climatology (EAS 550), General Physics II (PHY 122), plus an additional six credits of mathematics.

Any of the following courses will count as the field experience: Geology of Pennsylvania (EAS 166), Areal Geology (EAS 170), Field Mapping (EAS 372), Field Methods in Earth Sciences (EAS 436), Field Methods in Geology (EAS 437), Field Course in Earth Sciences (EAS 491), Field Course in Geology (EAS 492), Coastal Geomorphology (EAS 563), Field Methods in Geography (GEO 445), Field Course in Geography (GEO 491).

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

Curriculum

(A) General Education: 15 credits in Humanities, including Composition I-II (ENG 101, 102); nine credits in Natural Sciences, including a Biology, a Mathematics, and a Physical Science elective; nine credits in Social Sciences; three credits in Health or Physical Activities; Oral Communication (COM 101); General Psychology (PSY 100); nine credits of Free Electives.

(B) Professional Education: 77 credits total. 41 credits - Required: Educational Psychology (PSY 208), Policy Studies in American Ed. (EDF 290), Applied Instructional Technology (EDF 302), Problems of Secondary Education (EDS 300), Educational Tests and Measurements in Secondary Schools (EDS 430), Developmental Reading in Secondary Schools (EDS 465), Computers for Teachers (EDF 301), Teaching in a Multi-Cultural Society (EDU 210), Mainstreaming Exceptional Learners (EDU 340), Teaching of Science in Secondary Schools (EDS 467) or Modern Methods (EDS 455), Student Teaching and School Law (EDS 461).

Professional Specialization: 24 credits - Required: Introduction to Geology (EAS 150), Introduction to Oceanography (EAS 163), Meteorology (EAS 241), Astronomy (PHS 145), General Chemistry I (CHE 101), Pre-Calculus (MAT 199), General Physics I (PHY 121).

Restricted Electives: 12 credits to be chosen from the following: Environmental Geology (EAS 131), Physical Geography (EAS 160), Geology of Pennsylvania (EAS 166), Historical Geology (EAS 200), Hydrology (EAS 202), Earth Resources (EAS 232), Climatology (EAS 242), Synoptic Meteorology (EAS 250), Scenic Areas of the United States (EAS 264), Computer Cartography (EAS 273), Field Methods in Earth Science (EAS 436), Field Methods in Geology (EAS 437), Field Course in Earth Science (EAS 491), Field Course in Geology (EAS 492), Advanced Environmental Geology (EAS 541), Regional Climatology (EAS 550), Coastal Geomorphology (EAS 563), Map Principles (GEO 110), Physiography of the United States (GEO 520).

Pennsylvania Certification requires a passing grade on the NTE.

Bachelor of Arts in Geography: General Option

Curriculum

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

(B) Area of Concentration: 21 credits of Required courses: Human Geography (GEO 105), Map Principles (GEO 110), Physical Geography (EAS 160), Economic Geography (GEO 200), Urban Geography (GEO 210), Cartography (EAS 271) or Map and Air Photo Interpretation (EAS 375), and Seminar in Geography (GEO 493).

Restricted Electives - (24 credits). Six to be taken from the following list of Area Studies: Geography of U.S. and PA (GEO 220), Geography of Europe (GEO 325), Geography of Latin America (GEO 328), Geography of Russia (GEO 331). Nine to be taken from the following list of Cultural Geography Systematic courses: Demographic Analysis (GEO 217), Human Ecology (GEO 240), Marketing Geography (GEO 306), Geographic Information Systems (GEO 311), Historical Geography (GEO 340), Political Geography (GEO 345), Physiography of the U.S. (GEO 520). Nine to be taken from the following list of Earth Science Systematic courses: Hydrology (EAS 202), Earth Resources (EAS 232), Meteorology (EAS 241), Climatology (EAS 242), Remote Sensing (EAS 255), Computer Cartography (EAS 273), Geomorphology (EAS 343).

Related Electives - 18-23 credits must be taken with a minimum of three credits from each of the following areas. **Economics:** Current Economic Issues (ECO 200), Introductory Microeconomics (ECO 201), Introductory Macroeconomics (ECO 202), Money and Banking (ECO 304), International Economics (ECO 431), Economics of Growth and Development (ECO 433). **Political Science:** Politics of Western Europe (POS 210), Introduction to International Relations (POS 236), International Organizations (POS 237), Politics of Russia (POS 281), Politics of Asia (POS 325), Politics of Africa (POS 326). **Computer Science:** Statistics (MAT 215), Pascal (CSC 205), Cobol I (CSC 218), Computer Operations (CSC 300), Info. Structures (CSC 377). **English:** Great Books (ENG 203), Business Writing I (ENG 211), Romantic Literature (ENG 341), American Literature to 1865 (ENG 365), 1865 - WWI (ENG 366), WWI to Present (ENG 367). **History:** Expansion of American Foreign Policy (HIS 215), History of England (HIS 216), History of Contemporary Europe (HIS 225), History of Urban America (HIS 236). **Sociology:** Contemporary Social Problems (SOC 205), Urban Sociology (SOC 235), Social Institutions (SOC 240), Crime (SOC 260).

Bachelor of Arts in Geography: Applied Option

Curriculum

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

(B) Area of Concentration: 33 credits of REQUIRED courses: Human Geography (GEO 105), Map Principles (GEO 110), Physical Geography (EAS 160), Economic Geography (GE0 200), Urban Geography (GE0 210), Remote Sensing (EAS 255), Cartography (EAS 271), Computer Cartography (EAS 273), Geographic Information Systems (GEO 311), Statistical Cartography (EAS 375), and Map and Air Photo Interpretation (EAS 375).

Restricted Electives: 18 credits: Introduction to Micro Computer Applications Software (CSC 101), Statistics (MAT 215), Scientific and Technical Writing (ENG 317), plus nine credits to be taken from the following list of Earth Sciences and Geography Systematic courses: Field Work in Hydrology (EAS 302), Field Work in Meteorology (EAS 341), Field Mapping (EAS 372), Field Methods in Earth Science (EAS 436), Field Methods in Geology (EAS 437), Seminar in Oceanography (EAS 463), Seminar in Meteorology (EAS 464), Field Course in Earth Science (EAS 491), Quantitative Applications in Earth Science (EAS 528), Demographic Analysis (GEO 217), Marketing Geography (GEO 306), Land Use Analysis (GEO 317), Political Geography (GEO 345), Field Methods in Geography (GEO 445), Field Course in Geography (GEO 491).

Related Courses: 17 credits at the 200 level and above, chosen with the advisor's approval, that will complement the student's goals and career aspirations.

Bachelor of Arts in Geography: Travel and Tourism Option

Curriculum

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

(B) Area of Concentration: 30 credits of REQUIRED courses: Map Principles (GE0 110), Survey of Travel and Tourism (GEO 150), World Cities/Geography of Urban Tourism (GEO 205), Retail Travel (GEO 285), Systems Applications for Travel Industry (GEO 350), Comprehensive Travel Planning (GEO 358), Corporate Travel Operations (GEO 425), Introduction to Business (BUS 100), Oral Communication: Management (COM 250), and Business Writing I (ENG 211).
38 credits of TRAVEL AND TOURISM ELECTIVES. A minimum of six credits must be taken from each of the following four groups. At least 15 of the credits must be at the 300 level or above. **Group I:** Art History I (ART 102), Art History II (ART 103), Art History III (ART 104), Art Appreciation (ART 106), Human Geography (GEO 105), Historical Geography (GEO 340), Introduction to Music (MUS 100), Survey 20th Century Music (MUS 106), Survey American Musical (MUS 203). **Group II:** Climatology (EAS 242), Scenic Areas of the U.S. (EAS 264), Scenic Areas of the World (EAS 270), Geography of Europe (GEO 325), Geography of Russia (GEO 331), Political Geography (GEO 345), Seminar in Geography (GEO 493), Politics of Soviet Union (POS 281). **Group III:** Group Discussion: Management (COM 102), International Economics (ECO 431), Introduction to Finance (FIN 201), Hospitality Industry and Operations (GEO 155), Economic Geography (GEO 200), Urban Geography (GEO 210), Marketing Geography (GEO 306), Site Planning and Design (GEO 362), Meeting and Convention Planning (GEO 363), Developing and Management of Leisure Enterprise (GEO 374), Recreation Industry Management (GEO 378), Program Planning and Administration (GEO 412), Developing the Master Plan (GEO 474), Principles of Management (MGT 201), Principles of Selling (MKT 222), Principles of Marketing (MKT 301). **Group IV**: French I (FRE 101), French II (FRE 102), Intermediate French I (FRE 203), German I (GER 101), German II (GER 102), Intermediate German I (GER 203), Spanish I (SPN 101), Spanish II (SPN 102), Intermediate Spanish I (SPN 203). This program permits a student to take an internship (GEO 479) for 3-12 credits to be used as electives. Requires advisor's approval.

Bachelor of Science in Geology

Curriculum

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

(B) Area of Concentration: 68 credits. Required Courses - 35 credits are: Introduction to Geology (EAS 150), Historical Geology (EAS 200), Hydrology (EAS 202), Mineralogy (EAS 331), Petrology (EAS 332), Geomorphology (EAS 343), Sedimentology (EAS 421), Stratigraphy (EAS 422), Structural Geology (EAS 425), Tectonics (EAS 527), an earth science field experience to be chosen from the following list: Field Work in Hydrology (EAS 302), Field Work in Meteorology (EAS 341), Field Mapping (EAS 372), Field Methods in Earth Science (EAS 436), Field Methods in Geology (EAS 437), Field Course in Earth Science (EAS 491), Field Course in Geology (EAS 492);
Other required - 16 credits: General Chemistry I-II (CHE 101, 102), General Physics I-II (PHY 121, 122), nine credits of Math/Computer Science; and eight credits of related electives both with consent of advisor.

Bachelor of Arts in International Studies: Geography

The International Studies Program is administered by the Department of Foreign Languages and Cultures. The Department of Earth Science supervises students who pursue the geography option in that major.

Curriculum

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

(B) Area of Concentration: Geography, 21 credit hours: Economic Geography (GEO 200); Urban Geography (GEO 210); Demographic Analysis (GEO 217); Political Geography (GEO 345); Geography of Europe (GEO 325); Geography of Latin America (GEO 328); and one additional geography class to be chosen from the following list: Geography of U.S. and PA (GEO 220), Geography of Europe (GEO 325), Geography of Latin America (GEO 328, Geography of Russia (GEO 331). Languages, 21 credit hours: Intermediate I-II (203, 204); Conversation, Composition and Phonetics I-II (311, 312); Culture courses, nine credit hours: to include culture courses from the Foreign Language Department.

Related Electives: 21 credits. A minimum of three credits to be chosen from the following list of Economics/Management courses: Current Economic Issues (ECO 200), Money and Banking (ECO 304), Comparative Econ. Systems (ECO 351), International Economics (ECO 431), Economics of Growth & Dev. (ECO 433). A minimum of three credits to be chosen from the following list of History courses: Expansion of American Foreign Policy (HIS 215), History of Contemporary Europe HIS 225), History of Eastern Europe (HIS 230), History of the Cold War (HIS 240), History of Russia (HIS 245). A minimum of three credits to be chosen from the following list of English courses: Great Books (ENG 203), World Lit to 1600 (ENG 205), World Lit after 1600 (ENG 206), Business Writing I (ENG 211), English Lit. I (ENG 301), English Lit. II (ENG 302), 19th Century Amer. Literature (ENG 303), 20th Century Amer. Lit. (ENG 304). A minimum of three credits to be chosen from the following list of Political Science courses: American Foreign Policy (POS 207), Politics of Western Europe (POS 210), Intro to Public Administration (POS 220), Intro to International Relations (POS 236), International Organization (POS 237), Politics of the Developing Areas (POS 270), Politics of Russia (POS 281), Presidency (POS 310), Politics of Africa (POS 326). A minimum of three credits to be chosen from the following list of Mathematics courses: Struct. Prog. with PASCAL (CSC 205), COBOL I (CSC 218), Computer Operations (CSC 300), Information Structures (CSC 377), Statistics (MAT 215). A minimum of three credits to be chosen from the following list of Psychology courses: Social Psychology (PSY 320), Industrial Psychology (PSY 326), Psychology of Personality (PSY 405). A minimum of three credits to be chosen from the following list of Philosophy courses: Formal Logic I (PHI 211), Ethics (PHI 220), Social and Political Philosophy (PHI 225), Science, Technology and Society (PHI 247), Philosophy of Marxism (PHI 270), Ethical Theory (PHI 320), Philosophy of Mind (PHI 415), Analytical Philosophy (PHI 431). Five additional credits of related electives (can include an internship) to be chosen from the following Business courses: Federal Income Tax I (ACC 218), Investments (FIN 305), Insurance & Risk Mgt. (FIN 341), Principles of Selling (MKT 222), Marketing Research (MKT 431); from the following Social Science courses: Culture Change and Culture Shock (ANT 250), World Ethnology (ANT 255), Origins of Man (ANT 285), Social Stratification (SOC 210), Urban Sociology (SOC 235); and from the following Communication courses: Persuasion (COM 350), Argumentation and Debate (COM 230).

Bachelor of Arts in Parks and Recreation Management

Curriculum

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

(B) Area of Concentration: 68 credits. Core Courses: 21 credits to include: Map Principles (GEO 110), Economic Geography (GEO 200), Site Planning and Design (GEO 362), Developing and Managing Leisure Enterprise (GEO 374), Recreation Industry Management (GEO 378), Program Planning and Administration (GEO 412), Developing the Master Plan (GEO 474).
Required Electives: 12 credits to be chosen from the following: Introduction to Business (BUS 100), Oral Communication Management (COM 250), Business Writing I (ENG 211), Human Geography (GEO 105), Geographic Information Systems (GEO 311), Land Use Analysis (GEO 317), Principles of Management (MGT 201), Municipal Government (POS 205), Introduction to Public Administration (POS 220), Industrial Psychology (PSY 209).

Restricted Electives: 12 credits to be selected from the following groups. **Geography:** Survey of Travel and Tourism (GEO 150), Hospitality Industry and Operations (GEO 155), World Cities (GEO 205), Urban Geography (GEO 210), Demographic Analysis (GEO 217), Marketing Geography (GEO 306), Urban Transport (GEO 315), Political Geography (GEO 345), Comprehensive Travel Planning (GEO 358), Physiography of the U.S. (GEO 520); **Social Work:** Intro. to Social Work (SOW 150), Minority Group Relations. (SOW 208), Juvenile Delinquency (SOW 265), Human Sexuality/ Society (SOW 303), Policy Analysis/Service (SOW 366); **Marketing:** Principles of Marketing (MKT 301), Marketing for Non-Profit Org. (MKT 341); **Sociology:** Cont. Social Problems (SOC 205), The Family (SOC 220), Sociology of Aging (SOC 225), Urban Sociology (SOC 235), Crime (SOC 260); **Environmental Studies:** Princ. of Wildlife Mgmt. (ENS 420), Wildlife Mgmt. Tech. (ENS 423). **Biology:** Basic Care of Plants (BIO 104), Conserv. of Bio. Res. (BIO 206); **Athletic Training:** Human Anatomy Ext. I (ATE 200), Athletic Training I (ATE 220), Nutrition for Sports (ATE 240); **Psychology:** Child Psychology (PSY 205), Adol. Psychology (PSY 206), Ind. Psychology (PSY 209), Soc. Psychology (PSY 211); **Gerontology:** Intro. to Gerontology (XGE 101), Aging in Am. Soc. (XGE 102), Aging Policy & Svc. (XGE 201), Biology of Aging (XGE 204); **Theatre:** Voice and Speech (THE 101); **Business:** Intro. to Business (BUS 100), Business Law I (BUS 242); **Economics:** Elements of Econ. (ECO 100); **Accounting:** Accounting I (ACC 201), Non-Profit Account. (ACC 341); **Political Science:** Intro. to Political Science (POS 100), American National Government (POS 105), Public Administration (POS 220), Municipal Government (POS 205), Intro. to Public Policy (POS 300); **Finance:** Insurance Risk and Management (FIN 341); **Math/Computer Science:** Basic Programming Language (MAT 105), Prob. Solv/Prog. Const. (MAT 120), Math of Finance I (MAT 171), College Algebra (MAT 181), Statistics (MAT 215), Business Statistics (MAT 225); **Communication:** Group Discussion-Mgmt. (COM 102), Argument/Debate (COM 230), Oral Communication-Mgmt. (COM 250), Persuasion (COM 350); **Health & Physical Education:** First Aid/Personal Safety (HPE 314); **Management:** Principles of Management (MGT 201), Small Business Funds (MGT 205), Comp. App. in Business I (MGT 271), Organization Behavior (MGT 301), Small Business Management (MGT 305), Human Resources Management (MGT 352), Labor Relations (MGT 362); **English:** Journalism I (ENG 167), Business Writing I (ENG 211), Business Writing II (ENG 212); **Earth Sciences:** Intro to Geology (EAS 150), Physical Geography (EAS 160), Meteorology (EAS 241), Climatology (EAS 242), Scenic Areas of the United States (EAS 264), Scenic Areas of the World (EAS 270), Cartography (EAS 271), Field Mapping (EAS 371).
Related electives: 23 credits. Internship: 0 to 12 credits.

Minors

Earth Science Concentration

Required: EAS 150 Introduction to Geology, EAS 200 Historical Geology, EAS 436 Field Methods III in Earth Science, EAS 541 Advanced Environmental Geology.
Electives: Select three from the following: EAS 163 Introduction to Oceanography, EAS 202 Hydrology, EAS 241 Meteorology, EAS 242 Climatology

Geology Concentration

Required: EAS 150 Introduction to Geology , EAS 200 Historical Geology, EAS 331 Mineralogy or EAS 421 Sedimentology, EAS 343 Geomorphology or EAS 437 Field Methods III in Geology, EAS 425 Structural Geology or EAS 527 Tectonics, EAS 437 Field Methods III in Geology or EAS 492 Field Course in Geology, EAS 541 Advanced Environmental Geology

Geography Concentration

Required: GEO 311 Geographic Information Systems or GEO 317 Land Use Analysis, GEO 325 Geography of Europe, GEO 345 Political Geography.

Electives: Select four of the following: GEO 100 Introduction to Geography, GEO 105 Human Geography, GEO 200 Economic Geography, GEO 210 Urban Geography, GEO 220 Geography of the US and PA.

EDUCATIONAL STUDIES

Purpose

The Educational Studies Department is responsible for the Secondary Education Program at the undergraduate level, the Principals Program and the Superintendents Program at the graduate level, and professional courses in the College of Education and Human Services and in the Graduate School.

The department is committed to educational reform and works in partnerships with a number of public schools. Through field experiences and student teaching, Secondary Education majors are expected to become involved in these teaching centers and in the activities of the department.

All programs in the department are engaged in professional development. Periodic reviews of student progress including board review are part of that professional preparation as are long–term personal/professional relationships.

Programs

Secondary certification is offered in Biology, Chemistry, Communication* (with a concentration in either Speech or Theater), Comprehensive Social Studies, Earth Science, English*, Environmental Education, General Science, Mathematics, Modern Foreign Languages (French, German, and Spanish), and Physics. The curriculum for each certification program is listed in the description of the department which offers the academic area for that program.

*Communication and English certifications allow teaching in both areas.

Additional opportunities are available. Athletic Training may be combined with certification in an academic area. Technology Education is offered through the Department of Industry and Technology. Art certification is available through a cooperative agreement with other area colleges. These opportunities are described more fully in the description of the department offering these majors.

Individuals with bachelor's degrees may become certified through the Certification Only Program taking those courses required for public school certification.

Secondary Education Majors are advised both in the department and in their academic area.

All Pennsylvania teachers must pass the National Teachers Examination (NTE). A grade point average of 2.5 must be maintained both overall and in the academic specialization in order to student teach.

Faculty

Professor David Campbell, chair; Professors Dilawar Mumby Edwards, George J. Frangos, Lizbeth A. Gillette; Associate Professors John C. Black, Henry A. Huffman, John R. Young; Assistant Professor: Keith D. Hepner

Elementary/Early Childhood Education

Purpose

The Elementary/Early Childhood Education Department seeks to have students acquire the knowledge, skills, and attitudes essential to becoming successful members of the teaching profession. All course work and experiences in the major prepares students to meet the following standards:

1. Knowledge of subject matter
2. Knowledge of human development and learning
3. Adapting instruction for individual needs
4. Multiple instructional strategies
5. Classroom motivation and management skills
6. Communication skill
7. Instructional planning skills
8. Assessment of student learning
9. Professional commitment and responsibility
10. Partnerships

Programs

The Elementary/Early Childhood Education Department offers four majors: Early Childhood Education, Elementary Education, Elementary/Middle School Education, and Early Childhood/Elementary Education. The department also offers an Associate Degree in Early Childhood Education.

The Elementary/Early Childhood and Special Education Departments together offer two dual majors: Elementary/Special Education and Early Childhood/Special Education.

See also: Special Education in this catalog, for dual majors in Early Childhood and Special Education and in Elementary Education and Special Education.

The College of Education is recognized by the National Council for Accreditation of Teacher Education. The Placement and Career Services Office aids students seeking teaching positions locally and out-of-state.

Honor Society

Kappa Delta Pi, an international honor society in education, has a California University chapter. Students in education who have demonstrated a high level of academic achievement are invited to apply for induction.

Careers

It is predicted that more than two million public school teachers will retire by the year 2000. The future looks bright for those students interested in a career in early childhood, elementary, or middle school education. Students with undergraduate degrees in these fields are prepared to pursue advanced study in a variety of disciplines.

Admission to the Program

Students in all curricula must maintain a 2.5 Quality Point Average and achieve a satisfactory score on the General Knowledge and Communication Skills tests of Praxis II: Core Battery, a National Teacher Exam.

Faculty

Professor Richard M. Wyman, Jr., chair; Professor Elwin Dickerson, assistant chair; Professors M.E. Aiken, Dorothy M. Campbell, Ronald A. Christ, Pamela B. Cignetti, Gary W. Kennedy, J. G. Martin, Phyllis S. McIlwain, Beverly J. Melenyzer, Diane H. Nettles, Anthony J. Saludis, Caryl J. Sheffield, John Shimkanin, Jannene Southworth; Associate Professor John R. Vargo.

Bachelor of Science in Education: Early Childhood Education (129 crs.)

Curriculum

(A) General Education (51 crs.): 18 credits in Humanities (including English Comp I, English Comp II, Oral Communication, Art History or Art Appreciation, Literature or Culture, and Music or Philosophy): 15 credits in Natural Sciences (including six credits in Mathematics), Biological Science, Physical Science and Environmental Science), 15 credits in Social Sciences (including Geography, American Government, US History, Economics and General Psychology), three credits in Health and Physical Activities.

(B) Professional Education (33 crs.): Policy Studies for American Education (EDF 290), Computers for Teachers (EDF 301), Teaching in a Multicultural Society (EDU 210), Educational Psychology (PSY 208), Child Psychology (PSY 205), Applied Instructional Technology (EDF 302), Mainstreaming Exceptional Learners (EDU 340), Student Teaching (EDE 461).

(C) Professional Specialization (33 crs.): Field Experience with Infants, Toddlers, and Preschoolers (ECE 203), Instructional Strategies in Elementary and Early Childhood Education (EDE 211), Children's Literature (EDE 311), Mathematical Content in Early Childhood (ECE 315), Early Childhood Education Seminar (ECE 405), Field Experiences Elementary School (EDE 321), Emerging Literacy (ECE 302), Thematic Teaching in Early Childhood (ECE 304), Parent and Community Involvement in Education (ECE 319), Assessing Children's Performance (EDE 450), Elective in Elementary/ Early Childhood.

(D) Area of Concentration: (12 credits in one selected area; six credits must be 300-400 level)

- Humanities: Language, Cultures, Literature, Philosophy, Fine Arts
- Natural Sciences: Mathematics, Biology, and Physical Science
- Social Sciences: History, Political Science, Sociology, Anthropology, Psychology, and Economics
- Technology/Computer Science: Computer Science and Technology courses
- Health Education: Health, Safety, and First Aid
- Community and Family: Parenting, Sociology, Anthropology, Psychology, Social Work

Bachelor of Science in Education: Elementary Education (129 crs.)

Curriculum

(A) General Education (51 crs.): 18 credits in Humanities (including English Composition I, English Composition II, Oral Communication, Art History or Art Appreciation, Literature or Culture, and Music or Philosophy); 15 credits in Natural Sciences (including six credits in Mathematics), Biological Science, Physical Science and Environmental Science), 15 credits in Social Sciences (including Geography, American Government, US History, Economics and General Psychology), three credits in Health and Physical Activities.

(B) Professional Education (33 crs.): Policy Studies for American Education (EDF 290), Computers for Teachers (EDF 301), Teaching in a Multicultural Society (EDU 210), Educational Psychology (PSY 208); Child Psychology (PSY 205), Applied Instructional Technology (EDF 302), Mainstreaming Exceptional Learners (EDU 340), Student Teaching (EDE 461).

(C) Professional Specialization (33 crs.): Instructional Strategies in Elementary and Early Childhood Education (EDE 211), Language and Literacy in the Elementary School I (EDE 300), Mathematical Content and Method in the Elementary School (EDE 305), Teaching of Social Studies for Elementary Grades (EDE 306), Science for the Elementary School (EDE 307), Children's Literature (EDE 311) Field Experiences Middle School (EDE 320), Field Experiences Elementary School (EDE 321), Language and Literacy in the Elementary School II (EDE 340), Assessing Children's Performance (EDE 450), Parent and Community Involvement in Education (ECE 319).

(D) Area of Concentration: (12 credits in one selected area; six credits must be 300-400 level)

- Humanities: Language, Cultures, Literature, Philosophy, Fine Arts
- Natural Sciences: Mathematics, Biology, and Physical Science
- Social Sciences: History, Political Science, Sociology, Anthropology, Psychology, and Economics
- Technology/Computer Science: Computer Science and Technology courses
- Health Education: Health, Safety, and First Aid

Bachelor of Science in Education: Elementary/Middle School Education (134 crs.)

Curriculum

(A) General Education (51 crs.): 18 credits in Humanities (including English Composition I, English Composition II, Oral Communication, Art History or Art Appreciation, Literature or Culture, and Music or Philosophy); 15 credits in Natural Sciences (including six credits in Mathematics), Biological Science, Physical Science and Environmental Science), 15 credits in Social Sciences (including Geography, American Government, US History, Economics and General Psychology), three credits in Health and Physical Activities.

(B) Professional Education (33 crs.): Policy Studies for American Education (EDF 290), Computers for Teachers (EDF 301), Teaching in a Multicultural Society (EDU 210), Educational Psychology (PSY 208); Child Psychology (PSY 205), Applied Instructional Technology (EDF 302), Mainstreaming Exceptional Learners (EDU 340), Student Teaching (EDE 461).

(C) Professional Specialization (38 crs.): Instructional Strategies in Elementary and Early Childhood Education (EDE 211), Language and Literacy in the Elementary School I (EDE300), Mathematical Content and Method in the Elementary School (EDE 305), Teaching of Social Studies for Elementary Grades (EDE 306), Science for the Elementary School (EDE 307), Children's Literature (EDE 311), Parent and Community Involvement in Education (ECE 319), Field Experiences Middle School (EDE 320), Field Experiences Elementary School (EDE 321), Teaching in the Middle School (EDE 330), Language and Literacy in the Elementary School II (EDE 340), Assessing Children's Performance (EDE 450), Reading in Secondary Schools (EDS 461).

(D) Area of Concentration: (12 credits in one selected area; six credits must be 300-400 level)

- Humanities: Language, Cultures, Literature, Philosophy, Fine Arts
- Natural Sciences: Mathematics, Biology, and Physical Science
- Social Sciences: History, Political Science, Sociology, Anthropology, Psychology, and Economics
- Technology/Computer Science: Computer Science and Technology courses
- Health Education: Health, Safety, and First Aid

Bachelor of Science in Education: Early Childhood/ Elementary Education (135 crs.)

Curriculum

(A) General Education (51 crs.): 18 credits in Humanities (including English Composition I, English Composition II, Oral Communication, Art History or Art Appreciation, Literature or Culture, and Music or Philosophy); 15 credits in Natural Sciences (including six credits in Mathematics), Biological Science, Physical Science and Environmental Science), 15 credits in Social Sciences (including Geography, American Government, US History, Economics and General Psychology), three credits in Health and Physical Activities.

(B) Professional Education (33 crs.): Policy Studies for American Education (EDF 290), Computers for Teachers (EDF 301), Teaching in a Multicultural Society (EDU 210), Educational Psychology (PSY 208): Child Psychology (PSY 205), Applied Instructional Technology (EDF 302), Mainstreaming Exceptional Learners (EDU 340), Student Teaching (EDE 461).

(C) Professional Specialization (45 crs): Instructional Strategies in Elementary and Early Childhood Education (EDE 211), Children's Literature (EDE 311), Mathematical Content and Methods in the Elementary School (EDE 305), Teaching of Social Studies for Elementary Grades (EDE 306), Science for the Elementary School (EDE 307), Field Experiences with Infants, Toddlers, and Preschoolers (EDE 203), Emerging Literacy (ECE 302), Thematic Teaching in Early Childhood (ECE 304), Mathematical Content in Early Childhood (ECE 315), Parent and Community Involvement in Education (ECE 319), Early Childhood Education Seminar (ECE 405), Assessing Children's Performance (EDE 450), Language and Literacy in the Elementary School I (EDE 300), Language and Literacy in the Elementary School II (EDE 340), Field Experiences Elementary School (EDE 321).

(D) Area of Concentration: (six credits in one selected area)

- Humanities: Language, Cultures, Literature, Philosophy, Fine Arts
- Natural Sciences: Mathematics, Biology, and Physical Science
- Social Sciences: History, Political Science, Sociology, Anthropology, Psychology, and Economics
- Technology/Computer Science: Computer Science and Technology courses
- Health Education: Health, Safety, and First Aid
- Community and Family: Parenting, Sociology, Anthropology, Psychology, Social Work

Associate of Science in Early Childhood Education (72 crs.)

Curriculum

(A) General Education (24 crs.): nine credits in Humanities (including English Composition I, Oral Communication, and Art History or Art Appreciation or Literature or Culture or Music or Philosophy): six credits in Natural Sciences (including Mathematics and Biological Science or Physical Science), six credits in Social Sciences (including General Psychology, and Geography or American Government or US History or Economics), three credits in Health and Physical Activities.

(B) Professional Education (15 crs.): Computers for Teachers (EDF 301), Teaching in a Multicultural Society (EDU 210), Educational Psychology (PSY 208); Child Psychology (PSY 205), Applied Instructional Technology (EDF 302).

(C) Professional Specialization (21 crs.): Instructional Strategies in Elementary and Early Childhood Education (EDE 211), Children's Literature (EDE 311), Assessing Children's Performance (EDE 450), Field Experiences with Infants, Toddlers, and Preschoolers (EDE 203), Emerging Literacy (ECE 302), Thematic Teaching in Early Childhood (ECE 304), Parent and Community Involvement in Education (ECE 319).

(D) Area of Concentration: (12 credits in one selected area)

Humanities: Language, Cultures, Literature, Philosophy, Fine Arts

Natural Sciences: Mathematics, Biology, and Physical Science

Social Sciences: History, Political Science, Sociology, Anthropology, Psychology, and Economics

Technology/Computer Science: Computer Science and Technology courses

Health Education: Health, Safety, and First Aid

Community and Family: Parenting, Sociology, Anthropology, Psychology, Social Work

Prerequisites for all EDE (except EDE 100) and ECE courses include completion of 48 college or university credits with a minimum 2.5 Q.P.A., and achievement of a satisfactory score on the General Knowledge and Communication Skills tests of Praxis II: Core Battery.

ENGLISH

Purpose

English is a comprehensive discipline. Its scope encompasses a study of the evolution of the language itself, the various types of writing, the literature in English (poetry, drama, fiction, and essay regardless of national origin), and the comparative study of literature.

As a course of study, English enables people to express themselves clearly and to read their ideas and those of others in an appreciative and critical manner. The ideas expressed are boundless, the content emotive as well as rational.

What is written is a personal and social record of the struggle to create meaning. Insight into the past and present creates a common core of ideas to be considered by scholars in many disciplines.

Language competency is essential to the exchange of ideas, the successful completion of course work and meaningful employment. To insure that students will develop their language skills and will have the means to meet these expectations, the university requires that all entering students take the English placement examination.

Initial course placement is based on the results of that examination. Placement into either English Language Skills (ENG 100) or Composition I (ENG 101) depends on the results of this holistically scored writing sample.

Since college performance incorporates the ability to express ideas clearly, all students are encouraged to take the two composition courses during their first semesters. Furthermore, all students must take three writing component courses prior to graduation. A list of approved courses can be secured from the College of Liberal Arts.

Programs

The English major has seven options or areas of specialization. They are the general English program; five options in the Professional Writing Program: Business and Commercial Writing, Creative Writing, Radio–Television Media, Scientific and Technical Writing and Journalism; and, for persons who want to teach English or to teach in an allied area, secondary school certification in English, in Theater and in Communication are offered in cooperation with the College of Education and Human Services.

A well developed internship system supports classroom studies in the Professional Writing Program. Depending upon the Professional Writing option undertaken, a student may take as many as sixteen credits of internship experience. Policies and procedures regarding internships can be secured from the departmental office or faculty internship supervisor.

Honor Society

Sigma Tau Delta is the National English Honor Society. The California University chapter, Delta Theta, was chartered in 1959 and is the oldest chapter in the Pennsylvania State System of Higher Education. Membership in Sigma Tau Delta is open not only to English majors, but also to all those who have English as an interest, provided they have at least a 3.0 average in their English courses, rank in the highest 35% of their class in general scholarship, have completed at least three semesters of college, and have completed at least two courses in literature in addition to freshman English.

Awards

The English Department encourages and rewards academic achievement in several ways.

The Eleanore C. Hibbs Writing Award is given annually to one student each in Composition I and 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 two winners receive $150 prizes plus certificates of merit, both awarded at a luncheon in May.

The Minor W. Major Award is given annually to a junior who has achieved distinction in the study of English. The award is based on merit alone. 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, named for Dr. Minor W. Major, late professor of English, includes a certificate of merit and cash.

The English Faculty Award is given annually to the student in English whose development has been most noteworthy over four years. The recipient receives a certificate of merit and an inscribed book, awarded at the senior dinner in May.

Careers

Besides preparing the graduate for graduate work in English and American literature, English education, linguistics, library work, law, and a number of other fields, the English program offers career opportunities in such positions as secondary school teacher, newspaper reporting, magazine editing, creative writing, public information, advertising, copywriting, communications, proof reading, and radio and television editing.

Faculty

Professor Pratul Pathak, chair; Associate Professor Madeline C. Smith, assistant chair; Professors Edward J. Chute, Philip Y. Coleman, Robert W. Dillon, Sr., Jack Goodstein, John M. Hanchin, Madelon Jacoba, Robert A. Korcheck, Frederick S. Lapisardi, William M. Murdick, Horace S. Rockwood, Charles R. Thomas; Associate Professors Bernard J. DeFilippo, Gene Patrick Halboth, Patricia Hartman, William Hendricks, Lisa M. Schwerdt, Carole Waterhouse, William Yahner; Assistant Professors William J. Beardsley, William K. Bennett, Ronald L. Forsythe, Judith A. Good, Robert H. Grimes, James T. McVey, J. Alan Natali.

Bachelor of Arts in English

The liberal arts English program provides not only an extensive introduction to literature, but also offers sufficient flexibility for students to shape emphasis within the study of literature and language.

Curriculum

(A) General Education: Composition I–II (ENG 101, 102), 12 credits of Humanities, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration: English Literature I–II (ENG 301 and 302), American Literature to 1865, American Literature 1865 to WWI, American Literature from WWI (ENG 365, 366, and 367), Chaucer (ENG 415) or Milton (ENG 427) or Survey of Old and Middle English Literature (ENG 310), Shakespeare (ENG 425), History of Literary Criticism (ENG 348) or Practical Criticism (ENG 448), Introduction to Linguistics (ENG 347) or History of the English Language (ENG 346) and 12 credits of 300–400 level English courses.
Related Courses: 30 credits, at least 15 of which must be in a related discipline approved by the advisor and at least 15 of which must be at the 200 level or above.

Professional Writing Program

Within the context of a liberal education, the professional writing program offers students preparation for careers in writing, editing, and publishing.

Curriculum

General Education: Composition I–II (ENG 101, 102), 12 credits of Humanities, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

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 167), Research for Writers (ENG 308), Publishing the Magazine (ENG 351), Writing for Publication (ENG 496).
Nine credits of restricted electives (three of the following courses): Studies in Writing (ENG 352), Article Writing (ENG 435), Journalism II (ENG 169) and III (ENG 312), Copywriting (ENG 401), Directed Projects in English (ENG 478), English Grammar and Usage (ENG 345).
21 credits of related courses: Introduction to Business (BUS 100), Accounting I (ACC 201), Introductory Microeconomics (ECO 201), Introductory Macroeconomics (ECO 202), Principles of Marketing (MKT 301), Principles of Selling (MKT 222), Principles of Management (MGT 201).
11 credits of 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 restricted elective courses: Great Books (ENG 203), Adaptation of Literary Materials (ENG 430), Creative Writing: Drama (ENG 378), Business Writing I (ENG 211), Scientific and Technical Writing (ENG 217), Advertising (ENG 437), Journalism I (ENG 167), Creative Writing: Fiction (ENG 376) or Poetry (ENG 377), Copywriting (ENG 401).

Thirty-two credits of electives drawn from literature (300 level and beyond), linguistics, speech, foreign languages, and theater, including 12 hours of electives from any one area. As many as 16 credits may be internship credits.

Emphasis on Journalism

Area of Concentration: Word Processing (ENG 151), Journalism I (ENG 167) and Journalism II (ENG 169) and Journalism III (ENG 312), Press Law and Ethics (ENG 306), American Journalism (ENG 254), Newspaper Reporting I (ENG 334), Writing for Publication (ENG 496). Six of the following: Research for Writers (ENG 308), Article Writing (ENG 435), Studies in Writing (ENG 352), Newspaper Reporting II (ENG 335), Publishing the Magazine (ENG 351), Sportswriting I (ENG 313), Sportswriting II (ENG 314), Advertising (ENG 437). Twelve credits in a related discipline, 16 credits in internship or related electives.

Emphasis on Radio–Television Media

Area of Concentration: Writing core: Advanced Writing (ENG 375), Journalism I (ENG 167), Research for Writers (ENG 308), Article Writing (ENG 435), Directed Projects in English (ENG 478), Adaptation of Literary Materials (ENG 430), Writing for Publication (ENG 496).
Media Core: Introduction to Television Production (COM 240), Introduction to Radio Production (COM 245), Radio and Television Writing: News and Commercials (COM 332), Radio and Television Writing: Drama (COM 335), Radio Workshop I (COM 196) and II (COM 296) and III (COM 396) or Television Workshop I (COM 195) and II (COM 295) and III (COM 395).
Six to 15 credits of writing electives from among: Playwriting (THE 250), Journalism II (ENG 169) and III (ENG 312), Creative Writing: Drama (ENG 378), Advertising (ENG 437), and Business Writing I (ENG 211). Six to 12 credits of media electives from among: Radio and Television Announcing (COM 246), Appreciation of Television (COM 270), Advanced Television Production (COM 340), and Special Problems in Speech Communication (COM 429). Three to 15 credits of literature electives from among: Great Books (ENG 203), Shakespeare (ENG 425), Studies in Drama (ENG 488), Shakespeare in the Theater (THE 305), World Drama (THE 304), Dramatic Theory and Criticism (THE 400), or other advanced literature courses.

Emphasis on Scientific and Technical Writing

Area of Concentration: Writing Core: Advanced Writing (ENG 375), Journalism I (ENG 167), Scientific and Technical Writing I (ENG 217), Scientific and Technical Writing II (ENG 218), Publishing the Magazine (ENG 351), Article Writing (ENG 435), Research for Writers (ENG 308), Studies in Writing (ENG 352), Writing for Publication (ENG 496), Literature Core: Six credits from among Great Books (ENG 203), English Literature I (ENG 207) and English Literature II (ENG 208), American Literature 1865 to WWI (ENG 366), American Literature from WWI (ENG 367). Restricted Electives: 14 credits from among English Grammar and Usage (ENG 345), Journalism II (ENG 169), Advertising (ENG 437), Copywriting (ENG 401), Business Writing I (ENG 211), Directed Projects in English (ENG 478). three to eight credits of literature electives, and a three to 11 credit internship. 21 credits of scientific or technical courses with 15 credits in one discipline code.

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

This program provides the background and certification required for a beginning public school English teacher.

Curriculum

(A) General Education: Humanities (15 credits minimum) including Composition I (ENG 101), Composition II (ENG 102), Theater Course, World Literature to 1600 (ENG 205) or World Literature since 1600 (ENG 206), Natural Science (nine credits minimum), Social Science (nine credit minimum), Health or Physical Activities (three credit minimum), Oral Communication (COM 101), General Psychology (PSY 101).

(B) Professional Education: (41 credits). Applied Instructional Technology (EDF 302), Policy Studies in American Education (EDF 290), Educational Psychology (PSY 208), Problems of Secondary Education (EDS 300), Educational Tests and Measurements in Secondary Schools (EDS 430), Developmental Reading in Secondary Schools (EDS 465), Teaching in a Multicultural Society (EDU 210), Mainstreaming Exceptional Learners (EDU 340), Computers for Teachers (EDF 301), Teaching of English in Secondary Schools (EDS 440), Student Teaching and School Law (EDS 461).

(C) Professional Specialization: (45 credits). Composition Theory and the Teaching of Writing (ENG 372), History of the English Language (ENG 346), English Grammar and Usage (ENG 345), Critical Theory and the Teaching of Literature (ENG 371), Introduction to Linguistics (ENG 347), Argumentation and Debate (COM 230).

(D) Advanced Requirements: (27 credits). American Literature to 1865 (ENG 365), American Literature from 1865 to World War I (ENG 366), American Literature from World War I (ENG 367) or American Literature elective, English Literature I (ENG 301), English Literature II (ENG 302), Shakespeare (ENG 425), Communication Theory (COM 490), Fundamentals of Acting (THE 130) or Stagecraft (THE 141) or Fundamentals of Directing (THE 320).

Students must also achieve a satisfactory score on the NTE in order to obtain Pennsylvania Certification.

Professional Writing Radio-Television

Arrange program with the department chairperson.

Minors

Literature Concentration

Required Courses (12 credits): (select one from each group)
ENG 106 Intro to Poetry, ENG 107 Intro to Fiction, or ENG 108 Intro to Drama
ENG 205 World Lit to 1600 or ENG 206 World Lit after 1600
ENG 301 English Lit I or ENG 302 English Lit II
ENG 366 American Lit 1865-WWI or ENG 367 American Lit from WWI
English Electives (nine credits at 300-400 level)

Business & Commercial Writing Concentration

Required Courses (12 credits): ENG 211 Business Writing I, ENG 212 Business Writing II, ENG 308 Research for Writers, and ENG 167 Journalism I or ENG 217 Sci & Tech Writing or ENG 437 Advertising.
Restricted Electives (nine credits, six credits minimum must be ENG): ENG 312 Journalism III, ENG 345 Grammar & Usage, ENG 375 Advanced Writing, ENG 401 Copywriting, ENG 419 Internship three-credit limit, ENG 435 Article Writing, COM 102 Group Disc Management, COM 203 Intro to Public Relations, COM 250 Oral Comm Management, ECO 100 Elements of Econ, GCT 225 Princ layout & Design, MGT 201 Principles of Management, MKT 301 Principles of Marketing.

Creative Writing Concentration

Required Courses (six credits): ENG 495 Creative Writing Seminar, ENG 496 Writing for Publication.
Creative Writing Electives (three to nine credits): ENG 376 Creative Writing: Fiction, ENG 377 Creative Writing: Poetry, ENG 378 Creative Writing: Drama.
English Electives (6-12 credits): ENG 203 Great Books, ENG 308 Research for Writers, ENG 318 Poetics, ENG 351 Publish the Magazine, ENG 352 Studies in Writing, ENG 430 Adapt Lit Materials, ENG 435 Article Writing.

Journalism Concentration

Required Courses (12 credits): ENG 167 Journalism I, ENG 169 Journalism II, ENG 306 Press Law & Ethics, ENG 312 Journalism III.
Restricted Electives (nine credits, six credits minimum must be ENG): ENG 254 History of American Journalism, ENG 313 Sportswriting I, ENG 334 Newspaper Reporting I, ENG 336 Computer Assisted Reporting, ENG 351 Publish the Magazine, ENG 401 Copywriting, ENG 419 Internship—three credit limit, ENG 435 Article Writing, ENG 437 Advertising, COM 246 Radio & TV Announcing, COM 332 Radio & TV: News, GCT 225 Princ Layout & Design.

Technical Writing Concentration

Required Courses (12 credits): ENG 212 Business Writing II, ENG 217 Sci & Tech Writing I, ENG 218 Sci & Tech Writing II, ENG 308 Research.
Restricted Electives (nine credits, six credits minimum must be ENG): ENG 345 Grammar & Usage, ENG 375 Advanced Writing, ENG 419 Internship—three credit limit, ENG 435 Article Writing, GCT 225 Print Layout & Design.

FOREIGN LANGUAGES AND CULTURES

Purpose

Rapid political and economic changes in the world require that students not only understand other cultures but that they can communicate with persons in those cultures. In this sense familiarity with speaking and reading a foreign language and being aware of how persons in other countries think about the world is pragmatic. Instruction in an unfamiliar language also helps students see the world from a different perspective. Inasmuch as that occurs, students improve self-awareness, lose a blind ethnocentrism, and gain a greater appreciation of all cultures, including their own.

Programs

The department administers three programs: a liberal arts language program in German, French, and Spanish; a language certification program for students who plan to teach in one of the language areas; an International Studies program with options in Business and Economics, Foreign Languages, Geography, and Political Science (consult the descriptions for the Departments of Business & Economics, Earth Sciences, and Social Sciences for additional information on the International Studies programs). Students in these programs will develop listening, speaking, reading and writing skills, as well as an awareness of cultural diversity and its impact on human behavior.

Language and culture are closely aligned, and a series of culture courses, taught in English, are available. These indicate how artistic expression, geography, and economic and historical development mutually influence each other.

A minor in foreign languages is offered in French, German, and Spanish to provide a global component and international perspective to a liberal arts education and to prepare you for a world where cross cultural communication is vital for success.

Placement

Students entering a foreign language course will be evaluated in order to determine the proper course level placement for them. Students who wish to receive credit for previously acquired language proficiency can take a CLEP examination or a challenge examination.

Awards

The Elsbeth E. Santee Scholarship Fund grants renewal awards annually for students majoring in a foreign language who maintain a 3.0 QPA in their major. Information about the award and application procedures is available in the department office.

Careers

Linguistic ability in languages other than English can promote employment opportunities in organizations working internationally, especially legal, banking and commercial corporations, national and regional governmental agencies, social service and religious organizations, educational institutions, communications, import-export and travel businesses and a variety of translation services.

Bachelor of Arts in French

Curriculum

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

(B) Area of Concentration: Intermediate French I-II (FRE 203 and FRE 204), French Conversation, Composition, and Phonetics I-II (FRE 311 and FRE 312), Advanced Composition: Grammar and Stylistics (FRE 401), French Colloquium (FRE 450), Studies in French Culture (six credits), Survey of French Literature I-II (FRE 421 and FRE 422), Geography of Europe (GEO 325). Six credits in one other foreign language, three credits in each of History, English, Philosophy, Psychology, and Communication Studies. 14 credits of related electives taken with the adviser's approval.

Bachelor of Arts in German

Curriculum

(A) General Education: Composition I-II (ENG 101, 102), 12 credits of Humanities, 12 credits of Natural Sciences, 12 credits of Social Science, 18 credits of Free Electives.

(B) Area of Concentration: Intermediate German I (GER 203) and II (GER 204), German Conversation and Composition I (GER 311) and II (GER 312), Advanced Composition: Grammar and Stylistics (GER 401), Studies in German Culture (six credits), Survey of German Literature I (GER 421) and II (GER 422), German Colloquium (GER 450) or History of the German Language (GER 452), Geography of Europe (GEO 325), six credits in one other foreign language, at least three credits in each of Philosophy, Psychology, Communication Studies, History, and English. 14 credits of electives taken with the adviser's approval.

Bachelor of Arts in Spanish

Curriculum

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

(B) Area of Concentration: Intermediate Spanish I (SPN 203) and II (SPN 204), Spanish Conversation and Composition I (SPN 311) and II (SPN 312), Advanced Composition: Grammar and Stylistics (SPN 401), Studies in Hispanic Culture (six credits), Survey of Spanish Literature (SPN 421), Survey of Spanish-American Literature (SPN 422), Geography of Latin America (GEO 328), Spanish Colloquium (SPN 450), six credits in one other foreign language, at least three credits in each of Philosophy, Psychology, Communication Studies, History and English. 14 credits of electives taken with the advisor's approval.

Faculty

Associate Professor Raldo Parascenzo, chair; Professors Carol L. Kaplan, Alan H. Krueck; Associate Professor, Margarita Ribar

Bachelor of Arts in International Studies: Foreign Language Option

(A) General Education (60 credits): Composition I-II (ENG 101, 102), 12 credits of Humanities and Fine Arts, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration (68 credits): **Language I** Select courses from FRE, GER, or SPN: 203 Intermediate I, 204 Intermediate II, 311 Conversation, Composition and Phonetics I, 312 Conversation, Composition and Phonetics II, Culture and Civilization Elective, Language Elective. **Language II** Select courses from FRE, GER, or SPN: 203 Intermediate I, 204 Intermediate II, 311 Conversation, Composition and Phonetics I, 312 Conversation, Composition and Phonetics II, Culture and Civilization Elective, Language Elective. **Geography** (9 credits) Selected from geography area study courses. **Restricted Electives** (18 credits) Selected in consultation with advisor. **Related Electives** (5 credits)

Bachelor of Science in Education: Certification in Foreign Language Teaching for Grades K-12 French, German or Spanish

Curriculum

(A) General Education: 15 credits in Humanities including Composition I-II (ENG 101, 102), nine credits in Natural Sciences, nine credits in Social Sciences, three credits in Health or Physical Activities, Oral Communication (COM 101), General Psychology (PSY 100), nine credits of Free Electives .

(B) Professional Education: Foundations of Education (EDF 100), Educational Psychology (PSY 208), Introduction to Educational Media (EDF 304), Problems of Secondary Education (EDS 300), Educational Tests and Measurements in Secondary Schools (EDS 430), Developmental Reading in Secondary Schools (EDS 465), Teaching in a Multicultural Society (EDU 210), Mainstreaming the Exceptional Child (EDU 340), Computers for Teachers (EDF 301), Teaching Modern Languages K through 12 (EDS 466), Student Teaching and School Law (EDS 461).

(C) Professional Specialization: Intermediate I (203) and II (204), Conversation and Composition I-II (311 and 312), Advanced Composition, Grammar and Stylistics (FRE, GER, or SPN 401), six credits Culture and Civilization, Survey of Literature I-II (421 and 422); Foreign Language Colloquium in appropriate language (FRE, GER, or SPN 450); six credits of electives in major field in second foreign language.

Students must also achieve a satisfactory score on the NTE.

Minors

French Concentration

Required: FRE 101 Elementary French I, FRE 102 Elementary French II, FRE 203 Intermediate French I, FRE 204 Intermediate French II, FRE 311 French Conversation, Composition, and Phonetics I, FRE 312 French Conversation, Composition, and Phonetics II.
Elective: Select one course from the following: FRE 401 Advanced Composition; Grammar & Stylistics, FRE 421 Survey of French Literature I, FRE 422 Survey of French Literature II, FRE 450 Foreign Language Colloquium in French

German Concentration

Required: GER 101 Elementary German I, GER 102 Elementary German II, GER 203 Intermediate German I, GER 204 Intermediate German II, GER 311 Ger Conversation, Composition, and Phonetics I, GER 312 Ger Conversation, Composition, and Phonetics II
Elective: Select one course from the following: GER 401 Advanced Composition; Grammar & Stylistics, GER 421 Survey of German Literature I, GER 422 Survey of German Literature II, GER 450 Foreign Language Colloquium in German.

Spanish Concentration

Required: SPN 101 Elementary Spanish I, SPN 102 Elementary Spanish II, SPN 203 Intermediate Spanish I, SPN 204 Intermediate Spanish II, SPN 311 Span Conversation, Composition, and Phonetics I, SPN 312 Span Conversation, Composition, and Phonetics II.
Elective: Select one course from the following: SPN 401 Advanced Composition; Grammar & Stylistics, SPN 421 Survey of Spanish Literature, SPN 422 Survey of Spanish-American Literature, SPN 450 Foreign Language Colloquium in Spanish

HEALTH, PHYSICAL EDUCATION AND SAFETY

Purpose

The Department offers courses reflecting the wellness concept. Presently, it functions as a service oriented department. However, there is a certification program in Driver Education Certification.

The department offers a certification program for a student seeking to become qualified as a Driver Education teacher in the secondary schools. In order to fulfill the requirements of this program, the student must complete a minimum of 12 semester hours. Six of the 12 hours are required in the program (HSD 300, Introduction to Safety, and HSD 305, Driver Education and Traffic Safety).

The same 12 hours required in the Driver Education Endorsement Program can be used as free electives in the 30–hour free elective block. For further information concerning the program, contact the chairperson of the Health, Physical Education and Safety Department in Hamer Hall.

Faculty

Associate Professor Terry E. Scott, chair; Professor Angela Zondos; Assistant Professors Harry L. Ervin, Carol A. McMahon

HISTORY

Purpose

The recording and explanation of the events that constitute social, organizational, or personal existence comprise the discipline of history. History, with its special concern for what is unique in human events, is an integrative discipline. Its narratives and explanations are contextual. As such, historians take cognizance of the works of artists, philosophers, and social scientists.

For example, social historians utilize the methods of the social scientist. This integrative aspect of historical narrative and explanation continues to make it a primary part of a Liberal Arts education. In as much as it reveals every person's past, it makes possible greater personal freedom and creativity.

Programs

The department offers a B. A. in History. The History major is general in nature, providing students with the opportunity to select areas of topical interest. In relation to the major, the department, in conjunction with the College of Education and Human Services, provides requisite courses for Social Science certification for teaching in secondary schools. Students interested in teacher certification can secure further information from the College of Education and Human Services office.

The department also offers a minor in History which students in other majors may use to expand their educational opportunity.

Honor Society

Students who meet the academic requirements are eligible for membership in Phi Alpha Theta, the International Honor Society. Information can be obtained from faculty advisors and the department office.

Awards

The History Faculty Award for Academic Excellence is given annually to the History major who has demonstrated outstanding achievement.

The Edward McNall Burns Scholarship Award is given annually to any individual majoring in Anthropology, Sociology, Political Science, Economics, or History. See the department office for further information.

Careers

Teacher, archivist and museum curator are professions directly related to the history major. Careers in law, religion, foreign service, both corporate and government, and diplomacy have a great reliance on historical knowledge.

Bachelor of Arts in History

Curriculum

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

(B) Area of Concentration: Required Western History - 15 credits: History of the United States to 1877 (HIS 101), History of the United States since 1877 (HIS 102), History of Western Society to 1740 (HIS 104), History of Western Society since 1740 (HIS 106), History Seminar (HIS 495). A minimum of two courses in Non-Western History - six credits. HIS 145, HIS 146, HIS 147.
History Electives - 24 credits: these must include at least three topical and three chronological courses selected from the following list:: HIS 121, HIS 122, HIS 150 HIS 201, HIS 225, HIS 226, HIS 227, HIS 240, HIS 296, HIS 304, HIS 305, HIS 165, HIS 187, HIS 188, HIS 200, HIS 204, HIS 215, HIS 216, HIS 217, HIS 218, HIS 220, HIS 236, HIS 245, HIS 247, HIS 251, HIS 320, HIS 338, HIS 350. Social Science Electives - nine credits: these credits must consist of one course from each of three disciplines selected from ECO, SOC, GEO, ANT, POS.
Related Electives - 14 credits to be selected in consultation with advisor.

Minor in History

Required: HIS 101 History of the US to 1877, HIS 102 History of the US since 1877, HIS 104 History of Europe to 1740, HIS 106 History of Europe since 1740.
Electives (nine credits): Any three HIS courses, 300-level or above.

Faculty

Associate Professor Sean C. Madden, chair; Professors John F. Bauman, Frank T. Edwards, J. K. Folmar; Associate Professor Margaret A. Spratt; Assistant Professors Michael Slaven, A. Beth Fitch.

HONORS PROGRAM

Purpose

The Honors Program at California University of Pennsylvania provides an opportunity for an enhanced educational experience to our most talented students and faculty. Honors Program students desire to pursue intellectual and creative growth beyond the usual requirements of their major field of study and intend to cultivate their individual and personal aspirations to learn. Honors Program students and faculty expect to explore and participate in scholarly, professional, and artistic exercises outside the classroom; they engage in community service activities which complement their academic studies and nurture their personal sense of commitment and communal responsibility. Honors students anticipate exercising leadership while at California University; they prepare to become leaders while students in our program, and they expect to continue as leaders when they graduate.

Membership

Membership in the University Honors Program is by invitation only. However, the Honors Program promotes outstanding intellectual achievement throughout the university, and undergraduate students in any program or division of the university may participate in the Honors Program. Each year, the applications of all incoming first year and transfer students are reviewed, and those students with the very highest indicators of past and future academic success are invited to participate in the Honors Program.

Programs

Each summer (since 1985) two Honors Program students receive scholarships to participate in the SSHE Summer Honors Program. This program is noted for its academic quality and its opportunity, typically, to study abroad in such places as Austria (1996), Russia (1995), and England (1997). Honors Program students have the opportunity to participate in the California Academic Leadership Hall concept which includes specialty housing in Johnson Hall as well as educational, social, and recreational programming. The Honors Program maintains a small, but high quality, computer facility in Johnson Hall reserved for the exclusive use of its students and faculty.

Awards

Currently, the Honors Program annually presents the following awards: Senior Thesis Project Award and the Outstanding Honors Program Graduating Senior Award.

Curriculum

Courses, designated as Honors Courses, are restricted to members of the Honors Program and are offered at all class levels. In such courses enrollment is kept low to encourage and ensure close interaction between student and professor. Additionally, most regular university course offerings at all levels may have an honors component. In such courses (called addenda), honors students fulfill the same requirements as other students in the class but honors students perform certain independent work which is designed to enhance the regular departmental courses and which is agreed upon in writing by the student, the professor, and the Director of the Honors Program. In all such courses, the successful completion of the course and its honors component is indicated on the student's transcript.

Honors Program students are expected to maintain a minimum grade-point average sufficient to achieve the Dean's List (3.25) and to graduate with Honors. Additionally, students must complete a minimum of 24 credits, including addenda and thesis project, within the Honors Program

Inquiries about the Honors Program may be made of the Director, California University of Pennsylvania, California, PA 15419-1394, (412) 938–4535.

Honors Advisory Board

Professor Edward J. Chute (English), director; Dean Jesse A. Cignetti (Liberal Arts), Associate Professor Gregg Gould (Physical Science), Dean Richard B. Hart (Science and Technology), Associate Provost J. Drew McGukin (Academic Affairs), Professor Beverly J. Melenyzer (Elementary Education), Sarah A. Molik (Honors Program Student), Associate Professor Marsha L. Nolf (Library Services), Dean Stephen A. Pavlak (Education and Human Services), Associate Professor Michael J. Slavin (Theatre), Assistant Professor Gary A. Smith (Philosophy), Associate Professor Carole A. Waterhouse (English), Professor James Wood (Social Science)

HUMANITIES PROGRAM

Purpose

Humanities are most often considered a curricular area or category in which a number of majors coexist interdependently. For example, Foreign Languages, Art and English are program areas under the Humanities heading. However, California University has a separate Humanities program, which works particularly well for those students who find that their goals lie somewhere between two or three different Humanities areas.

The Humanities program is designed to allow greater freedom in shaping an integrated university program responsive to the students' unique interests and permit the greatest breadth for studying the interrelationships between disciplines. This program stresses breadth of knowledge and interdisciplinary awareness. Students have the opportunity, as well as the responsibility, to develop unique, integrated and personalized programs combining courses from Humanities areas.

Bachelor of Arts in Humanities

Curriculum

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

(B) Area of Concentration. **Introductory Courses** (38 credits): Select courses from the following disciplines: ART, COM, ENG, FRE, GER, LIT, MUS, PHI, SPN, and THE. Introductory courses are usually designated as 100- or 200-level. **Advanced Courses** (30 credits). Select courses from the following disciplines: ART, COM, ENG, FRE, GER, LIT, MUS, PHI, SPN, and THE. **Elective Courses** (0-15 credits): A maximum of fifteen credits from outside the Humanities area may be taken with permission of the student's faculty advisor.

INDUSTRY AND TECHNOLOGY

Purpose

Curricula in the Department of Industry and Technology integrates a comprehensive program in the management of technology with a broad liberal education to prepare the graduate to function in a technology-related field of industry or education. Students develop a strong background in the fundamentals of science, mathematics and technology so they may integrate and apply their knowledge and skills to management situations in industry or laboratory teaching situations in education. Also, students become aware of the impact of technology on the global community and the quality of life, both for the individual and for society.

Programs

The Department of Industry and Technology offers 15 technology-related degree options in four bachelor's and four associate degree programs. The Department has earned a national reputation of excellence for its many technology programs.

Bachelor's Degree Programs:

Electrical Engineering Technology
Graphic Communications Technology:
  Options Electro Graphics
    Flexography
    Management
    Offset Lithography
    Screen Printing
Manufacturing Technology:
  Options Automation (Robotics)
    Computer Numerical Control
    Drafting and Design
    Electronics
    Industrial Management
Technology Education

Associate Degree Programs:

Automation Technology: Computer Numerical Control
Drafting Technology
Screen Printing

Facilities

Technology courses are taught in the Shriver L. Coover Complex, which houses twenty-two laboratories in two buildings. Laboratories are furnished with state-of-the-art equipment. Some of the facilities include: three electronics laboratories, two CADD-equipped drafting rooms, a computer numerical control machining laboratory, a microprocessor lab, an automation/robotics technology laboratory, two graphics laboratories, a desktop publishing laboratory, an electronic imaging laboratory, two photographic darkrooms, a material testing laboratory, a foundry, and a machine tool laboratory. In addition, laboratories for communication, production, and transportation technology are available for use in the Technology Education program.

Special Features of the Department

Internships

Bachelor's degree students in Electrical Engineering Technology, Graphic Communications Technology and Manufacturing Technology have the opportunity to complete an internship as part of their degree requirements. Students work in an organization related to their employment goals where they receive practical experience in applying what they have learned at the university. The internship credits are applied to the degree as technical elective or specialization area elective credits. The following internships are available:

EET 476 Biomedical Engineering Technology Internship (Electrical Engineering Technology)
GCT 495 Graphic Communications Internship
MTE 495 Manufacturing Technology Internship

Student Awards

Each year, the Department honors five graduating seniors who have excelled academically. Selection is based upon grade point average and faculty vote. The 1997 Industry and Technology Award Recipients were:

- Engineering Technology Faculty Award - Paul Wainwright
- Industry and Technology Faculty Award for the Associate of Science Degree - David Cane
- Industry and Technology Faculty Award for the Bachelor of Science Degree - Paul Ulmer
- Technology Education Faculty Award - Matthew Haines
- The Pittsburgh Club of Printing House Craftsmen Award - Christopher Miller

Faculty

Professor Stanley A. Komacek, chair; Professors Mark Bronakowski, Ronald G. Dreucci, Richard C. Grim, René Horath, John R. Kallis, John H. Lucy, Mark L. Nowak, Joseph E. Pecosh, Joseph A. Sanfilippo, Alfred E. Simpson, Darrell Lee Smith, John M. Thompson; Associate Professors Larry Horath, David V. Kolick, John Loney, James R. Means, Jr., Jaroslav V. Vaverka; Assistant Professors Joseph G. Schickel, Jeffrey Sumey, Susan E. Urbine.

Scholarships

There are several scholarship opportunities for Graphic Communications Technology, Manufacturing Technology and Technology Education students in the Department. For more information on the scholarships, contact the Department.

Graphic Communications Technology Scholarships:
- Foundation of Flexographic Technical Association Scholarship
- International Publishing Management Association Scholarship
- Kenny Hager Memorial Scholarship
- Kurt Nordstrom Memorial Scholarship
- National Scholarship Trust Fund
- Pittsburgh Club of Printing House Craftsmen Scholarship

Manufacturing Technology Scholarship:
- Society of Manufacturing Engineers Scholarship

Technology Education Scholarships:
- Donald Maley Technology Education Scholarship
- Technology Education Association of Pennsylvania Scholarship

Student Achievements

The Department has many outstanding students. During this past year, over 100 students in the Department were on the Dean's List, with nearly 40 of those receiving highest honors. Also, a number of Industry and Technology students participate in the Honors Program at the university. Current students and alumni have excelled in many areas. Examples are provided in the descriptions of some programs below.

Annual Spring Technology Conference

Prospective students are encouraged to attend the Department's Annual Spring Technology Conference. This conference provides an excellent opportunity to tour facilities and observe a variety of dynamic and exciting laboratory activities, as well as interact with faculty and students.

Parents, teachers, administrators, guidance counselors and friends are cordially invited to attend this very special conference. For additional information concerning the Annual Spring Technology Conference, please call 412-938-4085, e-mail the Department Chair: *komacek@cup.edu*, or check the Department home page at *www.itech.cup.edu*.

Department Network Server & World Wide Web Home Page

The Department maintains its own computer network, which is connected to the university campus network and the Internet. Visit the Industry and Technology home page on the World Wide Web to take a virtual tour, find e-mail addresses, review home pages created by students and faculty and learn more about special events in the Department. The URL for the home page is: *www.itech.cup.edu*

The home page resides on Ryker, the Department network server. Students may apply for a Ryker account and develop their own home pages, use e-mail and surf the net.

Student Clubs

The Department offers five student clubs. Student clubs and their members have attended conferences across the country, conducted industrial field trips, completed service projects for the university and community and offered social events for students. Students are encouraged to participate in the clubs to develop the cooperation, management and leadership skills that employers seek today for the team approach used in industry and education. Student clubs in the Department include:

- Electrical Technologies Club
- Institute for Electrical and Electronic Engineers Student Branch
- National Association of Industrial Technology
- Screen Printing Student Association
- Student Chapter of the Pittsburgh Club of Printing House Craftsmen
- Technology Education Association of California

Desktop Video Conferencing Capabilities

The Department of Industry and Technology has desktop video conferencing capabilities through an Intel ProShare system, which communicates over ISDN lines. ProShare gives the students and faculty in the Department the ability to send and receive real-time video and audio with anyone who has an H.320 compatible video conferencing system. ProShare can also be used to transfer data and graphic files, such as photos, CAD drawings and artwork.

During the Department's 1997 Spring Technology Conference, a group of students from Seaholm High School in Michigan gave a demonstration of their Automation/Robotics class project to conference attendees at Cal U. On another occasion, Cal U Industry and Technology personnel participated in a live video conference bridge that connected six schools simultaneously from Pennsylvania, Michigan, California and Georgia. The Department is also a participant in a project funded by the Telecommunications and Information Infrastructure Assistance Program of the federal government that connects the six high schools in Fayette County, Pennsylvania with the university.

In the future, ProShare may be used for virtual tours, video teleconferences, distance learning, Student Teaching demonstrations and Early Field Experience observations.

Tech Prep Program

The Department is involved in the Cal U Tech Prep Program, which is an outreach initiative that focuses on helping high school students prepare for and achieve associate and baccalaureate degrees in fields related to technology, business and computer science.

The Cal U Tech Prep Program helps local school districts develop curriculum materials, provides cross-curricular inservice for teachers and helps promote articulation agreements between high schools and the University.

Industry and Technology professor, Dr. Joseph Pecosh, is the Director of Field Services for Tech Prep. Also, Dr. Glenn Hider, the Cal U Tech Prep Curriculum Specialist, teaches part-time in the Department.

Electrical Engineering Technology

Electrical Engineering Technology deals with both abstract and practical concepts from science, mathematics, engineering and technology. Emphasis is placed on applications of current technology to meet the needs of everyday problems and situations. The Electrical Engineering Technology program provides students with the knowledge required to design, develop, modify, maintain and repair sophisticated electrical and electronic systems.

Career Outlook

Opportunities for employment in the field of Electrical Engineering Technology are diverse and plentiful. Graduates will find challenging jobs in all areas of the United States. Typical positions include:

Electronic Design
Instrumentation Design
Systems Control
Software Development
Electronic Field Representative
Sales Representative
Microprocessor/Computer Applications
Engineering Administration

Curriculum

The Electrical Engineering Technology program provides students with a comprehensive understanding of the current engineering technology available to solve many of the technical problems confronting business, industry and government.

The necessary background in math, physics and computer science is provided so that meaningful mathematical modeling can be introduced and applied.

Computer/microprocessor interfacing and programming are heavily used to demonstrate flexibility and simplicity in instrumentation design, communications, signal processing, and controls.

Classical linear systems are presented to provide the student with an understanding of linear active filters, transient analysis, transducer interfacing, linearization, instrumentation, communications and controls.

Finally, the student has an opportunity to develop wider intellectual horizons through the university's general education program.

Program Admission

In addition to the conventional freshman admission procedure, student admission also includes those who have successfully completed a two-year associate degree in Electrical Engineering Technology or its equivalent.

Students graduating with an Electrical Engineering Technology associate degree from institutions having an articulation agreement* with the university will normally enter the program with junior class standing.

*Articulation agreements:

Butler County Community College
Community College of Allegheny County - South Campus
Westmoreland County Community College

Students with an educational background in a field related to Electrical Engineering Technology who apply for admission to the program will be evaluated on an individual basis.

Bachelor of Science in Electrical Engineering Technology (129 crs.)

A. General Education: 60 credits

Humanities - 15 credits minimum

COM 250 Oral Communication: Management
ENG 101 English Composition I
ENG 217 Scientific & Technical Writing
Humanities Electives - six credits

Natural Sciences - 27 credits minimum

CSC 12X Computer Science (Any language)
MAT 181 College Algebra
MAT 191 College Trigonometry
MAT 281 Calculus I
MAT 282 Calculus II
PHY 101 College Physics I
PHY 202 College Physics II
Natural Science Electives - 4 credits

Social Sciences - nine credits minimum
Free Electives - nine credits minimum

B. Professional Specialty: 69 credits

Electrical Engineering Technology - 45 credits

EET 110 DC Circuits
EET 160 AC Circuits
EET 170 Digital Electronics Design
EET 210 Linear Electronics I
EET 220 Introduction to Electric Power
EET 260 Linear Electronics II
EET 270 Introduction to Microprocessor Design
EET 310 Methods in Engineering Analysis
EET 320 Network Analysis
EET 330 Advanced Microprocessor Design
EET 360 Microprocessor Engineering
EET 370 Instrumentation Design I

Electrical Engineering Electives - choose 16 credits from the following:

EET 400 Senior Project Proposal
EET 410 Automatic Control Systems
EET 420 Instrumentation Design II
EET 430 RF Communications
EET 440 Computer Networking
EET 450 Senior Project
EET 460 Digital Signal Processing
EET 475 Biomedical Engineering Technology
EET 476 Biomedical Engineering Technology
Internship

Technical Electives - eight credits minimum

Graphic Communications Technology

A reliable system for the transmission of messages is necessary in our fast-paced world. Print and electronic media serve as very effective methods of transferring those messages. Graphic communications involves all of the people, processes, materials, and related fields necessary to reproduce words, pictures, ideas and symbols in printed form on physical media; such as paper, metal or cloth, in any quantity, and electronic form for the World Wide Web and other electronic presentation media.

The graphic communications industry is large and diverse and employs over one million people. This large and ever-changing industry is experiencing many technological changes that will create new skills, jobs and challenges for tomorrow's workers.

The Graphic Communications Technology program at California University prepares graduates to enter the field by offering a curriculum of technical studies with laboratory-based experiences in the major printing processes. The curriculum includes courses in general education, management, a core concentration, and a technical specialty area. Students have the opportunity to concentrate in one of five technical specialty areas: Electro Graphics, Flexography, Management, Offset Lithography, and Screen Printing.

The facilities used in this program include three well-equipped graphic communication laboratories with two photographic darkrooms, a photoimaging laboratory, a desktop publishing laboratory, and a pressroom. The labs are equipped with desktop color imaging systems, cameras, film processors, printing presses and a wide variety of other specialized graphic communications equipment.

Career Outlook

The future for people involved in graphic communications is bright. The size and tremendous diversity of the industry provides a wide variety of career opportunities for men and women of all interests, talents and educational levels. Recent estimates indicate that between 50,000 and 100,000 people will be needed in the near future to accommodate the growth of the printing and publishing industry.

Typically; Graphic Communications Technology graduates expect to fill positions in printing production, printing sales, quality control, customer service, estimating, scheduling, print buying, World Wide Web publishing, product design, marketing, equipment sales and technical service. Opportunities are available with advertising agencies, publishers, commercial printers, manufacturers of equipment and graphic communications suppliers, as well as graphic communications electronic equipment and control systems.

Achievements by Students

Students in the Graphic Communications Technology program pride themselves on their technical capabilities in a variety of production processes. The following students demonstrated their skills by winning National Guttenburg Press Awards in 1996 at the International Graphic Arts Association Conference:

Edward Amber, Bryan Koons and Josh Cross - Honorable Mention, Flat Color Screen Process.
Dan Glackin - Third Place, Flat Color Screen: Cardboard.
Jason Lisica - Third Place, Flat Color Screen: Adhesive.
Loretta Long - First Place, Flat Color Screen: Adhesive.
Kelly Parker and Christopher Miller - First Place, Single Color Letterpress.
Joseph Petrucci - Second Place, Flat Color Screen.
Renee Tommasin - First Place, Four Color Screen Process: Textile.

Graphic Communications Technology major Ronald Rosiek received the Youth Volunteer of the Year from the Brownsville Area Revitalization Corporation.

Curriculum

The Graphic Communications Technology program provides students with an understanding of graphic communications concepts applicable to the job. In addition, it provides students with a broad understanding of business management principles, analytical/verbal skills, computer applications and a firm general education background.

A unique opportunity in this program is the Graphic Communications Internship whereby students may spend a junior or senior semester or a summer working in an industrial or commercial setting. Students experience how various jobs are produced and how problems are solved in a work situation. In addition, the employer has an opportunity to observe students as prospective employees.

Bachelor of Science in Graphic Communications Technology

A. General Education: 52 credits

COM	250	Oral Communication: Management
ENG	101	English Composition I
ENG	217	Scientific & Technical Writing
MAT	182	Tech Math I
MAT	192	Tech Math II
PHY	121	General Physics I
PHS	135	Chemistry of Materials

Humanities Electives - six credits
Social Science Electives - six credits
Natural Science Electives - six credits
Free Electives - 12 credits

B. Technical Education: 76 credits

Management - 27 credits

ECO	201	Intro to Microeconomics
GCT	342	Estimating and Cost Analysis I
ITE	101	Industrial Safety
ITE	375	Principles of Production
ITE	445	Quality Control
MGT	201	Principles of Management
MGT	352	Human Resource Management
MGT	362	Labor Relations
MKT	222	Principles of Selling

Core Concentration - 30 credits

GCT	100	Graphic Communication Processes I
GCT	110	Screen Printing Techniques
GCT	200	Graphic Communications Processes II
GCT	220	Black and White Photography
GCT	225	Principles of Layout and Design
GCT	240	Desktop Publishing
GCT	270	Lithographic Techniques
GCT	330	Flexo & Package Printing
GCT	365	Color Imaging
GCT	460	Substrate and Ink

Specialization Block - 19 credits
Choose one of the following areas of specialization (options).

Electro Graphics:

IND	130	Introductory Circuit Analysis
IND	135	Digital Electronics
IND	235	Intro to Microprocessors
GCT	485	Graphics Seminar
GCT	495	Internship

Technical Elective

Flexography:

GCT	380	Advanced Flexo Techniques
GCT	430	Flexo Print Productions
GCT	485	Graphics Seminar
GCT	495	Internship

Technical Elective

Management:

ACC	201	Accounting I
MAT	171	Math of Finance I
MKT	301	Principles of Marketing
GCT	485	Graphics Seminar
GCT	495	Internship

Technical Elective

Offset Lithography:

GCT	370	Advanced Lithographic Techniques
GCT	470	Web Offset
GCT	485	Graphics Seminar
GCT	495	Internship

Technical Elective

Screen Printing:

GCT	210	Advanced Screen Printing Techniques
GCT	310	Screen Printing Productions
GCT	485	Graphics Seminar
GCT	495	Internship

Technical Elective

Approved Replacement Courses For Internship:

Management - six credits

ACC	201	Accounting I
BUS	100	Intro to Business
BUS	242	Business Law I
MAT	171	Math of Finance I
MGT	301	Organizational Behavior
MGT	353	Compensation Management
MGT	431	International Business Management
MKT	301	Principles of Marketing

Technical - three credits

GCT	210	Advanced Screen Printing Techniques
GCT	230	Color Photography
GCT	310	Screen Printing Production
GCT	370	Advanced Lithographic Techniques
GCT	380	Advanced Flexo Techniques
GCT	470	Web Offset

Approved Technical Electives

GCT	210	Advanced Screen Printing Techniques
GCT	230	Color Photography
GCT	310	Screen Printing Production
GCT	370	Advanced Lithographic Techniques
GCT	380	Advanced Flexo Techniques
GCT	470	Web Offset
IND	110	Technical Drawing I
IND	130	Introductory Circuit Analysis
IND	135	Digital Electronics
IND	165	Machine Processing I
IND	215	Computer Aided Drafting I
IND	230	Introduction to Linear Electronics
IND	235	Introduction to Microprocessors
IND	270	Hydraulic/Pneumatic Fluid Power
IND	278	Plastics Technology
IND	335	Advanced Microprocessors
IND	355	Wood Technology
ITE	181	Materials Technology I
MTE	250	Introduction to Automation

Additional courses may be recommended at advisor's discretion.

Manufacturing Technology

One measure of humanity's growth and progress is the ability to manufacture goods effectively. It has been estimated that in the 1990's over 22 million people will be employed in the manufacturing industry. Changes in the workplace have necessitated a redefinition of supervision in manufacturing.

The Manufacturing Technology program provides students with a broad, flexible education, enabling them to enter the manufacturing work force in a variety of professional positions. The facilities generally available to majors in the manufacturing technology program include: a materials technology/materials testing laboratory, a machine laboratory with a foundry, an automation technology laboratory (robotics, hydraulics, pneumatics), computer facilities with CAD and other software to support various industrial technology and management courses, a computer numerical control laboratory, drafting laboratories, and electronics laboratories.

Career Outlook

Opportunities for employment in the field of Manufacturing Technology are diverse. Graduates find challenging job placements in all geographical areas of the United States. Some careers in Manufacturing Technology are:

- Production Supervisor
- Production Control
- Prototype Development
- Industrial Teaching
- CNC Field Representative
- Systems Analysis
- Quality Control Supervisor
- Sales Representative
- Product Design
- Purchasing
- Industrial Research
- Manufacturing Supervisor
- Safety Management

Curriculum

The Manufacturing Technology Program provides students with experiences in manufacturing processes that will help them understand problems they may face in a manufacturing environment. Basic concepts are studied in technical foundations courses such as technical drawing, electronics, automation/ robotics, statics and strength of materials and industrial safety.

Advanced technology in CADD, robotics, hydraulics and computer numerical control, production analysis and systems, cost estimating and quality control provide a capstone of computer-assisted techniques used by modern industry to increase quality and productivity.

This technical background, coupled with managerial subjects and the general education requirements, positions Manufacturing Technology students for many attractive job opportunities.

An important opportunity in this program is the internship. Students may spend a semester or a summer working in an industrial setting. An internship broadens the student's education, offering experience in day-to-day operations of a manufacturing facility. Students observe how products are produced and how problems are solved. In addition, the employer has an opportunity to observe students as prospective employees.

Bachelor of Science in Manufacturing Technology

A. General Education: 48 credits

COM	250	Oral Communication: Management
CSC	120	Problem Solving and Program Con.
ENG	101	English Composition I
ENG	217	Scientific & Technical Writing
MAT	182	Tech Math I
MAT	192	Tech Math II

Humanities Electives - six credits
Social Science Electives - six credits
Free Electives - 12 credits

B. Manufacturing Technology: 80 credits

Physical Science - eight Credits

CHE	101	General Chemistry I
PHY	121	General Physics I

Industrial Technology - 30 Credits

IND	110	Technical Drawing I
IND	130	Introductory Circuit Analysis
IND	135	Digital Electronics OR
IND	230	Introduction to Linear Electronics
IND	165	Machine Process I
IND	215	CAD I
ITE	181	Material Technology I
ITE	325	Statics and Strength
ITE	480	Problems in Industrial Technology
MTE	250	Introduction to Automation
MTE	236	Numerical Control Programming I

#EET 170 Digital Electronics Design may be substituted for IND 135 Digital Electronics

Supervision - 24 Credits

ECO	201	Introductory Microeconomics
ITE	101	Industrial Safety
ITE	375	Principles of Production
ITE	385	Industrial Cost Estimating
ITE	420	Production Analysis
ITE	445	Quality Control
MGT	201	Principles of Management
MGT	362	Labor Relations

Area of Specialization - 18 crs

Student must complete all courses in a single specialization block to satisfy degree requirements.

Automation/Robotics
- ITE 460 Principles of Manufacturing
- MTE 268 Automated Support Systems
- MTE 350 Robotic Systems
- MTE 265 Programmable Control Systems
- Technical Electives

Computer Numerical Control
- IND 265 Machine Processes II
- ITE 460 Principles of Manufacturing
- MTE 336 Numerical Control Programming II
- MTE 337 COMPACT II or MTE 338 APT
- Technical Electives

Drafting and Design
- IND 315 CAD II
- IND 320 Architectural Drafting & Design
- IND 415 CAD III
- IND 416 Intro Solid Modeling/Finite Elements
- Technical Electives

Electronics
- IND 135 Digital Electronics OR
- IND 230 Introduction to Linear Electronics
- IND 235 Introduction to Microprocessors OR
- EET 270 Intro. to Microprocessor Design
- IND 335 Advanced Microprocessors OR
- EET 330 Advanced Microprocessor Design
- EET 360 Microprocessor Engineering
- Technical Electives

Industrial Management
- ACC 201 Accounting I
- ACC 202 Accounting II
- ECO 202 Introductory Macroeconomics
- MAT 225 Business Statistics
- Technical Electives

Approved Technical Electives
- ACC 201 Accounting I
- ACC 202 Accounting II
- ACC 331 Cost Accounting I
- ACC 332 Cost Accounting II
- ECO 202 Introductory Macroeconomics
- ECO 301 Intermediate Microeconomics
- ECO 302 Intermediate Macroeconomics
- EET 160 AC Circuits
- EET 170 Digital Electronics Design
- EET 220 Introduction to Electric Power
- EET 270 Intro. to Microprocessor Design
- EET 330 Advanced Microprocessors
- EET 360 Microprocessor Engineering
- FIN 301 Financial Management
- IND 135 Digital Electronics
- IND 210 Technical Drawing II
- IND 230 Introduction to Linear Electronics
- IND 235 Introduction to Microprocessors
- IND 265 Machine Processes II
- IND 278 Plastics Technology
- IND 310 Technical Drawing III
- IND 315 CAD II
- IND 320 Architectural Drafting & Design
- IND 335 Advanced Microprocessors
- IND 355 Wood Technology
- IND 270 Hydraulic/Pneumatic Fluid Power
- IND 415 CAD III
- IND 416 Intro Solid Modeling/Finite Elements
- ITE 301 Industrial Safety Evaluation & Government Agencies
- ITE 311 Industrial Ergonomics
- ITE 460 Principles of Manufacturing
- MAT 225 Business Statistics
- MAT 273 Basic Calculus
- MTE 268 Automated Support Systems
- MTE 265 Programmable Control Systems
- MTE 336 Numerical Control Programming II
- MTE 337 COMPACT II
- MTE 338 APT
- MTE 350 Robotic Systems
- MTE 437 Advanced COMPACT II
- MTE 438 Advanced APT
- MTE 450 Applications of Industrial Automation
- MTE 495 Internship (1-6 credits)

Technology Education

The Technology Education program prepares the prospective teacher for employment in both primary and secondary schools. Graduates of this program are awarded a Bachelor of Science Degree in Education and are eligible for an Instructional I Certificate qualifying them to teach Technology Education in grades K-12.

An ever-expanding knowledge base in a global community makes it necessary for Technology Education majors to develop strong academic backgrounds in the humanities, sciences, mathematics and personal communication skills. In addition, they must demonstrate an understanding of teaching proficiencies that are requisite within a multicultural society.

Technology Education majors are required to complete a series of laboratory classes related to the technological systems of communication, construction, manufacturing and transportation. In these laboratory courses, students develop skills in the use of tools, materials and processes as they design, produce, use and evaluate technological systems. Computer applications using current software and support devices are emphasized. Students interact extensively with the universal systems model. Once equipped with an extensive understanding of the four technological systems and the universal systems model, students have the opportunity to evaluate the social, cultural, economic and environmental impacts of technology.

Accreditation

The Technology Education program has earned full accreditation by the National Council for Accreditation of Teacher Education (NCATE), the International Technology Education Association's (ITEA) Council on Technology Teacher Education (CTTE) and the Pennsylvania Department of Education (PDE).

Career Outlook

Currently, there is a significant shortage of Technology Education teachers within Pennsylvania and throughout the nation. Since 1992, every Cal U Technology Education graduate who sought a teaching position was employed. Most graduates report receiving multiple job offers. The average starting salary of graduates in 1996 was nearly $30,000. Teacher salaries have been increasing over the past several years with some school districts raising their top salary scale to over $80,000 per year.

The practical, hands-on nature of Technology Education creates opportunities for Technology Education teachers to qualify for summer employment within business and industry. Such occasions provide teachers an excellent opportunity for continued professional development and additional income.

The Technology Education Program at California University of Pennsylvania enjoys a national reputation of the highest order. This program and its antecedents, have been offered at California for more than 60 years. During that period, the program has produced many outstanding graduates who have established leadership positions within education and the corporate world.

A degree in Technology Education provides students with several career options. Most graduates teach at the elementary or secondary school levels, but many choose to attend graduate school and eventually teach at the university level. Still others have distinguished themselves in a variety of positions in government, business and the corporate world.

Achievements by Students and Alumni

The Technology Education program has a long history of producing outstanding students. Many graduates distinguish themselves in education. For example, more than two dozen graduates of the program are listed in the *1996-97 Industrial Teacher Education Directory*, which lists professors of technology at colleges and universities across the country. Other examples of recent achievements of students and graduates include:

Current Students

Matt Haines was the 1995-96 President of the Technology Education Collegiate Association of Pennsylvania.

Ben Jacob received the Technology Education Association of Pennsylvania Scholarship.

Richard Mitchell was selected to design the Web home pages for the Technology Education Association of Pennsylvania and WVCS, California University's radio station.

Nate Mentzer was President of the Pennsylvania Technology Student Association (TSA).

Paul Hayes designed the Web home page for the Southpointe Center of California University.

Alumni

- Arnall Cox was the 1996 President of the Florida Technology Education Association and the winner of the 1997 Florida Program Excellence Award from the International Technology Education Association.
- James Armstrong and Bruce Wells received the 1997 Middle School Program Excellence Award from the Technology Education Association of Pennsylvania and the International Technology Education Association.
- Van Hughes received the 1996 Supervisor of the Year from the Technology Education Association of Pennsylvania.
- Mike Pierno received a 1996 Outstanding High School Technology Teacher Award from Autodesk Foundation.
- David Stawovy won the 1996 Sparkman Scholarship Award to study educational technology.
- Mike Whitman was the 1996 President of the Technology Education Association of Pennsylvania.

Curriculum

Technology Education includes the study of selected technological systems that explore the solutions of technological problems and their associated impacts encountered by people as they design, produce, use and evaluate technologies. The four primary systems that make up the Technology Education Curriculum include: Communication, Construction, Manufacturing and Transportation.

Communication Systems include the study of the technical methods by which humans communicate. These systems include experiences in such areas as drafting, design, computer-aided drafting and design, digital photography, multimedia, graphic communications, electronic communications, World Wide Web publishing, Internet applications, computer networking, video production and desktop publishing.

Construction Systems include the study of combining resources into structures such as houses, factories, roads, dams and stadiums. To understand construction technology, materials, processes, engineering principles, and impacts related to construction are examined.

Manufacturing Systems include the study of methods by which people design, produce, use and assess goods and products. This system includes courses which provide an understanding of fabricating, forming, combining and testing materials such as composites, wood, metals, plastics and ceramics. Also included is the use of computer-aided manufacturing and an enterprise approach to manufacturing technology.

Transportation Systems include the study of how people, products and materials are transported from one place to another. Students study various transportation systems within the four natural environments: land, marine, air and space. They also experience activities that reflect an operational knowledge of the subsystems common to most transportation systems including: structures, propulsion, guidance, control, suspension and support.

Bachelor of Science in Education: Certification in Technology Education for Grades K-12 (130 crs.)

A. General Education: 47 credits

Humanities - 15 credits minimum

[1]COM 101 Oral Communication
[1]ENG 101 English Composition I
[1]ENG 102 English Composition II

Natural Sciences - 17 credits minimum

[1]PHY 121 General Physics I & Lab
BIO 103 Contemporary Issues in Biology
CHE 101 General Chemistry I & Lab
[1]MAT 181 College Algebra
MAT 191 College Trigonometry

Social Science - nine credits minimum

[1]PSY 100 General Psychology
Social Science Electives - six credits

Health or Physical Activity - three credits minimum

HPE 314 First Aid Personal Safety

Free Electives - three credits

B. Professional : 35 credits

Professional Education: 26 credits

[1]EDF 290 Policy Studies in American Education
EDS 465 Developmental Reading Secondary School
[1]EDU 210 Teaching in a Multicultural Society
[1]EDU 340 Mainstreaming Exceptional Learner
[1]PSY 208 Educational Psychology
TED 461 Student Teaching and School Law

Professional Specialty: nine credits

[1]TED 305 Introduction to Technology Education/ Early Field
[1]TED 450 Teaching Technology in the Secondary School
[1]TED 500 Teaching Technology in the Elementary School

C. Technological Systems: 48 credits

Communication Technology - 12 credits

[1]TED 111 Communication Systems
GCT 200 Graphic Communication Processes II
[1]IND 110 Technical Drawing I
IND 215 Computer Aided Drafting I

Construction Technology - six credits

[1]TED 315 Construction Systems
Construction Elective[3]

[1]Denotes courses required before student teaching.

Manufacturing Technology - 12 credits
- [1]TED 115 Material Processing
- [1]TED 325 Manufacturing Systems
- [1]TED 425 Manufacturing Enterprise
- MTE 250 Introduction to Automation

Transportation Technology - 12 credits
- [1]TED 335 Transportation Systems
- TED 435 Transportation Research & Development
- [1]IND 130 Introductory Circuit Analysis
- IND 135 Digital Electronics

[2]Technical Electives - six credits

Approved Technical Electives
- GCT 110 Screen Printing Techniques
- GCT 220 Black & White Photography
- GCT 225 Principles of Layout and Design
- GCT 240 Electronic Desktop Publishing
- IND 101 Drawing and Design
- IND 165 Machine Process I
- IND 184 Energy and Power Systems
- IND 210 Technical Drawing II
- IND 230 Introduction to Linear Electronics
- IND 235 Introduction to Microprocessors
- IND 270 Hydraulic-Pneumatic Fluid Power
- IND 278 Plastics Technology
- IND 282 Small Gasoline Engines
- IND 315 Computer Aided Drafting II
- [3]IND 320 Architectural Drafting and Design
- [3]IND 345 Construction Processes I
- IND 355 Wood Technology
- ITE 181 Materials Technology I
- MTE 236 Numerical Control Programming I
- MTE 265 Programmable Control Systems
- MTE 268 Automated Support Systems
- MTE 350 Robotic Systems

Independent Study Courses
- TED 310 Studies in Communication (1-3 Cr.)
- TED 330 Studies in Transportation (1-3 Cr.)
- TED 340 Studies in Construction (1-3 Cr.)
- TED 350 Studies in Manufacturing (1-3 Cr.)
- TED 460 Honors Study in Communication (1-3 Cr.)
- TED 465 Honors Study in Construction (1-3 Cr.)
- TED 475 Honors Study in Manufacturing (1-3 Cr.)
- TED 480 Honors Study in Transportation (1-3 Cr.)

[1]Denotes courses required before student teaching.
[2]See Approved Technical Electives for accepted electives.
[3]Denotes Construction Electives

Pennsylvania Certification requires a satisfactory score on the NTE.
Students must complete 15 hours of field observation per year (60 total). Act #34 and Act #151 clearance checks are required before a student can complete field observations or student teach.

Associate Degrees

The Department offers three associate degrees, Automation Technology: Computer Numerical Control (CNC), Screen Printing and Drafting Technology.

The associate degree requires the completion of 64-66 credits. Associate degree credits can be transferred toward the completion of a Bachelor of Science degree. The associate degree is designed to provide graduates with the skills essential to enter the work force as skilled technical workers.

Automation Technology: Computer Numerical Control

Computer Numerical Control (CNC) of machine tools provides manufacturing industries a means of increasing productivity and requires that industries have educated personnel who can develop complex computerized numerical control programs.

California University of Pennsylvania has an outstanding Computer Numerical Control Machining Laboratory. It is equipped with two Bridgeport CNC vertical milling machines and a CNC lathe. High speed terminals, plotters and microcomputers are available for the preparation of programs.

Career Outlook

Career opportunities appear to be excellent. People trained in the programming of computer numerical control machines can expect to be employed as CNC Technicians. Personnel with CNC skills are needed in most geographic regions in the United States. Jobs are available to graduates who excel.

Curriculum

Students in the Computer Numerical Control option of the Automation Technology Program will learn to write manual programs in the format detail of the machine tool, employing linear and circular interpolation addressing three axes.

COMPACT II and APT are the two primary machine tool languages studied. Computer programs prepared by the students are interfaced with the machine tool with post processor software. Students load programs into the memory of a CNC lathe or mill and manufacture the part. Students, therefore, are experienced CNC machine operators, as well as manual, APT, and COMPACT II programmers.

The principal objective of the Computer Numerical Control Program is to provide students with sufficient skills and expertise in programming and operating computerized numerical control equipment to secure employment in the field.

Upon completion of the program, the graduate is expected to be able to:

1. Program, set up, and operate CNC equipment, such as lathes and mills.
2. Program using COMPACT II and APT programming languages.
3. Prepare supporting documentation for machine setup and operation.
4. Program linear and circular moves.
5. Machine parts on a mill and a lathe using CNC programs he/she prepared.

Associate of Science in Automation Technology: Computer Numerical Control Option (66 crs.)

A. General Studies: 27 credits

CSC	120	Problem Solving and Program Con.
ENG	101	English Composition I
ENG	217	Scientific & Technical Writing
MAT	182	Technical Math I
PHI	247	Science, Technology & Society

Humanities Elective - three credits
Social Science Elective - three credits
Natural Science Elective - three credits
Free Elective - three credits

B. Technical Studies: 39 credits

Computer Numerical Control Machining - 24 credits

IND	165	Machine Processing I
IND	265	Machine Processing II
MTE	236	Numerical Control Programming I
MTE	336	Numerical Control Programming II
MTE	337	Computer Programming Numerical Control Equipment (COMPACT II)
MTE	338	Computer Programming Numerical Control Equipment (APT)
MTE	437	Advanced Computer Programming Numerical Control Equipment (COMPACT II)
MTE	438	Advanced Computer Programming Numerical Control Equipment (APT)

Related Electives - 15 credits

IND	110	Technical Drawing I
IND	135	Digital Electronics
IND	210	Technical Drawing II
IND	235	Introduction to Microprocessors
IND	270	Hydraulic/Pneumatic Fluid Power

Drafting Technology

Drafting is considered the primary means of communicating technical ideas. It is the graphic language of industry and is essential to the process of design, manufacturing, and service. A modern drafting laboratory and a well equipped CAD laboratory with terminals and plotters are available to support this program. A variety of industrial CAD software is used.

Career Outlook

As we continue to grow technologically, the need for drafting technicians will continue to increase. Since technological growth is expected to continue for many years to come, the need will, presumably, also continue to grow.

Curriculum

The principal objective of the Drafting Technology program is to provide students with sufficient skills and expertise to secure employment in drafting or a related field. In addition, credits earned in this Associate Degree program are applicable to four-year Bachelor of Science degree programs.

Upon completion of the program, the graduate is expected to be able to do at least the following:

1. Communicate technical ideas through freehand sketching.
2. Make technical drawings that fully describe a design idea.
3. Solve technical problems by using the tools and techniques of drafting.
4. Prepare pictorial presentation drawings.
5. Write technical reports that are clear, concise, and accurate.
6. Prepare drawings and solve design problems using CADD systems.

Associate of Science in Drafting Technology (66 crs.)

A. General Studies: 27 credits

CSC	120	Problem Solving & Programming Constructs
ENG	101	English Composition I
ENG	217	Scientific & Technical Writing
MAT	182	Technical Math I
PHI	247	Science, Technology & Society

Humanities Elective - three credits
Social Science Elective - three credits
Natural Science Elective - three credits
Free Elective - three credits

B. Technical Studies: 39 credits

Technical Drawing - 30 credits

EAS	271	Cartography
IND	110	Technical Drawing I
IND	101	Drawing and Design
IND	210	Technical Drawing I
IND	215	Computer Aided Drafting I
IND	218	Descriptive Geometry and Surface Development
IND	310	Technical Drawing III
IND	315	Computer Aided Drafting II
IND	320	Architectural Drawing & Design

Related Area Electives - nine credits
(Select three of the following)

GCT	100	Graphic Communication Processes I
IND	165	Machine Processes I
ITE	101	Industrial Safety
ITE	181	Materials Technology I

Screen Printing Technology

Screen printing is a component of the rapidly growing graphic communications industry. Because of the increasing complexity of the communications industry, individuals trained in screen printing are in demand.

Four outstanding graphic laboratories, each with modern equipment, serve this program. Modern color imaging equipment, screening presses, dryers, computer stencil transfer equipment, semi-automated printing presses and other support items are available in the labs.

Career Outlook

Career opportunities are good. People trained in screen printing will find employment opportunities in most segments of the communications industry; small printing companies and large corporations with communications divisions.

Curriculum

The principal objective of the Screen Printing program is to provide students with knowledge and expertise in the applications of screen printing, thus enabling them to become productive members of the graphic communications industry.

This program of studies offers the flexibility of scheduling business electives for the acquisition of knowledge and skills to initiate and manage a screen printing business or company division.

After completing the program, the graduate will be able to:

1. Identify materials capable of being screen printed, based on a particular application.
2. Formulate a plan for the production of a screen printed product consistent with the individual's career objective.
3. Produce quality screen printing plates for given applications.
4. Screen print a quality image on a designated material, in accordance with detailed specifications.
5. Assess the quality and value of screen printed productions.
6. Recognize the importance of membership in professional associations which support individual career objectives and further professional growth.

In addition, all credits earned in this Associate (two year) program, are transferable to a four year Bachelor of Science degree program.

Associate of Science in Screen Printing Technology (66 crs.)

A. General Studies: 27 credits

CSC	120	Problem Solving & Programming Constructs
ENG	101	English Composition I
ENG	217	Scientific & Technical Writing
MAT	182	Technical Math I
PHI	247	Science, Technology & Society

Humanities Elective - three credits
Social Science Elective - three credits
Natural Science Elective - three credits
Free Elective - three credits

B. Technical Studies: 39 credits

Screen Printing - 30 credits

GCT	100	Graphic Communication Processes I
GCT	110	Screen Printing Techniques
GCT	210	Advanced Screen Printing Techniques
GCT	220	Black and White Photography
GCT	225	Principles of Layout & Design
GCT	240	Electronic Desktop Publishing
GCT	310	Screen Printing Productions
GCT	342	Estimating & Cost Analysis
IND	101	Drawing and Design
ITE	101	Industrial Safety

Related Area Electives - nine credits
(Select three of the following)

GCT	200	Graphic Communication Processes II
GCT	230	Color Photography
GCT	270	Lithographic Techniques
IND	130	Introductory Circuit Analysis
IND	278	Plastics Technology
ITE	375	Principles of Production
PHY	135	Chemistry of Materials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MATHEMATICS AND COMPUTER SCIENCE

Programs

The Bachelor of Science degree in Applied Computer Science is designed to provide the student with a strong computer science background supplemented with a substantial core of courses in a related academic discipline The degree enables a student to apply the Computer Science training to an academic area of their choice.

The Bachelor of Science degree in Mathematics and Computer Science is a careful blending of courses that offers the student both theory and applications in mathematics and computer science. It prepares you for a position in business, industry or government or to go on to graduate studies in Math or Computer Science.

The Bachelor of Science degree in Industrial Management: Management and Computer Science Option emphasizes management and business courses along with computer science courses. The program is designed to prepare the student for continued study at the graduate level or for employment in business, industry, or government.

The Bachelor of Arts degree in Mathematics is a sufficiently flexible program that permits the student to select courses that meet particular interests and needs. It allows for both depth and breadth of study in mathematics as well as study in the natural sciences. It is designed to provide the student with an excellent background for graduate studies in mathematics and for employment opportunities in business, industry, or government.

The Bachelor of Science in Education degree is a program designed for the student who wishes to pursue a career in secondary teaching of mathematics. It provides the prospective teacher the opportunity to acquire the knowledge, attitudes, skills, and understanding necessary to become an effective educator.

The Associate degree in Computer Science is a two–year program designed to provide the student with career–oriented computer science technology background. Though its emphasis is on training for job placement in the computer industry after a two–year curriculum, the program is designed to allow for transfer into a four- year Bachelor of Computer Science programs.

In addition to the degree programs, the department offers an 18–credit hour certificate program in personal computer applications.

Internships

Provision is made in several of the programs to accommodate student internships. The availability of these internships is dependent upon the needs of various governmental agencies and private employers, and they are not a guaranteed part of the program. If selected, the student may earn a salary as well as college credit and invaluable experience.

Faculty advisors work carefully with the student to select the courses best suited to the student's interests and goals. An open–door policy prevails in the Department of Mathematics and Computer Science so that students may discuss problems freely with their advisors or members of the department.

Student work–study assignments are available for those who desire and qualify for employment. Students may assist in the Mathematics Department, the Computer Center, the Computer Laboratory, or the Mathematics Laboratory. Hence, students learn while they earn.

Awards

In order to encourage and recognize academic achievement, the Department of Mathematics and Computer Science makes the following awards:

Computer Science Award: The computer science award is presented annually to the graduating student of the Mathematics and Computer Science Department who has achieved a high level of academic excellence in computer science courses.

Frederick E. Atkins Memorial Award: In honor of the contributions made by Frederick E. Atkins to the Mathematics Department and to the many students he taught, an award established in his name is presented to the graduating student of the Mathematics and Computer Science Department who has achieved a high level of academic excellence in Mathematics courses, in either the Mathematics and Computer Science program or the Bachelor of Arts in Mathematics program.

Faculty

Professor Andrew J. Machusko, chair; Associate Professor, Jerry M. Blackmon, assistant chair;
Professors Anette M. DeNardo, Robert T. Little, Anthony S. Pyzdrowski, Lawrence D. Romboski, Paul D. Williams;
Associate Professors William F. Blank, Nicholas Ford, John S. Gibson, Jr., Judith I. Hall, George D. Novak,
Elwyn M. Schmidt, John S. Skocik, Jr., Barbara Hess, Karla A. Hoffman, Nancy A. Skocik, Virginia Rider Valentino

Bachelor of Science in Applied Computer Science

Curriculum

(A) General Education: English Composition I-II (ENG 101, 102), Scientific and Technical Writing I (ENG 217), Oral Communication or Oral Communication Management (COM 101 or COM 250), Problem Solving and Program Constructions (CSC 120), PreCalculus (MAT 199), six credits in Humanities, six credits in Social Sciences, six credits in Natural Sciences, 12 credits of Free Electives.

(B) Area of Concentration: Statistics (MAT 215), Discrete Mathematics (MAT 272), Basic Calculus (MAT 273), Linear Algebra I (MAT 341), COBOL I or FORTRAN (CSC 218 or 224), C Programming (CSC 223), Logic & Switching Theory (CSC 316), Assembly Language Programming (CSC 323), Object Oriented Programming (CSC 333), Information Structures (CSC 377), Computer Architecture (CSC 378), Software Engineering (CSC 396), Operating Systems (CSC 400), Data Communications (CSC 405), LISP Programming (CSC 410), Structures of Programming Languages (CSC 455). 12 credits of Computer Science Electives selected from the following: COBOL I or FORTRAN (CSC 218 or 224), COBOL II (CSC 318), Computer Graphics (CSC 324), Hypermedia and CAI (CSC 357), Systems Analysis (CSC 375), Computer Science Internship (CSC 419), Artificial Intelligence (CSC 420), Numerical Analysis (CSC 424), Data Base Management Systems (CSC 456), Language Translation (CSC 460), Theory of Languages (CSC 475)

(C) Related Area: 20 credits of related electives must be taken in a single discipline selected by the student and approved by the faculty advisor and the department chairperson (at least 14 credits must be 200 level or higher).

Bachelor of Science in Mathematics and Computer Science

The program leading to the Bachelor of Science degree in Mathematics and Computer Science is a careful blending of courses which offer students the theory and application of problems in mathematics and computer science.

A demanding but versatile program, it permits students with a deficiency in mathematics to take introductory courses to provide them sufficient background to effectively take courses in their area of concentration. Although the introductory courses do not count in the area of concentration, they do count as free electives in the program.

This program is designed to prepare the student for continued study at the graduate level or for employment in business, industry, and government in computer operations, computer programming, systems analysis, or computer equipment analysis, or as a computer specialist in research, analysis, information storage and retrieval, or computer sales.

Curriculum

(A) General Education: English Composition I-II (ENG 101, 102), Scientific and Technical Writing (ENG 217), Problem Solving and Program Constructions (CSC 120), Discrete Math (MAT 272), Formal Logic I (PHI 211), six credits in Humanities, six credits in Social Sciences, six credits in Natural Sciences, 12 credits of Free Electives.

(B) Area of Concentration: Calculus I-II (MAT 281, 282), Linear Algebra I (MAT 341), Abstract Algebra (MAT 351), Calculus III-IV (MAT 381, 382), Differential Equations (MAT 406), Statistical Analysis I (MAT 461), six credits from Mathematics courses listed, C Programming (CSC 223), FORTRAN (CSC 224), Logic and Switching (CSC 316), Assembly Language (CSC 323), Object Oriented Programming (CSC 333), Information Structures (CSC 377), Computer Architecture (CSC 378), Software Engineering (CSC 396), Operating Systems (CSC 400), Numerical Analysis (CSC 424), Structures of Programming Language (CSC 455), Theory of Languages (CSC 475), 14 credits selected either from Group I or Group II only.

Group I:
- CSC 324-Computer Graphics
- CSC 357-Hypermedia & CAI
- CSC 405-Data Communications
- CSC 410-LISP Programming
- CSC 419-Internship (maximum six credits)
- CSC 420-Artificial Intelligence
- CSC 460-Language Translation

Group II:
- CSC 218-COBOL I
- CSC 318-COBOL II
- CSC 324-Computer Graphics
- CSC 357-Hypermedia and CAI
- CSC 375-Systems Analysis
- CSC 405-Data Communications
- CSC 419-Internship (maximum six credits)
- CSC 456-Data Base Management Systems

NOTE: Other specific requirements relative to this program are available in the department office.

Bachelor of Arts in Mathematics

Curriculum

(A) General Education: Composition I–II (ENG 101, 102), 12 credits of Humanities, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration: Calculus I, II, III, IV (MAT 281, 282, 381, 382), Geometry (MAT 203), Abstract Algebra I (MAT 351), Linear Algebra I (MAT 341), Statistical Analysis I (MAT 461), Differential Equations (MAT 406), Advanced Calculus I (MAT 481) and II (MAT 482), Topology (MAT 490).

(C) 12 credits in Physics and/or Chemistry.

(D) 20 credits in Natural Science Electives.

*Other specific requirements relative to this program are available in the department office.

Bachelor of Science in Education: Certification in Mathematics for Secondary Education

Curriculum

(A) General Education: 15 credits in Humanities, including Composition I – II (ENG 101, 102), nine credits in Natural Sciences, nine credits in Social Science, three credits in Health or Physical Activities, Oral Communication (COM 101), General Psychology (PSY 100), nine credits of Free Electives.

(B) Professional Education: Policy Studies in American Education (EDE 290) Educational Psychology (PSY 208), Applied Instruction Tech (EDF 302), Problems of Secondary Education (EDS 300), Educational Tests and Measurements in Secondary Schools (EDS 430), Developmental Reading in Secondary Schools (EDS 465), Computers for Teachers (EDF 301), Teaching in a Multicultural Society (EDU 210), Mainstreaming Exceptional Child (EDU 340), Teaching of Mathematics in Secondary Schools (EDS 460), Student Teaching and School Law (EDS 461).

(C) Professional Specialization: Required: Calculus I, II, III (MAT 281, 282, 381), Discrete Mathematics (MAT 272), Geometry (MAT 203), Abstract Algebra I (MAT 351), Statistical Analysis I (MAT 461), Linear Algebra I (MAT 341), History of Mathematics (MAT 304), Basic Programming Language (CSC 105) or Introduction to Computer Science with Pascal (CSC 123).
Students must have a 2.5 QPA in the Area of Professional Specialization before being accepted to student teach.

Restricted Electives: Choose one from Group I and one from Group II.

Group I: Calculus IV (MAT 382), Differential Equations (MAT 406), Abstract Algebra II (MAT 451), Statistical Analysis II (MAT 462), Linear Algebra II (MAT 441), Honors Course in Mathematics (MAT 469), Theory of Equations (MAT 305), Seminar in Mathematics (MAT 495).

Group II: Basic Program Language (CSC 105), Introduction to Computer Science with Pascal (CSC 123), Introduction to Computer Science with C (CSC 223), Assembler Language (CSC 323), Information Structures (CSC 377), Systems Analysis (CSC 375).

Students must also achieve a satisfactory score on the NTE in order to acquire Pennsylvania certification

NOTE: Other specific requirements relative to this program are available in the department office.

Bachelor of Science in Industrial Management: Management and Computer Science Option

Curriculum

(A) General Education: English Composition I (ENG 101), Business Writing I (ENG 211), Scientific and Technical Writing (ENG 217), Math of Finance I (MAT 171), Pre-Calculus (MAT 199), Basic Calculus (MAT 273), six credit in Humanities, six credits in Social Sciences, six credits in Natural Sciences, 12 credits of Free Electives.

(B) Area of Concentration: Statistics (MAT 215) or Business Statistics (MAT 225), Math of Finance II (MAT 271), Discrete Mathematics (MAT 272), Oral Communication Management (COM 205), General Psychology (PSY 100), Industrial Psychology (PSY 326), Micro Applications Software (CSC 101), Problem Solving and Programming Constructions (CSC 120), COBOL I (CSC 218), C Programming (CSC 223), Survey of Operations Research (CSC 309), COBOL II (CSC 318), Systems Analysis (CSC 345), Information Structures (CSC 377), Software Engineering (CSC 396), Data Base Management (CSC 456), at least five credits of elective Computer Science courses taken from the list (200 level or higher).

(C) Related Area: Accounting I (ACC 201), Accounting II (ACC 202), Managerial Accounting (ACC 321), Introductory Microeconomics (ECO 201), Introductory Macroeconomics (ECO 202), Principles of Management (MGT 201), Financial Management (FIN 301), Labor Relations (MGT 362), Managerial Information Systems (MGT 371).

Associate of Science in Computer Science Technology

This two–year associate degree program provides students with training in computer science technology. This high quality program is career oriented.

All credits earned in this program are directly transferable to the four year Bachelor's degree in Industrial Management: Management and Computer Science Option.

Curriculum

(A) General Education: English Composition I (ENG 101), Science and Technical Writing (ENG 217), Problem Solving and Programming Constructs (CSC 120), College Algebra (MAT 181) or Technical Mathematics I (MAT 182), Science, Technology, and Society (PHI 247), three credits in Humanities, three credits in Social Sciences, three credits in Natural Sciences, three credits in Free Electives.

(B) Area of Concentration: Mathematics of Finance I (MAT 171), Statistics (MAT 215) or Business Statistics (MAT 225), Discrete Mathematics (MAT 272), Micros and Applications Software (CSC 101), Cobol I (CSC 218), C Programming (CSC 223), Computer Operations (CSC 300), Hypermedia and CAI (CSC 357), Information Structures (CSC 377), 12 credits Mathematics or Computer Science courses selected from the list above (200 level or higher).

Certificate In Personal Computer Applications

The Mathematics and Computer Science Department offers an 18 credit hour certificate program in personal computer applications. This program is designed for both undergraduate students interested in concentrating their elective course work in the area of microcomputer applications and non-degree seeking students interested in learning how to use microcomputers in their daily lives. The course requirements are divided into the two areas: Programming (6 credits) and Application Software (12 credits).

Curriculum

(A) Computer Programming (6 credits): Problem Solving and Programming Constructions (CSC 120), Visual Basic (CSC 202).

(B) Application Software (12 credits): Introduction to Microcomputer Application Software (CSC 101), Introduction to Data Base Applications Software (CIS 150), Introduction to Telecommunications and Local Area Networks (CIS 215), DOS, Windows and the Internet (CSC 201).

Minor in Mathematics

Required: (15 credits): MAT 272 Discrete Mathematics, MAT 281 Calculus I, MAT 282 Calculus II, MAT 341 Linear Algebra I, MAT 381 Calculus III.
Electives: (Six credits from the following list): MAT 201 Mathematical Modeling, MAT 203 Geometry, MAT 351 Abstract Algebra I, MAT 382 Calculus IV, MAT 406 Differential Equations, MAT 441 Linear Algebra II, MAT 461 Statistical Analysis I.

Minors in Computer Science

Computer Science Concentration

Required: MAT 272 Discrete Mathematics, CSC 120 Problem Solving and Programming Constructions, CSC 233 C Programming, CSC 316 Logic and Switching Theory, CSC 377 Information Structure.
Electives: Select any two of the following courses: CSC 202 Visual Basic, CSC 218 COBOL I, CSC 224 FORTRAN, CSC 333 Object Oriented Programming, CSC 375 COBOL II, CSC 396 Software Engineering, CSC 419 Computer Science Internship.

Information Systems Concentration

Required: CSC 101 Microcomputers and Applications Software, CSC 120 Problem Solving and Programming Constructions, CSC 201 DOS Windows and Internet, CIS 150 Introduction to Data Base Applications, CIS 215 Introduction to Local Area Networks and Telecommunications.
Electives: Select any one of the following: CSC 223 C Programming, CSC 300 Computer Operations, CSC 309 Survey of Operations Research, CSC 357 Hypermedia and CAI, CSC 419 Computer Science Internship.

MUSIC

Purpose

People, regardless of time and place, are expressive about the circumstances of their lives, as well as about their hopes and dreams. One form of that expression is music. To comprehend its meaning and importance necessitates relating it to an historical context and to understanding the science of sound production behind this art form. Music is not simply an end in itself. Music is also a means by which the values and interests of a society are revealed.

The music curriculum is designed to give a general introduction to the appreciation of modern and classical music as well as to provide interested students with the opportunity to participate in the university's instrumental and vocal ensembles.

Program

The university has no major in music. The curriculum serves the General Studies program of the university and the Co–Curricular program sponsored by Student Affairs. It provides students with the opportunity and flexibility to structure a course of study from across disciplines in the humanities.

Faculty

Associate Professor Albert Tiberio, chair; Professor Max Gonano; Associate Professors Gene G. Suskalo, Ellen Michael.

NURSING

Purpose

California University's Nursing Department offers an upper division program leading to a Bachelor of Science in Nursing for registered nurses from associate degree and diploma programs. The program is accredited by the National League for Nursing Council of Baccalaureate and Higher Degree Programs.

The RN/BSN program is designed to provide the graduate with an educational foundation in the arts and sciences as well as nursing, to serve as a basis for graduate education and as a commitment for lifelong learning. Additionally, the program assists the RN with the synthesis of theories and research findings into the role of the professional nurse, and builds upon the RN's competencies in nursing by providing increasingly complex experiences in a variety of settings.

All of the academic requirements of the university apply to the Nursing program. In addition, a minimum grade of "C" is required in each upper-division nursing course. Admission to upper division nursing courses requires completion of an Entry Level Portfolio, including evidence of RN licensure in Pennsylvania, CPR certification, OSHA inservice on universal precautions, annual health evaluation, professional liability insurance, personal health insurance, and two professional references. Specific information and forms concerning these requirements are available in the Nursing Department.

Advanced Placement

Students who have graduated from an NLN accredited associate degree or diploma program within ten years of admission to the nursing program, and who graduated with a QPA of 2.5 or higher (based on a 4.0 scale), receive 30 advance placement credits in nursing upon satisfactory completion of an Entry Level Portfolio. All other students must satisfactorily complete the NLN Mobility Profile II Examinations as well as the Entry Level Portfolio in order to receive 30 advance placement credits in nursing.

Optional examinations are available for students who wish to challenge selected general education requirements. These include the CLEP, DANTES, and NLN Science examinations. Information on these exams is available in the Nursing Department.

Scholarship Opportunities

Scholarship opportunities for RN students entering this program are available through various local, state and national nursing organizations. Additionally, the Department of Nursing maintains a Nursing Honor Society and a Nursing Alumni Society which presents a yearly award to the outstanding graduating senior.

Bachelor of Science in Nursing

Curriculum

PreBSN Major:

I. General Education

A	Communication Skills	
	English Comp I (ENG 101)	3
	English Comp II (ENG 102)	3
	Group Discussion Management (COM 102)	3
B.	Social & Behavioral Sciences	
	General Psychology (PSY 100)	3
	Principles of Sociology (SOC 100)	3
	Developmental Psychology (PSY 207)	3
C.	Humanities/Fine Arts	
	Perspectives in Philosophy (PHI 100) or Ethics (PHI 220) or Medical Ethics (PHI 307)	3
D.	Natural Sciences (optional challenge exams):	
	Anatomy & Physiology (BIO 230 & BIO 260)	8
	Chemistry for Health Professionals (CHE 150)	4
	Microbiology (BIO 226)	4

II. Nursing

A.	Advanced Placement or NLN Mobility II Exams	
	Care of the Adult Client	
	Care of the Client during Childbearing/Care of Child	
	Care of Client with a Mental Disorder	
B.	Entry Level Portfolio	
	TOTAL OF A & B	30
TOTAL PreBSN		67

**All preBSN requirements must be successfully completed before being admitted to upper division nursing courses. Status change from preBSN to BSN occurs upon completion of all preBSN requirements.

Faculty

Professors Margaret A. Marcinek, chair; Professor Jacqueline Stefanik; Associate Professors Debra A. Shelapinsky and Suzanne M. Palko.

BSN Major

I.	General Education	
	Statistics (MAT 215 or 225)	3
	Social Psychology (PSY 211) or Industrial Psychology (PSY 209)	3
	Humanities Elective	3
II.	Supportive Courses	
	Principles of Management (MGT 201)	3
	Computer Science Elective	3
	Supportive Electives: XGE, CSC, ENG 211, COM, MGT, NUR 200, BIO. (Choose any two)	6
III.	Nursing	
	Philosophy of Professional Nursing (NUR 330)	3
	Health Assessment (NUR 350)	3
	Methods of Nursing Research (NUR 370)	3
	Leadership & Change in Nursing (NUR 375)	6
	Research Utilization (NUR 410)	2
	Trends & Issues in Nursing (NUR 450)	3
	Family Health Nursing (NUR 470)	6
	Community Health Nursing (NUR 475)	6
	Professional Development (NUR 485)	1
IV.	Free Electives	7
TOTAL PreBSN MAJOR		67
TOTAL BSN MAJOR		61
TOTAL FOR DEGREE		128

NOTE: General education courses may be accepted as transfer credits from accredited institutions.
A minimum of 42 credits, including all upper division nursing courses, must be completed at California University of Pennsylvania.
Selected courses may be challenged by examination. Specific information on challenge examinations may be obtained from the Department of Nursing.

School Nurse Certification

The School Nurse Certification program is offered jointly through the College of Education and the Department of Nursing. The registered nurse who completes the School Nurse Certification program will have the ability to apply the knowledge and skills obtained in the BSN program in meeting the health care needs of children in elementary and secondary school settings. Students who successfully complete the program are eligible to apply for the School Nurse Certificate (Education Specialist I) issued by the Pennsylvania Department of Education.

RN/BSN students may complete the 13 required credits for certification as supportive and free electives within the BSN major. Registered nurses who have previously earned a BSN must complete a minimum of the 13 required credits.

In order to participate in the school nurse practicum experience (NUR 406), the student must provide evidence of: current licensure as a registered nurse in Pennsylvania, current CPR certification, first aid certification (advanced certification preferred), physical exam including tuberculin testing or chest X-ray, attendance at OSHA inservice on universal precautions, professional liability insurance, and Act 34 and Act 151 Clearance Forms.

Curriculum

Policy Studies in American Education (EDF 290)	3
Educational Psychology (PSY 208)	3
Introduction to the Exceptional Child (ESP 501)	3
School Health Nursing (NUR 406)	4
Total	13

PHILOSOPHY

Purpose

The word "philosophy" comes from two Greek words that mean love (phileo) and wisdom (sophia), and throughout much of history anyone who sought knowledge was called a philosopher. Socrates, though, was esteemed to be a good philosopher because he was aware of how little he knew. In knowing this, however, he was wiser than some "authorities" and "experts" whose unreflective confidence in their beliefs was mistaken. In this tradition, philosophy became the academic discipline which critically studies the justification of beliefs and attempts to put together different kinds of beliefs to form a workable view of reality as a whole. In brief, philosophy is the critical study of theories about truth, knowledge, reality, and values. Aristotle thought the study of philosophy was intrinsically rewarding, an end in itself, because it fulfilled a distinctively human potential, namely the ability to reason and to know. But if minimizing mistaken or dogmatic beliefs has practical value, then philosophy also can serve pragmatic purposes.

Philosophy students study the historical development of theories about the nature of knowledge, reality, and values, and they learn how to assess such theories. Students develop abilities to think logically, to explore issues from different perspectives, and to present their ideas effectively in writing.

Programs

The philosophy major is a program of study covering the history of philosophy, logic, and issues in philosophy which might be grouped as ethical, epistemological, or metaphysical. In addition to the traditional philosophy major, the department also offers a Philosophy/Pre-Law option. This option is not required for those intending to go to law school, but it indicates courses which might be useful for students planning a career in law.

Activities

The Philosophy Department advises the student Philosophy Club. This club gives students informal social opportunities for discussions, debates, and lectures. The Philosophy Department also hosts topical lectures and forums.

Careers

Philosophy majors go on to a variety of careers: law, ministry, teaching, civil service, management, to name a few. Indeed, the philosophy major is well suited for any career that values critical reasoning, logical problem solving, and an ability to look at issues from many perspectives. Increasingly the business world is looking for this kind of liberally educated person. Philosophy majors work closely with their advisors to choose major and non-major courses that will help them achieve their individual educational and career goals. The philosophy program at California University is designed to be flexible so that it can be tailored to a variety needs and interests.

Bachelor of Arts in Philosophy

Curriculum

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

(B) Area of Concentration (68 credits): Required (24 credits): Logic and Language (PHI 115) or Formal Logic I (PHI 211), History of Ancient Philosophy (PHI 201), 16th to 18th Century Philosophy (PHI 206), Social and Political Philosophy (PHI 225) or Philosophy of Law (PHI 370), Ethical Theory (PHI 320), Philosophy of Science (PHI 325) or Epistemology (PHI 405) , Metaphysics (PHI 410) or Philosophy of Mind (PHI 415), Tutorial (PHI 459) or Seminar (PHI 490).

Restricted Electives (15 credits): five Philosophy courses, with two at the 200 level or higher, and three at the 300 level or higher.

Related Electives (29 credits).

Bachelor of Arts in Philosophy: Pre-Law Option

Curriculum

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

(B) Area of Concentration (68 credits): Required (18 credits): Logic and Language (PHI 115), History of Ancient Philosophy (PHI 201), 16th-18th Century Philosophy (PHI 206), Social and Political Philosophy (PHI 225), Ethical Theory (PHI 320), Philosophy of Law (PHI 370).

Restricted Electives (15 credits): five Philosophy courses, with two at the 200 level or higher, and three at the 300 level or higher.

Related Fields (24 credits): Business Law I (BUS 242), Interpersonal Communication (COM 165) or Argumentation and Debate (COM 230) or Persuasion (COM 350), English Grammar and Usage (ENG 345) or Advanced Writing (ENG 375), History of US to 1877 (HIS 101), History of US since 1877 (HIS 102), American Government (POS 105) , Development Political Thought: Classical and Medieval (POS 228) or Development Political Thought: Modern (POS 229), Constitutional Law-Gov Powers (POS 314) or Constitutional Law - Civil Lib (POS 315) or Judicial Process (POS 316).

Related Electives: (11 credits).

Minor in Philosophy

Required: PHI 115 Logic and Language or PHI 211 Formal Logic I, PHI 206 History of Ancient Philosophy, PHI 206 16th to 18th Century Philosophy.
Electives: 12 credits of Philosophy courses at the 300-400 level.

Faculty

Professor Ronald C. Hoy, chair; Professors John J. Burns, Barbara Ann DeMartino Swyhart; Assistant Professor Gary A. Smith.

PSYCHOLOGY

Purpose

Psychology is one of the social/behavioral sciences engaged in the systematic study of behavior and experience. Psychology focuses on the study and explanation of patterns of individual behavior. The latter rests not only on mental processes but on social and physiological ones. The field of psychology seeks to understand individual behavior as an end in itself as well as use that information to assist persons to live more productive and fulfilling lives.

Programs

The department offers two majors: General Psychology and Industrial/Organizational Psychology. Industrial/ Organizational Psychology is the research and applied specialty which is concerned with the impact of organizational dynamics upon individual decision–making. It is the major for students interested in human resource management careers. Within the General Psychology major there are options for students interested in counseling and mental health care careers, or educational, child, or developmental psychology. The department makes available to its majors a publication entitled "The Survival Manual," which states policies, procedures, course requirements, and other information of interest to majors.

Awards

The David W. Hambacher Memorial Fund Scholarship Award is given annually. Applicants must be Psychology majors with a 3.0 grade point average and have completed 96 credits. Information about the award is available in the departmental office. The award is given in the Spring semester.

An Outstanding Senior Award is given annually at the spring Psychology Club banquet.

Honor And Professional Societies

Qualified majors can join Psi Chi, the national honor society. The department also sponsors a Psychology Club which hosts guest speakers, organizes trips to conferences of professional interest, and provides career and employment information.

Careers

Traditionally, psychologists have been employed in universities, schools and clinics. Today, more than ever before, they can be found working in businesses, hospitals, private practice, courtrooms, sports competitions, police departments, government agencies, private laboratories, the military and other settings.

A Bachelor of Psychology in the Industrial/Organizational area can find employment in personnel resource management. Students will be prepared to do personnel recruitment, training, testing, and supervision. Most career opportunities in psychology, however, require an advanced degree.

Bachelor of Arts in Psychology

Curriculum

(A) General Education: Composition I–II (ENG 101, 102), 12 credits of Humanities, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration: General Psychology (PSY 100), Psychological Statistics (PSY 225), Psychology of Learning (PSY 235), History and Systems of Psychology (PSY 345), Experimental Psychology (PSY 360).

One of the following: Child Psychology (PSY 205), Adolescent Psychology (PSY 206), Developmental Psychology (PSY 207).

Two of the following: Educational Psychology (PSY 208), Industrial Psychology (PSY 209), Social Psychology (PSY 211), Psychological Testing (PSY 340).

One of the following: Psychology of Personality (PSY 305), Abnormal Psychology (PSY 400).

Nine to 24 credits of additional Psychology courses. Seventeen to 35 credits in related electives, including courses in at least three of the following areas: Anthropology, Biology, Chemistry, Education, Gerontology, Social Work, Political Science, Philosophy, Physics, Sociology, and Special Education.

Faculty

Professor Elizabeth Mason, chair; Professors Gail Ditkoff, Richard Scott, Sylvia S. Williams, M. Eugene Wilson; Associate Professors Kirk John, Dennis C. Sweeney, Richard Cavasina; Assistant Professors Sam Lonich, Paula Martasian.

Bachelor of Arts in Industrial/ Organizational Psychology

Personnel officers today need more than just the traditional economic and statistical tools: they 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 area 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 further graduate work in Industrial/Organizational Psychology but for the numerous positions entailing personnel recruitment, training, testing, and supervision.

Curriculum:

(A) General Education: Composition I–II (ENG 101, 102), 12 credits of Humanities, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration: General Psychology (PSY 100), Advanced Industrial Psychology (PSY 428), Experimental Psychology (PSY 360), Social Psychology (PSY 211), Psychological Statistics (PSY 225), Industrial Psychology (PSY 209), Psychology of Learning (PSY 235), Psychology of Testing (PSY 340), History and Systems (PSY 345), Interviewing Skills (PSY 370), Principles of Management (MGT 201), Organizational Behavior (MGT 301), Human Resource Management (MGT 352), Compensation Management (MGT 353), Labor Relations (MGT 362).

Eight credits of psychology electives. Fifteen credits of Restricted Electives from Communication Studies, Business, Accounting, Economics, Industrial Technology Education, Computer Assisted Workshops, and English.

Minors

Psychology: General Concentration

Required: (nine credits): PSY 100 General Psychology, PSY 225 Psychological Statistics, PSY 305 Psychology of Personality, PSY 360 Experimental Psychology.
Electives: (six credits):
Select one: PSY 205 Child Psychology, PSY 206 Adolescent Psychology, PSY 207 Developmental Psychology
Select one: PSY 208 Educational Psychology, PSY 209 Industrial Psychology, PSY 211 Social Psychology, PSY 235 Psychology of Learning.
Select two 300- or 400-level Psychology Electives: (Six credits) 300-level or above.

Psychology: Industrial Organizational Concentration

Required: (21 credits) PSY 100 General Psychology, PSY 209 Industrial Psychological, PSY 370 Interviewing, PSY 428 Advanced Industrial Psychology, MGT 352 Human Resource Management, MGT 353 Compensation Management, MGT 362 Labor Relations.

SOCIAL SCIENCES

Purpose

Common to the degree programs offered by the Department of Social Sciences is the study of people interacting with one another. Their common approach is scientific, that is, they study patterns of human behavior by objective, measurable methodologies.

Anthropology is the most comprehensive since there is no aspect of human development or behavior that it does not study, although it traditionally has focused on pre–industrial societies. Anthropology includes such diverse subject areas as ethnology, medical and psychological anthropology, archaeology, and human evolution.

Political Science is the most prescribed of the discipline majors offered in the department. It limits its interests to the political aspects of human behavior, both national and international, including the study of power and organizations. Pre–law and Public Administration are two optional areas of study.

Sociology is the systematic study of all features of group life, beginning with the family and ending with global arrangements. Because it is a multi-paradigm science, students are educated to appreciate a wide range of theoretical perspectives and research methods. The Sociology Program offers course work in the structures and processes of social interaction. The place of sociology in interdisciplinary studies also is emphasized.

The Social Science Area major is general and interdisciplinary in nature. It presents an overview, as well as the interrelationships, of all the social science disciplines. Along with sociology, anthropology and political science, it includes psychology, history, geography and economics.

Programs

Anthropology, Social Science and Sociology are majors without optional specializations. Political Science is a major with three options: General Political Science, Public Administration, and Pre–Law. The Public Administration option is an interdisciplinary field of study with courses offered through the programs in Business and Economics, as well as Political Science.

Under the International Studies Program, Political Science advises the International Studies: Political Science option. This course of study is interdisciplinary. Finally, the department, in conjunction with the College of Education and Human Services, provides a teacher certification program for those interested in teaching the social sciences in secondary schools.

Field experiences are available in archaeology. An archaeology field school runs during the summer school session. Students participate in the excavation of a site.

Internships

An internship is a form of field experience. Anthropology students do internships at the Carnegie Museum in Pittsburgh and various historical sites, such as Bushy Run and the Fort Necessity Historical Park. Political Science students are placed in governmental agencies, law firms and offices of public administrators and elected officials where they can observe and practice what they have learned in the classroom. Sociology majors are placed in police departments, private investigation agencies, and governmental and private agencies serving the homeless and juvenile offenders.

Honor Societies

Anthropology majors are eligible for membership in the Gamma Chapter of Lambda Alpha, the national honor society. Requirements are the completion of twelve credits of Anthropology course work and a 3.0 grade point average or higher in the major, as well as an overall 2.7 grade point average.

Students in the social sciences are eligible for membership in Pi Gamma Mu, the social science honor society. Students must have completed sixty–four university credits, including a minimum of twenty credits in social science course work, and have a 3.0 or higher grade point average.

Awards

The Joseph Lynn Marino Memorial Award is presented annually. For consideration an applicant must have a minimum grade point average of 3.5, be enrolled in the College of Liberal Arts and have successfully completed two courses in Anthropology.

The Edward McNall Burns Scholarship Award is given annually to any individual majoring in anthropology, sociology, and political science.

The George S. Hart Memorial Award for Academic Excellence is given annually to the graduating senior with the highest GPA in the Social Sciences Area.

Contact the departmental office for further information.

Careers

Students with an undergraduate degree can secure work in entry level social service and personnel resource areas. Career opportunities, however, increase with the attainment of graduate course work and degrees. The social sciences as a whole prepare students to enter careers in law, public administration, the ministry, personnel resource management, education, social service professions and law enforcement.

Faculty

Associate Professor Walter A. Brumm, chair; Professors Rollin M. Barber, Ronald L. Michael, William F. Schweiker, James C. Wood; Associate Professors Joseph C. Heim, John P. Nass, Jr.; Assistant Professors Elizabeth A. Jones, Mohamed Yamba.

Bachelor of Arts in Anthropology

Curriculum

(A) General Education (60 credits): 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 (68 credits): Introduction to Anthropology (ANT 100), Archaeology Field School (ANT 101), World Ethnology (ANT 255), Archaeology (ANT 290) or Prehistoric American Indians (ANT 355), Human Origins (ANT 390), Anthropological Thought (ANT 421), 15 credits of electives in anthropology, Principles of Sociology (SOC 100), Psychological Statistics (PYS 225), Social Science Research Methods (SOC 308), and 23 credits of related electives or a minor.

Bachelor of Arts in Political Science: General Option

Curriculum

(A) General Education (60 credits): Composition I–II (ENG 101, 102), 12 credits in Humanities, 12 credits in Natural Sciences, 12 credits in Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration (68 credits): Introduction to Political Science (POS 100), American National Government (POS 105), Seminar in American Politics (POS 450). One course each in American Politics, Political Theory, International Relations/Comparative Politics, and Public Administration/ Public Policy. 12 credits of Political Science electives. At least nine credits must be at the 300 level or above. Related courses (35 credits): History of the United States to 1877 (HIS 101), History of the United States since 1877 (HIS 102), History Western Society to 1740 (HIS 104), and History Western Society since 1740 (HIS 106), and 23 credits in related courses or a minor, all of which must be at the 200 level or above.

Bachelor of Arts in Political Science: Public Administration Option

Curriculum

(A) General Education (60 credits): Composition I–II (ENG 101, 102), 12 credits in Humanities, 12 credits in Natural Sciences, 12 credits in Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration (68 credits): Political Science: Introduction to Political Science (POS 100), American National Government (POS 105), Introduction to Public Administration (POS 220), Introduction to Public Policy (POS 300), Methods of Political Analysis (POS 301), Seminar in American Politics (POS 450). Management (15 credits): Introduction to Microeconomics (ECO 201), Introduction to Macroeconomics (ECO 202), Financial Management (FIN 301), Principles of Management (MGT 201), Marketing for Non–Profit Organizations (MKT 341).
Related Courses (9 credits): Computer Science Elective, Group Discussion: Management (COM 102), Oral Communication: Management (COM 250). Public Administration Electives (24 credits). Electives: 2 credits

Bachelor of Arts in Political Science: Pre-Law Option

Curriculum

(A) General Education (60 credits): 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 (68 credits): Political Science (24 credits): Introduction to Political Science (POS 100), American National Government (POS 105), Seminar in American Politics (POS 450). One course each in American Politics, Political Theory, International Relations/Comparative Politics, Public Administration/Public Policy and Public Law. Nine credits of Political Science electives. At least nine of the preceding 24 credits must be at the 300 level or above.
Related courses (35 credits): History of the United States to 1877 (HIS 101), History of the United States since 1877 (HIS 102), History of Western Society to 1740 (HIS 104), History of Western Society since 1740 (HIS 106), and 23 credits in related courses or a minor, all of which must be at the 200 level or above.

Bachelor of Arts in Sociology

Curriculum

(A) General Education (60 credits): . Composition I–II (ENG 101, 102), 12 credits of Humanities, 12 credits of Natural Sciences, 12 credits of Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration: Required courses (30 credits): Principles of Sociology (SOC 100), Ethnic, Racial, and Sexual Minorities (SOC 110), Social Stratification (SOC 210), The Family (SOC 220), Social Institutions (SOC 240), Symbolic Interactionism (SOC 305), Social Science Research Methods (SOC 308), Sociological Theory (SOC 376), Seminar in Sociology (SOC 495), Statistics (MAT 215) or Psychological Statistics (PSY 225).
Sociology Electives, 18 credits, distributed in three categories of electives: Institutions, Collective Behavior and Social Issues.
Social Science Electives or a minor, 21 credits.

Bachelor of Arts in Social Sciences

Curriculum

(A) General Education (60 credits): 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: (68 credits): Required (30 credits): nine credits of 100 level introductory social science courses; 21 credits of 200 level courses, one each in anthropology, economics, geography, history, political science, psychology, history and sociology.

Related electives (15-20 credits): All courses used to fulfill these electives must satisfy four conditions: must not be in the discipline selected as "Area of Interest," must have direct relevance to analyzing and understanding human behavior, must be from three or more disciplines and must have the advisor's approval.
Area of Interest (18-23 credits): Courses are taken within a single social science discipline.

Bachelor of Arts in International Studies: Political Science Option

Curriculum

(A) General Education (60 credits): 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 (68 credits): Political Science: POS 210 Politics of Western Europe, POS 236 Introduction to International Relations, POS 237 International Organizations, POS 270 Politics of Developing Areas, POS 280 Politics of Soviet Union, POS 325 Politics of Asia. Language Select courses from FRE, GER, or SPN: 203 Intermediate I, 204 Intermediate II, 311 Conversation, Composition and Phonetics I, 312 Conversation, Composition and Phonetics II, Culture & Civilization Elective, Language Elective. Geography: GEO 345 Political Geography, Area Studies (six credits), Restricted Electives (18 credits), Related Electives (five credits).

Bachelor of Science in Education: Certification in Social Studies for Secondary Schools

Curriculum

(A) General Education: 15 credits in Humanities, including Composition I – II (ENG 101, 102), nine credits in Natural Sciences, nine credits in Social Sciences, three credits in Health or Physical Activities, Oral Communication (COM 101), General Psychology (PSY 100), nine credits of Free Electives.

(B) Professional Education: Foundations of Education (EDF 100), Educational Psychology (PSY 208), Introduction to Educational Media (EDF 304), Problems of Secondary Education (EDS 300), Educational Tests and Measurements in Secondary Schools (EDS 430), Developmental Reading in Secondary Schools (EDS 465), Computers for Teachers (EDF 301), Teaching in a Multicultural Society (EDU 210), Mainstreaming Exceptional Learners (EDU 340), Teaching of Social Science in Secondary Schools (EDS 445) or Modern Methods (EDS 455), Student Teaching and School Law (EDS 461).

(C) Professional Specialization: Introduction to Anthropology (ANT 100) and one additional Anthropology course, Introduction to Geography (GEO 100) and one additional Geography course, History of the United States to 1877 (HIS 101), History of the United States since 1877 (HIS 102), Elements of Economics (ECO 100), Introductory Microeconomics (ECO 201) or Introductory Macroeconomics (ECO 202), Introduction to Political Science (POS 100), American Government (POS 105), Educational Psychology (PSY 110), Adolescent Psychology (PSY 206), Principles of Sociology (SOC 100) and one additional Sociology course.

(1) For concentration in Anthropology: Human Origins (ANT 390), nine credits from the following: Culture Block (choose three or six credits): Primitive Institutions (ANT 210), Enculturation (ANT 235), Culture Change and Culture Shock (ANT 250), World Ethnology (ANT 255), Indians of North America (ANT 280). Archaeology Block (choose three or six credits): Archaeology Field School I (ANT 101 – maximum of three credits), Old World Prehistory (ANT 200), Archaeology (ANT 290), Prehistoric American Indians (ANT 355).

(2) For concentration in Economics: Intermediate Microeconomics (ECO 301), Intermediate Macroeconomics (ECO 302), six credits from Economics courses 200 level or above.

(3) For concentration in Geography: Physical Geography (EAS 160), Human Geography (GEO 105), Economic Geography (GEO 200), Cartography (EAS 171) or Map and Aerial Photography (EAS 272).

(4) For concentration in History: History Western Society to 1740 (HIS 104), History Western Society since 1740 (HIS 106), Seminar in United States History (HIS 495), any History elective.

(5) For concentration in Political Science: six credits from the following: Municipal Government (POS 205), Political Parties, Campaigns and Elections (POS 218), Introduction to Public Administration (POS 220), Constitutional Law: Governmental Powers (POS 314), Constitutional Law: Civil Liberties (POS 315). Also six credits from the following: Development of Political Thought: Classical & Medieval (POS 228), Introduction to International Relations (POS 236), Politics of Russia (POS 281), U.S. Foreign Policy (POS 320).

(6) For concentration in Psychology: Child Psychology (PSY 205), Mental Hygiene/Psychology of Adjustment (PSY 310), Social Psychology (PSY 211), Abnormal Psychology (PSY 400).

(7) For concentration in Sociology: Contemporary Social Problems (SOC 205), Minority Group Relations (SOW 208), The Family (SOC 220), Urban Sociology (SOC 235), Social Institutions (SOC 240).

Students must also achieve a satisfactory score on the NTE in order to acquire Pennsylvania certification.

Minors

Students can earn a minor in anthropology, political science, public administration, or sociology. Each minor is made up of specified course work and is comprised of twenty-one credits. For further information inquire at the departmental office.

Anthropology Concentration

Required: ANT 100 Introduction to Anthropology
Select three: ANT 231 Medical Anthropology, ANT 250 Culture Change & Culture Shock, ANT 255 World Ethnology, ANT 280 Indians of North America, ANT 290 Archaeology.
Select three: ANT 300 Cultural Views of Women, ANT 355 Prehistoric American Indians, ANT 360 Historic Sites Archaeology, ANT 390 Human Origins.

Political Science Concentration

Required: POS 100 Intro to Political Science, POS 105 American Government
Electives: Select two: 200-level Political Science (POS) courses from approved list
Select three: 300-level Political Science (POS) courses from approved list

Public Administration Concentration

Required: POS 100 Introduction to Political Science, POS 105 American National Government, POS 220 Introduction to Public Administration.
Electives: Select four of the following: POS 205 Municipal Government or POS 235 State & Local Government, POS 300 Introduction to Public Policy, POS 310 Presidency, POS 314 Constitutional Law: Government Powers, POS 315 Constitutional Law: Civil Liberties, POS 316 Judicial Process.

Sociology Concentration

Required: SOC 100 Principles of Sociology, SOC 200 Research Methods, SOC 110 Ethnic, Racial, and Sexual Minorities or SOC 210 Social Stratification
Select one of the following: SOC 165 Modern Freedom Movements, SOC 215 Sociology of the Workplace, SOC 225 Sociology of Aging, SOC 240 Social Institutions
Electives: Select three courses from the following list: SOC 305 Symbolic Interactionism, SOC 310 Collective Behavior, SOC 330 Religion as a Social Phenomenon, SOC 375 History of Social Thought, SOC 495 Seminar in Sociology.

SOCIAL WORK AND GERONTOLOGY

Programs

The Social Work Program's primary objective is to provide the student with generalist skills for entry into beginning social work practice in a variety of agencies and human service settings. The secondary objectives are to: (1) prepare students for entrance into graduate programs of social work and related professional schools, (2) contribute to the general college education of non-social work majors by helping students understand social welfare needs, services, and issues relevant to a modern industrial democracy, and (3) contribute to the provision of social welfare services and to the social work profession through service, research and continuing education.

Careers

Graduates are eligible for membership in the National Association of Social Workers and for advanced standing in accredited graduate social work programs. The program provides career opportunities in such areas as personal services (case management, family development, counseling), protective services, mental health, public welfare, and informational/advising services (education, crisis centers, consulting and public interest advocacy).

Admission

Full admission into the Social Work program requires that the student apply to the major after completing several basic social work courses. Among other things, full admission requires a 2.0 GPA both overall and within the major. Continued good standing and graduation require achieving a 2.5 average in the major.

Bachelor of Science in Social Work

Curriculum

(A) General Education: Composition I-II (ENG 101, 102), 12 credits in Humanities, 12 credits in Natural Sciences, 12 credits in Social Sciences, 18 credits of Free Electives.

(B) Area of Concentration: Foundation (three credits) – Introduction to Social Work (SOW 150), Practice Interventions (12 credits) Social Work Interviewing (SOW 256), Micro Practice Methods (SOW 302), Mezzo Practice Methods (SOW 348), Macro Practice Methods (SOW 349), Human Behavior/Social Environment (12 credits) – Human Growth and Behavior I-II (SOW 215, 216), Minority Group Relations (SOW 208), Human Sexuality and Society (SOW 303), Social Welfare Policy and Services (nine credits) – History and Philosophy of Social Welfare (SOW 295), Policy Analysis/Service Delivery (SOW 366), Social Change (SOW 370), Research (three credits) – Social Work Research Methods (SOW 405), Special Interests (17 credits) – Juvenile Delinquency (SOW 265), Child Welfare (SOW 270), Poverty & Related Social Problems (SOW 296), Social Work in Rural Environment (SOW 306), Social Work with Aging (SOW 350), Psychopathology for Social Workers (SOW 353), Seminar in Social Work (SOW 495), Abnormal Psychology (PSY 400), Field Work (12 credits) – Social Work Practicum I-II (SOW 419, 420).

Faculty

Associate Professor Virginia Majewski, chair; Professors Beverly B. Willison, Karen L. Hornung, F. Mel Madden; Associate Professors Edward Brown, Peg Christopher; Assistant Professors Mary Hart, James Syphers, Allan Turner.

Bachelor of Science in Gerontology

The Gerontology Program is dedicated to providing the student with a broad range of academic and practical 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. Working with older adults is a projected employment growth area. California . University has the only Bachelor of Science in Gerontology program among the fourteen universities in the State System of Higher Education.

The objective of the program is to increase the number and competency of persons working with older adults, their families and their communities. The Center in the Woods (formerly the California Area Senior Center) provides supervision from Gerontology faculty and a professional staff for a variety of student experiences. It is one of the few senior centers in the nation that has a working relationship with an academic program in gerontology.

Curriculum

(A) General Education: Composition I-II (ENG 101, 102), Business Writing I (ENG 211), 12 credits in Humanities, including Oral Communication (COM 101), 12 credits in Natural Sciences, including one computer course, 12 credits in Social Sciences, 15 credits of Free Electives.

(B) Area of Concentration: Foundation (6 credits) – Introduction to Gerontology (XGE 101), Aging in American Society (XGE 102). Required – Aging Policies and Services (XGE 201), Biology of Aging (XGE 204), Media and Library Resources in Aging (XGE 205), Adult Development and Aging (XGE 380), Seminar in Gerontology (XGE 439). Eighteen credits in major electives selected from the following: Middle Years of Life (XGE 202), Group Work with Older Adults (XGE 210), Aging and the Family (XGE 249), Minority Aging/Institutionalization (XGE 289), Health and Safety in Aging (XGE 300), Counseling the Older Adult (XGE 320), Activities in Long-Term Care (XGE 340), Exercise for the Elderly (XGE 350), Rural Aging (XGE 369), Nursing Homes (XGE 370), Foundations of Death and Dying (EDF 318), Literature and Aging (ENG 223), Historical Perspectives on Aging (HIS 205). Related courses (16 credits) include – Introduction to Social Work (SOW 150), Word Processing (ENG 151), First Aid and Personal Safety (HPE 314), Social Work with the Aging (SOW 350), one other 200, 300, or 400 level social work course, one 200, 300, or 400 level course in Management or Marketing. Field Experience (six credits) – Gerontology Practicum (XGE 449), including both community setting (three credits) and institutional setting (three credits). Related Electives of one to seven credits.

Aging Specialist Certificate

The Aging Specialist Certificate is becoming recognized as the minimum credential of qualification in the field of aging. The Certificate in Gerontology is designed primarily for either undergraduates interested in working with older adults in relation to their undergraduate major (e.g., Social Work, Psychology, Nursing, Communication Disorders) or people who are currently working with or on behalf of older adults who have had practical experience in the field of aging but who have had little formal training. The Aging Specialist Certificate is 18 hours of course work in Gerontology including a three-credit practicum experience.

Curriculum

Six credits in Gerontology: Introduction to Gerontology (XGE 101), Aging Politics and Services (XGE 201). A minimum of nine credits of selected Gerontology courses chosen in consultation with the advisors of the Gerontology Program. Three-credit practicum course (XGE 449).

SPECIAL EDUCATION

Purpose

The Department of Special Education, accredited by the American Association of Colleges of Teacher Education, NCATE, PDE, CEC, and Middle States, offers several programs leading to the baccalaureate degree with a major in Special Education. 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 and/or Physically Handicapped.

Careers

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. Graduates of the Mentally and/or Physically Handicapped program are qualified to assume several professional roles including: special education classroom teacher, resource room teacher, homebound instruction teacher, hospital teacher, and a variety of roles in sheltered workshops and community–living arrangements for handicapped adults.

The growth of mainstream/inclusion 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, 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/ including the handicapped child should be initiated early, preferably at the preschool level, or no later than the early elementary years. Teachers trained in Early Childhood or Special Education will be able to provide excellent resource services to both children and the other staff members of an elementary school. Graduates of this program are qualified to assume several professional roles, including regular early childhood classroom teacher (nursery–third grade), special education classroom teacher; mentally retarded, emotionally disturbed, physically handicapped, learning disabled, brain–damaged (nursery–twelfth grade), and resource room teacher.

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.

Objectives

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,

• an ability to effectively use alternative instructional strategies appropriate to the needs of exceptional children,

•the ability to identify the educationally relevant characteristics of various exceptional children and to effectively diagnose and prescribe appropriate educational experiences,

•the ability to function as a competent classroom manager in promoting learning among handicapped students,

•competency to initiate instructional programs that facilitate appropriate career and vocational goals for the mentally and/or physically handicapped.

Curriculum

(A) General Education: 18 credits in Humanities including Oral Communication (COM 101), English Composition I (ENG 101), and English Composition II (ENG 102); nine credits in Natural Sciences; 12 credits in Social Sciences including General Psychology (PSY 100); three credits of Health or Physical Education Activities; 11 credits of Free Electives.

(B) Professional Education: Policy Studies in American Education (EDF 290), Developmental Psychology (PSY 207), Educational Psychology (PSY 208), Applied Instructional Technology (EDF 302), Teaching in a Multicultural Society (EDU 210), Computers for Teachers (EDF 301), Student Teaching Practicum and School Law (ESP 461).

(C) Area of Concentration: Exceptional Child I (ESP 101), Behavior Principles I (ESP 301), Exceptional Child II (ESP 200), Behavior Principles II (ESP 401), Education of the Severely/Profoundly Handicapped (ESP 502), Diagnostic Testing/Prescriptive Teaching (ESP 503), Curriculum Planning & Methods I (ESP 504), Curriculum Planning & Methods II (ESP 505), Habilitation Training (ESP 506), Physical Education Activities for the Exceptional Child (HPE 338).

Faculty

Associate Professor Paul L. Lancaster, Jr., chair; Professors Robert A. Bauman, Peter J. Belch, Robert F. Dickie, Jay R. Powell; Associate Professors Albert Dascenzo, Regis Lazor, Ben A. Mulé

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. 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.

Special Education/Early Childhood dual majors must demonstrate the competencies associated with each of the individual certificate programs (refer to the Early Childhood and Special Education programs). In addition, they must demonstrate the ability to:

- identify students who are in need of some special service,
- work effectively with other teachers in cooperatively planning programs for children with special needs,
- facilitate the social acceptance of children with handicaps by structuring classroom environments that reinforce positive interpersonal relationships,
- complete educational assessment of the learning needs of students,
- develop individual educational prescriptions based on assessment data,
- effectively modify instructional strategies or materials to provide for the unique needs of students manifesting learning handicaps.

Curriculum

(A) General Education: 18 credits in Humanities, including Oral Communication (COM 101), English Composition I (ENG 101), English Composition II (ENG 102), Art History or Art Appreciation, one Literature/Culture course, one Music/Philosophy course; 15 credits in Natural Sciences, including two Math courses (100 level or above), Biology, Physical Science, and Environmental Science; 15 credits in Social Sciences, including General Psychology (PSY 100), American Government/Political Science, Geography, U.S. History, and Economics; three credits in Health and Physical Education Activities, including First Aid and Personal Safety or Health Coed and one Physical Education Elective.

(B) Professional Education: Policy Studies in American Education (EDF 290), Teaching in a Multicultural Society (EDU 210), Child Psychology (PSY 205), Educational Psychology (PSY 208), Applied Instructional Technology (EDF 302), Computers for Teachers (EDF 301), Student Teaching Practicum and School Law (ESP 461).

(C) Early Childhood Courses: Field Experience Infant/ Toddler/Day (ECE 203), Art for Elementary Grades (EDE 205), Teaching Music Elementary (EDE 207), Teaching Physical Education for Early/Elementary Childhood (EDE 218) or Physical Education Activities for the Exceptional Child (HPE 338), Field Experience Elementary (EDE 321), Children's Literature (EDE 311), Mathematics Content in Early Childhood (ECE 315), Early Childhood Seminar (ECE 405), Instructional Strategies (EDE 211), Emerging Literacy (ECE 302), Thematic Teaching in Early Childhood (ECE 304), Parent and Community Involvement (ECE 319).

(D) Special Education Courses: Exceptional Child I (ESP 101), Behavior Principles I (ESP 301), Exceptional Child II (ESP 200), Behavior Principles II (ESP 401), Education of the Severely/Profoundly Handicapped (ESP 502), Diagnostic Testing/Prescriptive Teaching (ESP 503), Curriculum Planning & Methods I (ESP 504), Curriculum Planning & Methods II (ESP 505), Habilitation Training (ESP 506).

Bachelor of Science in Education: Elementary/Special Education (Dual Major)

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.

Special Education/Elementary Education dual majors must demonstrate the competencies associated with each of the individual certification programs (refer to the competencies given in this and the Elementary Education sections of this catalog). In addition, they must demonstrate the ability to:

- identify students who are in need of some special service,
- work effectively with other teachers in cooperatively planning programs for children with special needs,
- facilitate the social acceptance of children with handicaps by structuring classroom environments that reinforce positive interpersonal relationships,
- complete educational assessment of the learning needs of students,
- develop individual educational prescriptions for children based on assessment data,
- effectively modify instructional strategies and/or materials to provide for the unique needs of students with learning handicaps.

Curriculum

(A) General Education: 18 credits in Humanities, including Oral Communication (COM 101), English Composition I (ENG 101), English Composition II (ENG 102), Art History or Art Appreciation, one Literature/Culture course, one Music/Philosophy course; 15 credits in Natural Sciences, including two Math courses (100 level or above), Biology, Physical Science, and Environmental Science; 15 credits in Social Sciences, including General Psychology (PSY 100), American Government/Political Science, Geography, U.S. History, and Economics; three credits in Health and Physical Education Activities, including Health Coed and one credit of Physical Education Elective.

(B) Professional Education: Policy Studies in American Education (EDF 290), Teaching in a Multicultural Society (EDU 210), Child Psychology (PSY 205), Educational Psychology (PSY 208), Applied Instructional Technology (EDF 302), Computers for Teachers (EDF 301), Student Teaching Practicum and School Law (ESP 461).

(C) Elementary Education Courses: Teaching Health and Physical Education for Early/Elementary Childhood (EDE 218) or Physical Education Activities for the Exceptional Child (HPE 338), Art for the Elementary Grades (EDE 205), Teaching Music Elementary (EDE 207), Field Experience Elementary (EDE 321), Instructional Strategies (EDE 211), Mathematics Content and Methods in the Elementary School (EDE 305), Teaching Social Studies Elementary Grades (EDE 306), Science for Elementary/Early Childhood (EDE 307), Children's Literature (EDE 311), Language and Literacy I (EDE 300), Language and Literacy II (EDE 340), Parent and Community Involvement (ECE 319).

(D) Special Education Courses: Exceptional Child I (ESP 101), Behavior Principles I (ESP 301), Exceptional Child II (ESP 200), Behavior Principles II (ESP 401), Education of the Severely/Profoundly Handicapped (ESP 502), Diagnostic Testing/Prescriptive Teaching (ESP 503), Curriculum Planning & Methods I (ESP 504), Curriculum Planning & Methods II (ESP 505), Habilitation Training (ESP 506).

THEATRE

Purpose

As one of the performing arts, theatre is a means of self-expression and social communication. Whether we study pure dramatic expression or musical dramatic expression, we seek to understand how speech, dance and other non-verbal aspects of production such as lighting, scenery, and costumes, communicate ideas and emotion and how they are used for entertainment, education, reform and other social purposes.

The study of the dramatic arts serves not only Theatre majors but those in other disciplines concerned with human interaction and symbolic expression, e.g., art, education, communication, political science, sociology, English and psychology. Students who are aware of the history and technology associated with theatre enhance their appreciation of this art form, through either active or passive participation.

Program

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 and Human Services. A master's degree program in Communication that includes theatre studies is available in the School of Graduate Studies.

Theatre serves a dual function. It provides occupational education and training for talented students pursuing careers in theatre, and it provides both educational and performance opportunities for all students on campus. Six dance courses, ranging from basic ballet to theatre dance, give the major a competitive advantage in professional preparation.

In cooperation with the Student Association, Incorporated, the Theatre Department sponsors five play-producing groups with membership open to all students: University Players; Children's Theatre, which annually performs before young audiences of more than 3,000; Stories 'n Things, which carries improvisational drama directly to schools; Mon Valley Ballet Theatre, producing dance productions; and Theatre Now, which presents experimental drama in innovative stagings. These organizations either individually or in combination, present six on-campus play, dance, and musical productions. In addition, the department sponsors a pre-professional summer stock company which offers the opportunity for the student to work in a repertory environment.

Each student organization shares the facilities and faculty of the department. Steele Auditorium has a fully equipped 955-seat proscenium stage, and scenery, lighting, costume, property shops, storage space and classrooms. A state-of-the-art 16 channel sound mixer with multiple microphone and line inputs on-stage and in the theatre has recently been installed. A complete renovation and revision of the stage and building's lighting system is in progress.

The Theatre Department rewards creative excellence by offering opportunities for upper level students to produce shows, and to direct or design both major and minor (one-act plays) productions. Theatre majors are required to take one practicum credit during each semester they are enrolled. These credits give the students practical experience in various areas of theatrical production: technical production, dance, acting, design, management, directing, technical direction, touring theatre, and summer theatre. Students are encouraged to use the practicum experience to broaden and enlarge their experience in the field of theatre.

Honor Society

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.

Careers

Graduates of California University work throughout the country in professional and semi-professional theatre, in film and television, in teaching, community and regional theatre, recreation, and in rehabilitation theatre, public relations, interior decoration, costuming, and arts management.

Faculty

Associate Professor Richard J. Helldobler, chair; Professor Malcolm P. Callery; Associate Professor Michael J. Slavin; Assistant Professor William O'Donnell.

Bachelor of Arts in Theatre

Curriculum

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

(B) Concentration: Required: Introduction to the Theatre (THE 100), Ballet Technique I (THE 132), History of Theatre I-II (THE 302 & 312), Stagecraft I (THE 141), Fundamentals of Acting (THE 131), Practicum: Senior Thesis (THE 359), practicum courses (THE 350-358), 24 credits of theatre electives in disciplines closely related to Theatre.

Bachelor of Science in Education: Certification in Communication (Theatre Concentration) for Secondary Schools

Curriculum

(A) General Education: 15 credits in Humanities, including Composition I–II (ENG 101–102); nine credits in Natural Sciences; nine credits in Social Sciences; three credits in Health or Physical Education; Oral Communication (COM 101); General Psychology (PSY 100).

(B) Professional Education: Educational Psychology (PSY 208), Policy Studies in American Education (EDF 290), Computers for Teachers (EDF 301), Applied Instructional Technology (EDF 302), Problems of Secondary Education (EDS 300), Educational Tests and Measurements (EDS 430), Teaching of English (EDS 440), Developmental Reading in Secondary Schools (EDS 465), Teaching in a Multicultural Society (EDU 210), Mainstreaming Exceptional Learners (EDU 340), Student Teaching & School Law (EDS 461).

(C) Academic Specialization: Theatre Concentration

English: English Grammar and Usage (ENG 345); Advanced Writing (ENG 375), English Literature I (ENG 301), English Literature II (ENG 302), Select two of the following courses: American Literature to 1865 (ENG 365), American Literature 1865-WWI (ENG 366), or American Literature from WWI (ENG 367), Select one of the following courses: Shakespeare (ENG 425), Shakespeare in the Theatre (THE 305).

Theatre: Fundamentals of Acting (THE 131), Stagecraft I (THE 141), Fundamentals of Directing (THE 320), six credits in THE history or THE literature courses, three credits of THE electives, Practicum: Senior Thesis.

Communication: Argumentation and Debate (COM 230), Communication Theory (COM 490).

Minor in Theater

Required: THE 100 Introduction to the Theater, THE 131 Fundamentals of Acting, THE 132 Ballet Technique I or THE 133 Jazz Technique I, THE 151 Stagecraft I. Electives: Select nine credits from Practicum courses (THE 350-358).

WOMEN'S STUDIES

Purpose

Women's Studies is an interdisciplinary field that examines the diverse experiences, contributions and perspectives of women and considers how ideas about gender have shaped human lives. Women's Studies views the world from the perspectives of women who differ widely in race, class, age, and many other ways. Because these perspectives have often been left out of traditional studies, interdisciplinary study of women and gender can provide a new and vital framework for approaching knowledge in other disciplines, posing questions that may not have been asked before.

Women and men in Women's Studies classes encounter intriguing questions and challenging information that may touch on personal identity, relations between men and women, contributions of women to their world, and the history and future of gender. Since traditional education has paid scant attention to gender or to the half of humanity that is female, Women's Studies helps to fill a major gap and provides the opportunity for individuals to become better rounded and more aware.

Career Outlook

More and more women are joining the work force outside the home, as well as continuing in important roles in homemaking and child rearing. With these rapid changes, it is becoming increasingly important to understand the social forces that influence how much power people have. The Women's Studies Certificate Program helps prepare both women and men to deal more effectively with gender relations in professional and personal life. Whether the student's major field is in education, social services, business, communications, medicine, or science, any field of study will be enhanced by the approach to knowledge offered in this program.

Special Activities

In addition to course work, Women's Studies students may wish to participate in a variety of special activities. The Program sponsors guest speakers, luncheon discussion sessions, and other special events, as well as publishing its own newsletter, *The Tide*, which encourages student involvement.

Certificate in Women's Studies

A certificate in Women's Studies is not a degree but is an undergraduate specialization. It makes an excellent complement for many majors, since virtually every field of study is affected in some way by gender.

Curriculum

A student may pursue the certificate by one of two routes:

Fifteen credit option. Required courses: Introduction to Women's Studies (WST 200), Feminist Scholarship and Research: A Seminar (WST 400), Practicum in Women's Studies (WST425). Electives: six credits among the electives listed below, from two different disciplines.

Eighteen credit option. Required courses: Introduction to Women's Studies (WST 200), Feminist Scholarship and Research: A Seminar (WST 400). Electives: 12 credits among the electives listed below, from three different disciplines.

Certificate Electives: Survey of American Women Writers (ENG 315), Women in United States History (HIS 260), Women in Ancient and Medieval European History (HIS 262), Women as Hero (LIT 127), Women's Health Issues (NUR 101), Psychology of Gender Roles (PSY 311), Ethnic, Racial, and Sexual Minorities (SOC 110), Men, Women, and Work (SOC 125), Contemporary Women's Movement (SOC 175), Cultural Views of Women (ANT 155), Human Sexuality (SOW 303), Seminar in Social Work: Sexual Assault Counseling (SOW 495), Middle Years of Life (XGE 202), Selected Topics in Women's Studies (WST 300), Practicum in Women's Studies (WST 425).

Inquiries regarding the Women's Studies Program may be made of the director, California University of Pennsylvania, California, PA 15419, (412) 938-4251.

Faculty

Associate Professor Patricia L. Hartman, director.

DISCIPLINE CODES

ACC - Accounting

ACC 201. ACCOUNTING I. The fundamentals of debit and credit; the use of journals and ledgers; basic accounting procedures; adjusting and closing entries; completion of accounting cycle; preparation of pertinent financial statements. (3 crs.)

ACC 202. ACCOUNTING II. A continuation of basic accounting principles with an emphasis on partnership and corporate accounting. Prerequisite: ACC 201. (3 crs.)

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

ACC 301. INTERMEDIATE ACCOUNTING I. In–depth treatment of basic accounting principles and concepts. A preparation for advanced courses in accounting and for the theory and practice sections of the uniform CPA examination. Prerequisite: ACC 202. (3 crs.)

ACC 302. INTERMEDIATE ACCOUNTING II. A continuation of the in–depth treatment of basic accounting principles and concepts with the emphasis on corporations. A preparation for advanced courses in accounting and for the theory and practice sections of the uniform CPA examination. Prerequisite: ACC 301. (3 crs.)

ACC 318. FEDERAL INCOME TAX II. Advanced topics in federal taxation. Partnerships, decedents, estates, trusts, corporations, pension and profit sharing plans, foreign income, securities transactions, etc. Prerequisite: ACC 218. (3 crs.)

ACC 321. MANAGERIAL ACCOUNTING. For non-accounting majors; emphasizes the use of accounting data in the decision-making process of a business enterprise. Topics covered are cost-volume relationships; manufacturing costs and analysis; relevant cost analysis; budgeting and variance analysis; responsibility accounting and cost allocation; job and process product costing. Prerequisite: ACC 202. (3 crs.)

ACC 331. COST ACCOUNTING I. An introduction to basic cost-accounting principles, cost-volume, profit analysis, standard costing, process and job order costing and departmental budgeting. Prerequisite: ACC 202. (3 crs.)

ACC 332. COST ACCOUNTING II. A survey of special topics in the field of manufacturing accounting. Prerequisites: ACC 331. (3 crs.)

ACC 341. NONPROFIT ACCOUNTING. An introduction to accounting for governmental and not–for–profit organizations, including analysis of current, plant, and other general and special funds. Emphasis will be given to planning, programming, and budgeting to achieve institutional objectives. Cost benefit analysis will also be developed within the framework of funds allocation to specific programs. (3 crs.)

ACC 401. ADVANCED FINANCIAL ACCOUNTING. Special topics in accounting. Mergers and acquisitions, consolidated financial reports, fiduciaries, etc. Prerequisite: ACC 202. (3 crs.)

ACC 418. TAX PLANNING AND CONCEPTS. This course deals with the broad recognition of the tax effect on business decisions, and a practical approach to tax planning for both the corporate and individual taxpayer. (3 crs.)

ACC 431. INTERNATIONAL ACCOUNTING. A study of the current state of International Accounting standards (IFAC's) and their relationship to the multinational corporation. Prerequisite: ACC 302. (3 crs.)

ACC 441. AUDITING. Internal control evaluation and financial compliance, professional ethics, auditing standards and procedures, statistical sampling and EDP auditing. Prerequisite: ACC 301. (3 crs.)

ACC 491. ACCOUNTING INTERNSHIP. Practicum with Public Accounting firms, government, or industry. Prerequisites: 18 credits in Accounting and permission of instructor. (Repeatable; Variable crs.; a maximum of 12 credits may be used towards a baccalaureate degree.)

ACC 495. SEMINAR IN ACCOUNTING THEORY. A review of the Accounting literature with special emphasis on those topics concerning contemporary issues in Accounting. Prerequisite: ACC 302. (3 crs.)

ANT - Anthropology

ANT 100. INTRODUCTION TO ANTHROPOLOGY. An introduction to biological anthropology (primatology, hominid evolution, variation in modern man), archaeology (methods, evidences of the evolution and diffusion of culture), anthropological linguistics, and cultural anthropology (methods of participant observation, comparative data from non–Western societies, diversity and unity of culture). (3 crs.)

ANT 101. ARCHAEOLOGY FIELD SCHOOL. An introduction to archaeological procedures by participation in the excavation of a site. Students will be involved in all phases of an archaeological excavation, from initial preparation of the site for excavation through the processing of artifacts at the campus archaeological laboratory. (3–6 crs., summer only)

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 210. PRIMITIVE INSTITUTIONS. Analysis and comparison of the social, political, and religious institutions of pre–literate and pre–industrial peoples. (3 crs.)

ANT 220. AZTECS, MAYAS, AND INCAS. An introduction to and survey of the ethnology and pre–conquest archaeology of the advanced American Indian cultures of Meso–America and the Andean Culture area. Inquiry into the problems of cultural precocity. Prerequisite: ANT 100. (3 crs.)

ANT 225. EIGHTEENTH AND NINETEENTH CENTURY FOLK CRAFTS AND TRADITIONS. Placing 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. Students learn the rudiments of a number of the crafts and traditions by observing them being performed and by doing them. They learn how to gather material folk cultural data by collecting data on a craft or folk tradition in Southwestern Pennsylvania. (3 crs.)

ANT 231. MEDICAL ANTHROPOLOGY. An introductory course that emphasizes the contributions from biological anthropology, archaeology, and cultural anthropology to the study of human sickness and health. Prerequisite: ANT 100. (3 crs.)

ANT 235. ENCULTURATION. A cross–cultural examination of the universal human problem of transforming a neonate into a functioning adult in a particular culture. (3 crs.)

ANT 250. CULTURE CHANGE AND CULTURE SHOCK. Conditions and factors which stimulate or retard cultural change are considered with reference to specific historical, ethnological and sociological data and theories. Emphasizes the impact of Western technology upon non–Western cultures while also treating of the primitivization of the Western world. Prerequisite: ANT 100. (3 crs.)

ANT 255. WORLD ETHNOLOGY. An advanced course in cultural anthropology, in which comparative data from text and films about non–Western cultures are used to reveal cultural differences and similarities and the nature of the ethnographic enterprise. (3 crs.)

ANT 280. INDIANS OF NORTH AMERICA. Social anthropology and cultural ecology of American Indian cultures. (3 crs.)

ANT 281. SUB–SAHARAN AFRICA. The cultural anthropology of selected African groups, past and contemporary. (3 crs.)

ANT 290. ARCHAEOLOGY. A comprehensive survey of archaeology: history, theory and techniques. (3 crs.)

ANT 300. CULTURAL VIEWS OF WOMEN. This discussion - based course is structured around the theme of how various world societies have viewed women. The cross-cultural perspective is the means by which American students learn to appreciate other cultural points of view and become more self-aware of their own cultural views about women. (3 crs.)

ANT 325. CULTURAL RESOURCE MANAGEMENT: HISTORICAL PRESERVATION. The need for preservation of cultural resources (historic preservation), the legislation supporting such work, and the way the work is performed. Students learn what is meant by historic preservation and cultural resource study, what types of questions preservationists must seek answers to, how significant resources (historic and archaeological) are identified, how to determine whether a resource is considered significant, how to do architectural descriptions of historic structures, and how to complete the National Register of Historic Places nomination forms. Part of the course involves on–site study of resources. Prerequisite: ANT 100. (3 crs.)

ANT 329. ANTHROPOLOGY INTERNSHIP. Learning new ideas and skills, as well as applying those already learned in class, is the objective of an internship. Internships are conducted under the guidance of both an on-site and a campus supervisor. Internships are a means for exploring career opportunities. (Variable crs.)

ANT 355. PREHISTORIC AMERICAN INDIANS. The archaeology and reconstructed culture of Indians of the eastern United States. (3 crs.)

ANT 360. HISTORIC SITES ARCHAEOLOGY. Techniques, philosophy, work, and aims of that branch of history and anthropology that studies the American past from a cultural–archaeological point of view. The course includes study of military and community restorations based on historical archaeology, such as Colonial Williamsburg, Plymouth Plantation, Independence Square, Fort Michilimackinac, Fort Ligonier, and Fort Necessity. Some laboratory and field experiences included. Prerequisite: ANT 100. (3 crs.)

ANT 385. PRIMATE SOCIETIES AND BEHAVIOR. Advanced study of the non–human primates, including classification to the generic level. Prerequisite: ANT 285 or permission of the instructor. (3 crs.)

ANT 390. HUMAN ORIGINS. Contemporary biological anthropology, emphasizing the evolutionary theory, genetics, non-human primates, taxonomic classification, the evolution of human beings as part of the evolution of the primates, the importance of technology, and the emergence and development of culture. (3 crs.)

ANT 421. ANTHROPOLOGICAL THOUGHT. Within a seminar context, the history of anthropological thought is examined from the period of the Enlightenment until modern times. Particular emphasis is placed on the emergence of the various schools of anthropology that have developed and waned over the past 100 years. Prerequisites: Junior or Senior, Anthropology major, or permission of the instructor. (3 crs.)

ANT 495. SEMINAR IN ANTHROPOLOGY. (3 crs.)

ART - Art

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

ART 103. ART HISTORY II: RENAISSANCE TO BAROQUE. A study of Western Art specifically dealing with the Renaissance and the Baroque Art of Europe. This course will relate the social, religious, political, and philosophical attitudes of the times with the artistic achievements of each culture. (3 crs.)

ART 104. ART HISTORY III: ROMANTICISM, CONTEMPORARY. A study of the art of the modern world beginning in 1750 with Neoclassicism and Romanticism. The course covers painting, sculpture, and architecture through the Twentieth Century. The course will relate the social, political, religious, and philosophical attitudes of the times to artistic achievements. (3 crs.)

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

ART 110. DRAWING I. A beginning course in drawing skills and techniques stressing line, contour and value studies, and the study of linear perspective. This course stresses rendering techniques and the visual skills necessary for the student to draw what he sees. (3 crs.)

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

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

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

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

ART 117. PRINTMAKING I. This course is designed to develop an interest and techniques into making woodcuts, lithographs, etchings, engravings, serigraphs, monoprints, and photo print processes. (3 crs.)

ART 118. SCULPTURE I. Introduction to the basic language, elements, media, tools, techniques and principles of the organization of sculpture. The basic techniques of manipulation, subtraction, substitution and addition involving different media and tools. (3 crs.)

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

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

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

ART 213, 313, 413. CRAFT STUDIO. This studio concentration explores a large spectrum of contemporary textile, stained glass or jewelry techniques. Areas of investigation for the textile area, for example, include advanced loom work, textile treatment, innovative design of soft sculpture. In the jewelry concentration, the students could explore centrifugal or lost wax casting, enameling, found material. In the stained glass area, the students will experience slumping, fusing, beveling and sculptural forms. Emphasis is, at all times, on innovative design, imagination in the utilization of technique and material, as well as general craftsmanship. Prerequisite: Either Fiber Arts (ART 112), Stained Glass (ART 115), or Jewelry (ART 255). (3 crs. - Art 413 is repeatable to 18 crs.)

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

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

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

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

ART 293, 393, 493. CERAMIC STUDIOS. An advanced course in ceramic skills and techniques on the potter's wheel and in-hand forming methods. Considerable emphasis will be placed on glazing and firing a body of work completed through an in-depth study area in clay. Prerequisite: Ceramics I (ART 113). (3 crs. - ART 493 is repeatable to 18 crs.)

ART 296, 396, 496. PAINTING STUDIOS. A progressive level of painting studios developing proficiencies in painting techniques, rendering skills, and the visual analysis of forms. Students explore a variety of painting methods, subjects and themes towards the goal of having each student achieve a unique approach to form and content. Prerequisite: ART 116 Painting I. (3 crs. - ART 496 is repeatable to 18 crs.)

ART 297, 397, 497. PRINTMAKING STUDIOS. A successive-level studio course designed to enable students who wish to pursue in depth printmaking techniques and further develop their creativity in this area. Students will also be expected to demonstrate critical thinking and analysis of materials and the use of such in the various media. Prerequisite: ART 117 Printmaking I. (3 crs. - ART 497 is repeatable to 18 crs.)

ART 298, 398, 498. SCULPTURE STUDIOS. A successive-level studio course designed to enable students who are seriously interested in sculpture, the opportunity to experiment with many types of media and to investigate other seasonable materials which can be used as sculpture. They will be expected to impose on themselves problems which demonstrate critical thinking and analysis of materials. Prerequisite: ART 118 Sculpture I. (3 crs. - ART 498 is repeatable to 18 crs.)

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

ART 310. ADVANCED DRAWING. This advanced drawing course explores expressive drawing techniques and drawing media, and is a continuation of work to improve performance of academic drawing skills. Emphasis is placed on drawing from a model to develop a knowledge of human anatomy and to understand its effects on the surface information of the human form. Basic drawing skills are required. Prerequisite: ART 110 Drawing I or equivalent. (3 crs. - repeatable to 18 crs.)

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

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

ART 361. VIDEO ART/DESIGN. A course that teaches the information and skills necessary to produce graphics presentations on a computer and transfer those presentations onto video tape. Produce such products as video slide shows, video titling, simple character generation and animation of video screens. (3 crs.)

ART 460. SELECTED TOPICS. An exploration of material not covered in regular art studios or art history classes. It will provide faculty and students the opportunity to explore new ideas and techniques of selected topics in depth. (3 crs.)

ATE - Athletic Training

ATE 100. PRACTICUM ATHLETIC TRAINING I. The course of basic athletic training skills and techniques taught to the entry level athletic training student, such as medical record keeping, training room maintenance, emergency procedures, etc. (1 cr.)

ATE 105. CURRENT ISSUES IN ATHLETICS. A comprehensive overview of life skills that provide educational experience and services in order to develop well balanced life styles for the student athletes and other interested students. The course examines decision making, planning and fulfillment of life goals, as well as contemporary issues, problems and controversies within the intercollegiate athletic setting. (3 crs.)

ATE 110. PRACTICUM ATHLETIC TRAINING II. The course consists of basic athletic training skills and techniques taught to the entry level athletic training student, such as preventive taping techniques and evaluation of basic injuries. Prerequisite: A grade of C or better in ATE 100. (1 cr.)

ATE 120. SUBSTANCE ABUSE EDUCATION. The knowledge of substance abuse as it relates to athletics and competition, drug testing procedures as enforced by governing associations, and the prevention and treatment of substance abuse. (1 cr.)

ATE 205. HUMAN ANATOMY AND PHYSIOLOGY I. The organization, structures, and functions of the human body: the development of the cell, tissues, integumentary system, digestive system, respiratory system, urinary system, reproductive system, lymphatic and cardiovascular systems. (4 crs.)

ATE 215. HUMAN ANATOMY AND PHYSIOLOGY II WITH LABORATORY. The organization, structures and functions of the human body; the development and function of the skeletal system, ligament and joint structure, muscular system, and the nervous system, Prerequisite: A grade of C or better in ATE 205. (4 crs.)

ATE 220. ATHLETIC TRAINING I. The basic prevention, care, treatment, and rehabilitation of athletic injuries; understanding and demonstrating how to develop a conditioning program, basic evaluation of injuries, and how to manage them, and other topics related to sports medicine. Prerequisites: Open to curriculum students only or satisfactory completion of ATE 205 and ATE 215. (3 crs.)

ATE 230. ADMINISTRATIVE ASPECTS OF ATHLETIC TRAINING. Administrative functions, litigation, staff relationships, ethics, budget and supplies, inventory, facility design, maintenance, safety assessment, student trainer organization and résumé writing. Prerequisites: Open to curriculum students only. (2 crs.)

ATE 240. NUTRITION FOR SPORTS. Nutrition and its applications to health and sports: designed to provide the student with a sound nutritional background so that informed decisions may be made concerning all aspects of nutrition. Additionally, specific nutritional techniques used to improve athletic performance are addressed. (3 crs.)

ATE 260. ATHLETIC TRAINING II WITH LABORATORY. The spine and its extremities; the advanced evaluation techniques that are used to determine the degree of injury found in the clinical setting. Prerequisite: Open to curriculum students only. (4 crs.)

ATE 300. PRACTICUM ATHLETIC TRAINING III. This course will provide the student with the understanding of advanced athletic training applications and techniques used in the prevention and rehabilitation of athletic injuries and other special clinical situations. (2 crs.)

ATE 320. MODALITY PRINCIPLES AND TECHNIQUES WITH LABORATORY. Lectures and laboratory exercises that explain the use and theory of physical therapy modalities that are used in the sports medicine clinical setting. Prerequisite: Open to curriculum students only or at the discretion of the instructor. (4 crs.)

ATE 330. THERAPEUTIC EXERCISE WITH LABORATORY. Lectures and laboratory exercises that explain the use and theory of therapeutic exercise and equipment used for rehabilitation in the sports medicine setting. Prerequisite: Open to curriculum students only or at the discretion of the instructor. (4 crs.)

ATE 400. ORTHOPEDIC EVALUATIONS IN SPORTS MEDICINE. Clinical evaluations of injured athletes by the student and the physician to be used in determining the extent of an injury. The student will register for this course again in a consecutive semester. Prerequisite: Open to curriculum students only. (1 cr.)

ATE 405. SPORTS MEDICINE PRACTICUM. This purpose of this course is to allow the undergraduate athletic training student to gain clinical and administrative skills through experience with intercollegiate or interscholastic teams. Prerequisite: Open to curriculums students only and must be at least a junior in standing. (1 cr.)

ATE 406. SPORTS MEDICINE RESEARCH. Different types of research, particularly descriptive and experimental are presented. Emphasis is placed on developing library research skills, critically analyzing research, and becoming a knowledgeable consumer of research in order to apply it in the clinical environment. Prerequisite: Must be a senior in the Athletic Training Education Program or permission of the instructor. (3 crs.)

ATE 500. PHARMACOLOGY FOR ALLIED HEALTH SCIENCES. The purpose of this course is to provide an overview of drugs commonly used to treat patients seen by persons working in the allied health professions. Medical reasons for drug treatment, specific actions of therapeutic agents, and adverse effects are presented. Prerequisite: Must have completed at least 96 credits or at the discretion of the instructor. (2 crs.)

BIO-Biology

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. Three lecture hours weekly. For students not majoring in Biology. (3 crs.)

BIO 104. BASIC CARE OF PLANTS. A general introduction to the basic care of plants. Students are introduced to techniques that will make the growing and caring of plants, indoors and out, less complicated and more fun. Prerequisites: None. Three lecture hours weekly. (3 crs.)

BIO 108. BIOLOGICAL CONCEPTS. A one semester preparation course in biology for students who must take BIO 115 as part of their curriculum and who require additional training in the biological sciences. Topics are selected to deal with the fundamental concepts that are requisite to entrance into BIO 115. Three lecture hours weekly. (3 crs.)

BIO 112. BIOLOGY OF SEXUALLY TRANSMITTED DISEASES. A non-major Biology course pertaining to the causes and consequences of human sexually transmitted diseases. Descriptions of the microorganisms which cause STDs and the factors which are involved in their dissemination will be studied. Special emphasis will be directed towards human behavior patterns and mores which are conducive to contracting these venereal diseases. Viral STDs (Acquired Immune Deficiency Syndrome, Human Papilloma Disease, Herpes Simplex II and Hepatitis B) will be emphasized because they can cause severe diseases or even death in humans; however, the more common venereal diseases (syphilis, gonorrhea, lymphogranuloma, venereum, chancroid and candidiasis) will also be studied. Three lecture hours weekly. (3 crs.)

BIO 115. PRINCIPLES OF BIOLOGY. Structures and functions common to all organisms; cell structure and function, the chemical aspects of biological systems, energy and materials balance in nature, developmental biology, principles of genetics, evolution, and ecology. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 120. GENERAL ZOOLOGY. A comprehensive phylogenetic survey of the animal kingdom, with emphasis on evolutionary changes and the interrelationships of animals with their environment. Laboratory studies of representative members of the major phyla. Prerequisite: BIO 115. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 125. GENERAL BOTANY. A survey of form and function of the major plant groups as well as the bacteria, algae, water molds, slime molds, and fungi within the overall framework of a modern phylogenetic system of classification. Prerequisite: BIO 115. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 206. CONSERVATION OF BIOLOGICAL RESOURCES. A study of biological aspects relating to plants and animals directly associated with water, soil, and environmental changes. Numerous field trips are taken into areas of Western Pennsylvania to observe land reclamation, conservation practices, and basic problems confronting human populations. Prerequisites: BIO 115 & 125. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 226. BASIC MICROBIOLOGY. This course will provide a survey of the prokaryotic and the medically important concepts of microbiology including microbial control, acquisition of disease, disease prevention and control. Prerequisites: This course is for students who are enrolled in a nursing program, or have obtained permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 228. BASIC PRINCIPLES OF NUTRITION. This course was designed to provide nursing professionals with the basic principles of normal and therapeutic nutrition which can be used as a basis for making sound nutritional decisions for dietary planning for their clients, their families, or themselves throughout the life cycle, in health or in illness. Prerequisites: This course is for students who are enrolled in a nursing program, or have obtained permission of the instructor. Three lecture hours weekly. (3 crs.)

BIO 230. ANATOMY AND PHYSIOLOGY I. A general survey of the basic anatomical terms of position and direction, the relevant scientific units, the chemical components of living organisms, animal cytology, histology, embryology, the integumentary system, the rudiments of neurology, the skeletal system, and the cardiovascular system. Prerequisites: This course is for students who are enrolled in a nursing program; or have obtained permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 260. ANATOMY AND PHYSIOLOGY II. A general survey of the basic structure of the peripheral and autonomic nervous systems, sensory receptors and special sense organs, the endocrine system, the cardiovascular system, the lymphatic system, the respiratory system, the digestive system, the urinary system, homeostasis, the reproductive system, human embryonic development, and metabolism. Prerequisite: BIO 230. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 305. COMPARATIVE VERTEBRATE ANATOMY. A comparative study of the vertebrate organs and organ systems of animals in the phylum chordata, with emphasis on evolutionary changes. Prerequisites: BIO 115 & 120. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 306. HUMAN ANATOMY. A study of the structure of the human body, including discussion of the eleven fundamental systems. Each system is described in terms of its gross anatomy, with some discussion of histology and physiology where appropriate. Prerequisites: BIO 115 & 120 or permission of the instructor. Three lecture hours 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 115 & 125. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 310. ECOLOGY. Ecology presents the biology or environmental science student with a holistic approach to the study of the biological environment. Emphasis is focused on the natural environments of organisms, particularly as biotic assemblages of these organisms interact with their environments from the concrete levels of organization up to the regional and biome levels. Prerequisites: BIO 115, 120 and 125 or permission of the instructor. Three lecture hours and three laboratory hours 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 vegetation analysis and community sampling. Prerequisites: BIO 115 and BIO 125. Three lecture hours and three laboratory hours 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 and BIO 120. Three 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 inheritance, chromosome mapping, chromosomal and extrachromosomal inheritance. The roles of mutation, selection, migration, and genetic drift are investigated to determine the genetic composition of different populations. Prerequisites: BIO 115, 120, and 125. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 325. ANIMAL HISTOLOGY. The study of cellular differentiations in tissue, tissue identification, and special functions, especially in the mammals. Prerequisites: BIO 115 and 120. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 326. MICROBIOLOGY. A detailed study of bacteria and viruses, with less emphasis on fungi, algae, and protozoans. Special emphasis on medical aspects of bacteriology, immunology, and virology. The cytology, physiology, microbiology, and culture of microbes are pursued in the laboratory. Prerequisites: BIO 115 and BIO 125, CHE 101 and CHE 102, or permission of the instructor. Three lecture hours 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 and BIO 120. Three lecture hours 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 and BIO 120 or permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 332. ECONOMIC BOTANY. A study of mankind's dependence and economic interest in plants. Topics include important metabolic reactions of plants, use of plants as a food source, use of plant cell walls, exudates and extractives as economic products. Prerequisites: BIO 115 and 125. Three lecture hours and three laboratory hours weekly. (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 are considered as they relate to plant production. Since the clay and humus fractions are of tremendous importance, the course will incorporate a colloidal-biological basis. Prerequisites: CHE 101 and CHE 102. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 335. PLANT PHYSIOLOGY. The physio-chemical foundations of plant functions are investigated, including such topics as water and salt absorption, photosynthesis, respiration, plant growth substances, photoperiodic responses, mineral metabolism, germination and the effects of air pollution on plants. Recent advances in the field of plant physiology are included. Prerequisites: BIO 115 and BIO 125, CHE 101 and CHE 102. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 336. PLANT TAXONOMY. A study of relationships among the vascular plants, their classification and methods of identification. Plant families native to Western Pennsylvania are stressed. Prerequisites: BIO 115 and BIO 125. Three lecture hours 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 people and the ecological balance with other organisms. Prerequisites: BIO 115 and BIO 120. Three lecture hours 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. Students can take this course twice for a maximum of 4 credits. Prerequisites: three Biological or Environmental courses with a minimum of one field-oriented course. (2-4 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: Can be taken with the permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 405. HUMAN GENETICS. Chromosomal abnormalities, Mendel's Laws, and the effect of change of gene action on Mendelian ratios. Other topics include; sex-related inheritance, random mating, consanguinity, allelism, mutations, and maintenance of polymorphism. Prerequisites: BIO 115, 120, 125, and 318. Three lecture hours weekly. (3 crs.)

BIO 407. MYCOLOGY. An extensive examination of the fungi, with emphasis on the filamentous forms. The cytology, physiology, and morpholgy of the fungi are studied to determine their role in the scheme of nature. Laboratory techniques in isolating, culturing, enumerating, and identifying fungi. Prerequisites: BIO 115, 125, and 326. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 418. BIOLOGICAL RESEARCH INVESTIGATIONS. A research program for advanced undergraduate students who wish to pursue careers in biological or medical areas. Emphasis is placed upon the use of various scientific instruments and biological procedures necessary for research investigations. The student works closely with one or more faculty members on a research project which is departmentally approved. Each research project is unique, and the data should ultimately be published in a prominent biological journal. The student normally participates in one aspect of an ongoing research study and may pursue work for one or more semesters. Students can take a maximum of 12 credits, 6 of which may be counted in the area of concentration. Prerequisites: BIO 115 and BIO 125 (or BIO 120), one Biology elective course, junior or senior standing, and a 3.0 QPA. (1-4 crs.)

BIO 426. CLINICAL MICROBIOLOGY. A survey of the indigenous and pathogenic microorganisms of man, general principles deduced from complexities involving biochemistry and physiology, host-parasite relationships, and laboratory procedures. Organisms studied include: bacteria, fungi, viruses, and ricksettsia. Prerequisites: BIO 115, 125 and 326; CHE 101 and 102. Three lecture hours and three laboratory hours weekly. (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. Prerequisites or concurrent courses: BIO 432, CHE 331, CHE 332, or permission of the instructor. Three lecture hours and three lab hours weekly. (4 crs.)

BIO 432. CELLULAR ULTRASTRUCTURE. A study of the generalized cell, the highly specialized cell, and tissues as seen by the electron microscope, with special emphasis on correlation of structure with function. An additional aim is to enhance the student's ability to interpret electron micrographs. Prerequisites: BIO 115, BIO 120, and BIO 125, CHE 331 and CHE 332, a molecular biology course and/or permission of instructor. Three lecture hours weekly. (3 crs.)

BIO 433. HERPETOLOGY. A consideration of the Amphibia and Reptilia from taxonomical, morphological, evolutionary, behavioral, and physiological viewpoints with emphasis on ecological relationships. Prerequisites: BIO 115 and BIO 120. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 435. ICHTHYOLOGY. An introduction to the morphology, taxonomy, ecology, and distribution of the major groups of freshwater fishes, with emphasis on the northeastern U.S. fauna. Prerequisites: BIO 115 and BIO 120. Three lecture hours and three laboratory hours weekly. (4 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, BIO 120, BIO 308, BIO 316 or ENS 300. Need permission of the instructor. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 442. DENDROLOGY. A study of the tree species of the Kingdom Metaphyta: the importance of these organisms to other biota, especially man, and their prospects of continued survival in a rapidly changing biosphere. Emphasis on the forest communities and tree species of the mixed mesophytic forest regions of southwestern Pennsylvania. Prerequisites: BIO 115 and BIO 125. Three lecture hours weekly. (3 crs.)

BIO 445. ENTOMOLOGY. A specialized study of insects: identification and classification development phases, physiological characteristics, economic importance, disease vectors. Prerequisite: BIO 115 and BIO 120. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 449. BIOLOGY FOR MEDICAL TECHNOLOGY CLINICAL PRACTICUM I. Upon acceptance to a hospital school of Medical Technology, the student undertakes the clinical training experience required by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). Programs of instruction will vary from one hospital to another but usually include hematology, microbiology, parasitology, immunology, urinalysis, and biochemistry. This course is the first of two required terms. (15 crs.)

BIO 450. IMMUNOLOGY. A detailed study of the immune system of animals covering nonspecific and specific host responses to foreign materials, the interaction between cells of the specific immune response, the nature and diversity of the immune response, the practical applications of the immune response, and disorders associated with the immune response. Prerequisites: BIO 115, BIO 120 and BIO 318 or BIO 326. Three lecture hours weekly. (3 crs.)

BIO 459. BIOLOGY FOR MEDICAL TECHNOLOGY CLINICAL PRACTICUM II. A continuation of BIO 449. The second of two terms. (14 crs.)

BIO 466 BIOMETRY. The fundamental concepts underlying the application and interpretation of statistical methods to biological and ecological research. Practical experience in the development and analysis of laboratory and field projects. Prerequisites: MAT 215 and permission of instructor. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 478. EVOLUTION. An advanced course pertaining to the mechanisms that are operative in the process of biological evolution. Life origins and development are investigated, with special emphasis placed upon the importance of genetic and metabolic systems diversity. The recurring and universal themes of mutation and natural selection are thoroughly discussed as the concept of evolution at the population level is developed. A detailed account of human origins and species diversity is also studied. Prerequisites: BIO 115, BIO 120, BIO 125, and BIO 318. Three lecture hours weekly. (3 crs.)

BIO 480. CELL BIOLOGY. The biology of the cell with emphasis on the relationship of structure and function within the cell. It is a study of cell organelles, growth, division, macromolecules, membranes, synthesis, and regulation. Prerequisites: BIO 115, BIO 120, BIO 125, and CHE 331. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 486. ENVIRONMENTAL PHYSIOLOGY. A comparative approach to the study of physiological systems in animals relative to environmental pressures and phylogenetic standing. Prerequisite: BIO 115 and BIO 125 . Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 488. WATER POLLUTION BIOLOGY. A survey of the impacts of various types of environmental pollutants on aquatic biological communities. Community responses are analyzed in a lecture/laboratory format with emphasis on collection in the field. Prerequisites: BIO 115, BIO 120, BIO 125, CHE 101, CHE 103. Three lecture hours and three laboratory hours weekly. (4 crs.)

BIO 492. BIOLOGICAL AND ENVIRONMENTAL SCIENCE INTERNSHIP. Student interns are placed with an organization or institution 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 relatively short time frame. Advisor and department chairperson approval is required before course enrollment. A total of 6 credits may be applied towards graduation in the following manner: A maximum of 3 credits may be applied to an appropriate core area in the Biology curriculum. In the Environmental Studies and Pre-Professional programs, a maximum of 3 credits can be applied to the related electives area. In addition, a maximum of 3 credits may be applied to the free electives area in the general education requirement of any program. Prerequisite: Junior or Senior standing and permission of the department (Variable: 1-12 crs.)

BIO 520. NEUROBIOLOGY. An examination of the structure and function of nervous systems. The course is designed to develop a detailed understanding of nervous system structure and function from the molecular level to the level of complex circuits such as learning and memory. A central theme is the comparison of the neurological circuits across phyla to identify basic organizational principles. Prerequisites: BIO 115, BIO 120, BIO 306, BIO 328, or permission of the instructor. 3 hours of lecture weekly. (3 crs.)

BUS - Business

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

BUS 242. BUSINESS LAW I. A study of commercial law as it relates to contracts, agency and criminal and constitutional law pertaining to business. Prerequisites: ECO 100 and at least sophomore standing. (3 crs.)

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

BUS 271. ANALYTICAL METHODS. This is a course designed to teach mathematical methods of solving business problems. This will be especially useful to anyone who has opted not to take any calculus. Prerequisite: MAT 181. (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 343. CORPORATE SOCIAL RESPONSIBILITY. Incorporating the concept of social responsibility or corporate social responsiveness in the corporate business strategy; how to assess organizational performance on social issues and design information systems to monitor policies in a large complex organization; the identification of the stages of this process and the characteristic problems and tasks associated with each stage; the evolution and/or design of structures and procedures for handling social issues consistently with business strategies. (3 crs.)

BUS 379. SPECIAL PROBLEMS IN BUSINESS. (3 crs.)

BUS 492. BUSINESS INTERNSHIP. The student is placed with a business firm, a bank, a government agency, or a non-profit organization for on-the-job and/or counselling experience. It offers a practical training ground for students which supplements academic training by permitting them to address actual problems in a real business environment. Prerequisite: Senior standing or permission of instructor. (Repeatable; Variable crs.; a maximum of 12 credits may be used towards a baccalaureate degree.)

BUS 495. SEMINAR IN BUSINESS. An intensive examination of selected subjects from the general field of business. Prerequisite: Consent of instructor. This course is repeatable one time if the subject matter is different. (3 crs.)

CCU - Co-Curricular Activities

One credit may be scheduled each semester in any one of the following listed courses. 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 major.

CCU 100. FIRST YEAR SEMINAR. This course is designed to help students make a smooth transition into the university environment and is required of most first-time students. Topics covered in the course include: time management, campus life issues, library, writing/study skills, math/reading skills, financial aid, academic and career planning, health issues, and individual assistance. (1 cr.)

CCU 102. ART WORKSHOP. (1 cr.)

CCU 103. CO-EDUCATIONAL WEIGHT LIFTING AND CONDITIONING. This course is divided into two areas. The Herron Rec. and Fitness Center features several types of weight training including: free weights; Keiser and Nautalis equipment; and conditioning apparatus. Along with weight training, a program of aerobic exercise training is available at Herron. This conditioning phase can be accomplished by participating in distance walking or running, using stationary bikes and rowing machines or using the stairmaster. There will be a test administered at the end of the course to evaluate your conditioning status. This course is offered to provide an introduction to and encourage lifelong conditioning. (1 cr.)

CCU 151. SHOTOKAN KARATE. Shotokan Karate is divided into three categories: Kihon (basic blocks, punches, kicks and stances); Kata (prearranged forms simulating combat situations); Kumite (sparring). In each category the beginner is given instruction at the most basic level until the techniques become spontaneous. (1 cr.)

CCU 186. YOUNG AND GIFTED CHOIR. The Young and Gifted Choir is open to all students interested in performing gospel music. Within the confines of the group, the history of gospel music is presented. The choir meets on a weekly basis, performs at local churches and community functions and presents a concert each fall and spring semester. (1 cr.)

CCU 187. PEP BAND. The Pep Band is composed of brass, woodwind and percussionists from the University Band. This ensemble performs at selected basketball games. (1 cr.)

CCU 188. WOODWIND ENSEMBLE. The Woodwind Ensemble is composed of woodwind players from the University Band. It explores all phases of literature composed for this type of ensemble. The group rehearses one hour a week and performs both on and off campus. (1 cr.)

CCU 189. BRASS ENSEMBLE. The Brass Ensemble is composed of brass players from the University Band. It explores all phases of literature composed for this type of ensemble. The group rehearses one hour a week and performs both on and off campus. (1 cr.)

CCU 193. MEN'S GLEE CLUB. Entrance by interview with Men's Glee Club Director. Required attendance at rehearsals and all public performances. (1 cr.)

CCU 194 WOMEN'S GLEE CLUB. Entrance by interview with Women's Glee Club Director. Required attendance at rehearsals and all public performances. (1 cr.)

CCU 197. UNIVERSITY BAND. The University Band follows two curricula determined by the semester. During the fall semester, the University Band performs at football games and parades and is the featured exhibition band at numerous marching band festivals. Membership in this ensemble is open to any interested instrumentalist. Membership is also open to those wishing to audition for feature twirler or for a position on the Silk Squad, Dance Line, or Rifle Line. During the Spring semester, the University Band performs literature which encompasses all facets of the idiom. This ensemble performs at convocations and concerts, both on and off campus. (1 cr.)

CCU 198. CALIFORNIA UNIVERSITY CHOIR. The California University Choir provides an opportunity for students to sing a wide variety of music from the contemporary as well as the traditional repertoire. They perform frequently on campus and throughout the area. Membership in the Choir is elective; auditions are not required. (1 cr.)

CCU 199. CALIFORNIA SINGERS. The California Singers is a small performing ensemble. Membership in the group is determined by audition. There are an equal number of men and women. The basic performance style is that of a pop/show/swing choir, although other styles of music are performed when appropriate for the season or the audience. Smaller groups, such as a women's trio or a men's barbershop quartet, are formed within this group. Choreography is a regular part of the performances presented by this group. (1 cr.)

CCU 200. JOB READINESS. This course is offered through Career Services and assists students in career planning and preparing to enter the job market. (1 cr.)

CCU 292. STUDENT GOVERNMENT. Student Congress is the official student governing body. This course provides non-elected and elected students the opportunity to learn while participating in Student Congress. Students learn and practice leadership and administrative skills, implement programs that enrich campus life and communicate student concerns to administrative and faculty personnel. (1 cr.)

CCU 293. NEWSPAPER PUBLICATION. The student is introduced to the basic newspaper publication process. The student newspaper, The California Times, publishes on a weekly basis during the fall and spring semester, and four times during the summer. Students learn production skills using the computers available for production and students also learn writing and editing skills. (1 cr.)

CCU 294. YEARBOOK PUBLICATION. The student is introduced to yearbook publication using the computers and software programs available in the student publications office. The yearbook, Monocal, is published on a yearly basis. Students are introduced to layout and design using the software provided by the vendor that prints the yearbook. (1 cr.)

CCU 329. CALIFORNIA UNIVERSITY TELEVISION - CUTV. The student is provided the opportunity to gain experience in television production techniques, both in front of and behind the camera as well as post-production work. All students are invited to participate, this is not a communication major limited course. (1 cr.)

CCU 333. RADIO STATION - WVCS. The student is introduce to basic broadcast skills. Students become familiar with on-air skills and they also learn how to operate the radio station equipment. (1 cr.)

CCU 379. INTER-RESIDENCE HALL COUNCIL. The council is the representative body of the students residing in and elected from the various residence halls. The students taking the course assist in the governance of this organization and participate in a number of the organization's service projects. (1 cr.)

CHE - Chemistry

CHE 100. INTRODUCTION TO CHEMISTRY. A preparatory course emphasizing the mathematical and reasoning skills needed to be successful in General Chemistry. There are no prerequisites, and the course satisfies requirements in the Natural Science area for non–science majors. This course is not an elective for Chemistry majors. Three class hours each week. (3 crs.)

CHE 101. GENERAL CHEMISTRY I. An introductory course for majors and non–majors. Topics covered include atomic structure, bonding, stoichiometry, chemical reactions (including redox reactions), solutions, and the liquid state. Three class hours and three laboratory hours each week. (4 crs.)

CHE 102. GENERAL CHEMISTRY II. A continuation of General Chemistry I. The gaseous state, solutions, thermodynamics, kinetics, acids and bases, gaseous and ionic equilibria. Prerequisite: CHE 101. Three class and three laboratory hours each week. (4 crs.)

CHE 150. CHEMISTRY FOR THE HEALTH PROFESSIONS. The basic principles of general chemistry, organic chemistry, and biochemistry needed for the health sciences (specifically nursing chemistry). Three lecture hours and three laboratory hours each week. (4 crs.)

CHE 205. INORGANIC CHEMISTRY. 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. Prerequisite: CHE 102 (3 crs.)

CHE 261. ANALYTICAL CHEMISTRY I. An introduction to quantitative analytical techniques and procedure including volumetric, gravimetric, and spectroscopic methods. Prerequisites: CHE 101 and 102. Three lecture hours and three laboratory hours each week. (4 crs.)

CHE 262. INSTRUMENTAL ANALYSIS I. An introduction to various instrumental and separation techniques including such topics as chromatography, electrochemistry, and atomic absorption spectroscopy. Prerequisite: CHE 261. Three lecture hours and three laboratory hours each week. (4 crs.)

CHE 331. ORGANIC CHEMISTRY I. An introduction to the basic principles which govern the reactions of carbon compounds. Particular emphasis is placed on the structure and stereochemistry of organic molecules, acid–base theory, reaction mechanisms, and an introduction to the reactions and synthesis of alkanes, alkenes, alkynes, alicyclics, alkyl halides and aromatic compounds. Three hours lecture and three hours laboratory. Prerequisites: CHE 101 and 102. (4 crs.)

CHE 332. ORGANIC CHEMISTRY II. A continuation of the study of organic compounds. The student is introduced to the important functional groups present in such families as alcohols, ethers, carboxylic acids, esters, amides, aldehydes, ketones, amines, phenols, aryl halides, and reactions, and synthetic interconversion of these compounds. Three hours lecture and three hours laboratory. Prerequisites: CHE 331. (4 crs.)

CHE 340. ORGANIC SPECTROSCOPIC INTERPRETATION. Introductory theory and interpretation of infrared spectroscopy, ultraviolet spectroscopy, nuclear magnetic resonance spectroscopy, and mass spectrometry. Prerequisites: CHE 101 and CHE 331. Three class hours each week. (3 crs.)

CHE 350. COMPUTER APPLICATIONS IN CHEMISTRY. This course engages the student in activities which focus on computer solution of chemical problems. Both software coding and usage, as well as interfacing of microcomputers to chemical instruments, are covered. Prerequisites: CHE 101, CHE 102 and BASIC Programming Language. Three class hours each week. (3 crs.)

CHE 368. INDIVIDUAL WORK I. An opportunity for students specializing in chemistry to organize, investigate, and report on a specific problem of their own selection. (1 cr.)

CHE 410. CHEMISTRY INTERNSHIP. The student is provided an opportunity to work in an industrial or non–profit research laboratory. This practical training is intended to supplement the academic program. Prerequisite: Junior or Senior standing and permission of the department. (Variable: 1–12 crs.)

CHE 411. BIOCHEMISTRY I. A comprehensive survey of the properties, reactions, and structure of amino acids, proteins, enzymes, carbohydrates, fats and lipids, and nucleic acids. Prerequisites: CHE 331 and CHE 332. Three class hours each week. (3 crs.)

CHE 445. MATHEMATICS FOR CHEMISTS. Mathematical techniques including differential and integral calculus, ordinary and partial differential equations, graphical methods, approximation methods, complex numbers, Fourier series expansions, determinants, coordinate systems, vector analysis, vector and matrix algebra with emphasis on application to chemical systems. Prerequisites: Differential and Integral Calculus. Three class hours each week. (3 crs.)

CHE 451. PHYSICAL CHEMISTRY I. Properties of gases, kinetic–molecular theory, molecular energies, classical and statistical development of thermodynamics, with applications to thermochemistry and chemical equilibria. Prerequisites: CHE 261 and mathematics through Integral Calculus. Three lecture hours and three laboratory hours each week. (4 crs.)

CHE 452. PHYSICAL CHEMISTRY II. Kinetics of chemical reactions, properties of liquids, phase equilibria, solutions, thermodynamics, properties of electrolytes in solution, and electrochemistry. Three lecture hours and three laboratory hours each week. Prerequisite: CHE 451. (4 crs.)

CHE 495. CHEMISTRY SEMINAR. Students may choose a particular topic in chemistry and, under the supervision of a faculty member, prepare and present a seminar report. The topics are to be on material not covered in the undergraduate courses, or extensions of some particular aspect of chemistry included in less detail in an undergraduate course. (1 cr.)

CIS - Computer Information Systems

CIS 150 INTRODUCTION TO DATABASE APPLICATION SOFTWARE. This course is an introductory study of database application software as it is used on a microcomputer. The more commonly used operations of a selected database applications software package will be presented. Introductory database design techniques will be presented. Laboratory assignments and projects will be used to combine database theory and database software to solve information management problems. (3 crs.)

CIS 215 TELECOMMUNICATIONS AND LOCAL AREA NETWORKS. This course is an introductory study of telecommunications and local area networks. The major topics include voice and data communication concepts and hardware, data transmission, link layer responsibilities, local area networks and network management. (3 crs.)

CMD - Communication Disorders

CMD 100. SURVEY OF SPEECH PATHOLOGY. This is the introductory course to communication disorders and the field of speech/language pathology. (3 crs.)

CMD 105. LANGUAGE AND SPEECH DEVELOPMENT. Emphasizes the normal development of speech, language, and communication. The form and function of language are considered, i.e., phonology, syntax, morphology, semantics, and pragmatics. (3 crs.)

CMD 203. PHONETICS. Introduces practical phonology and phonetics as they apply to the communicative process. The student is required to learn and use the International Phonetic Alphabet. (3 crs.)

CMD 204. ANATOMY AND PHYSIOLOGY. The structure and normal function of the components of the human body participating in the production and reception of speech and language. Prerequisite: CMD 213. (3 crs.)

CMD 211. ACOUSTICS AND PSYCHOACOUSTICS. A basic analysis of how sound is generated and measured. In addition, the manner in which the human auditory system encodes sound information and subsequently extracts meaning from it will be investigated. Prerequisite: 6 credits of Physical Science or Mathematics. (3 crs.)

CMD 300. SPEECH PATHOLOGY I. This course provides students with introductory knowledge of children with language and speech disorders. They will become aware of procedures and principles utilized by speech-language pathologists in the assessment and management of children with language and speech delays/disorders. Prerequisites: CMD 100, 203, 204 and 213. (3 crs.)

CMD 301. SPEECH PATHOLOGY II. Primary emphasis is placed on several of the major speech disorders, namely: fluency disorders, voice disorders, language disorders in adults, dysarthria, apraxia, and dysphagia. Prerequisites: CMD 203, CMD 204, CMD 213. (3 crs.)

CMD 305. INTRODUCTION TO AUDIOLOGY. The course will provide the student with an understanding of the genetic and disease processes producing hearing loss in children and adults and the procedures used to assess hearing loss and rehabilitate persons with hearing impairment. Prerequisites: CMD 204 and CMD 213. (3 crs.)

CMD 320. ASSESSMENT OF SPEECH AND LANGUAGE. The student learns to administer, score, and interpret speech and language tests and write diagnostic reports based upon the administration of results of such tests. (3 crs.)

CMD 400. CLINICAL PRACTICUM. Provides the student clinician with a variety of therapeutic and evaluation experiences with children or adults having speech, language or hearing disorders. Prerequisites: CMD 300, CMD 301 and a 3.0 in all CMD courses. (3 crs.)

COM - Communication Studies

COM 100. PERSPECTIVES ON COMMUNICATION. An introductory course intended primarily for majors in Communication Studies. The course explains the many perspectives from which communication may be studied and serves as an introduction to the discipline. (3 crs.)

COM 101. ORAL COMMUNICATION. Designing, rehearsing, and delivering extemporaneous speeches to facilitate solving group and public problems; reporting and evaluating other speakers' intent, content, format, and delivery. (3 crs.)

COM 102. GROUP DISCUSSION: MANAGEMENT. Participation in, and analysis of, group decision–making processes to develop communication and listening skills in group situations, to develop understanding of the role of small group communication in business, to identify and develop styles and functions of group leadership. (3 crs.)

COM 105. SURVEY OF RADIO, TELEVISION, AND FILM. Introduction to communication in radio, television, and film; effects of mass media on the audience and the individual; role of mass media in news, documentaries, commercials, and entertainment broadcasting. (3 crs.)

COM 107. FUNDAMENTALS OF DISCUSSION. Introduction to group forms, techniques, participation, and chairmanship in informal and formal discussions of contemporary issues. (3 crs.)

COM 141. AUDIO PRODUCTION I. Fundamentals of radio production including the theory and use of Audio Lab equipment, writing and producing various types of basic radio programs, and the study of FCC rules and regulations as they apply to radio broadcasters. (3 crs.)

COM 142. VIDEO PRODUCTION I. Fundamentals of television production, including the use of equipment. This course has both a lecture and a laboratory component. Students must register for both the lecture and laboratory components in the same term. (3 crs.)

COM 165. INTERPERSONAL COMMUNICATION. This course seeks to help the student develop an awareness of the nature and complexity of interpersonal communication, recognize how perception of the self affects the ability to relate to others, and gain an understanding of those elements that shape the interpersonal communication process. (3 crs.)

COM 201. INTERCOLLEGIATE FORENSIC ACTIVITIES. Instruction, practice, and performance of various forms of debate and competitive individual speaking and reading events. Participation in intercollegiate competition, largely on some weekends, is required. Open to students in any major. (3 crs.)

COM 203. INTRODUCTION TO PUBLIC RELATIONS. Examines PR as the communication function that allows organizations to interface with their environments and publics. It describes the public relations process as well as its history, the guiding principles and concepts of organizational advocacy, and explores the various career opportunities in the field. (3 crs.)

COM 210. VOICE AND ARTICULATION. Introduction to phonetics and to voice production and control, with exercises to develop adequate quality, loudness, pitch, rate, and articulation. (3 crs.)

COM 224. INTRODUCTION TO ORAL INTERPRETATION. Techniques of discovering denotative and connotative meanings in literature for presentation to listeners; solo presentations of different literary forms. (3 crs.)

COM 230. ARGUMENTATION AND DEBATE. Logical advocacy: briefing and supporting logically adequate cases advocating propositions of policy, negative positions, exposing fallacious evidence and reasoning, refutation and rebuttal. Applications to intercollegiate and mass media topics. Prerequisites: COM 101 or 250 or permission of instructor. (3 crs.)

COM 235. PRESIDENTIAL RHETORIC, 1960 TO THE PRESENT. A study of the written texts, audio tapes, and video tapes of selected speeches by American presidents. The course explores the use of rhetoric in campaigns, in governance and in crises, by the presidents in order to illustrate contemporary political speaking and is an examination of how to understand and evaluate presidential speaking. (3 crs.)

COM 241. AUDIO PRODUCTION II. Students will build upon the knowledge and skills learned in Audio Production I, including creating, writing, producing and evaluating various types of more sophisticated production projects. Strong emphasis on theory and practice of field production, creating sound and special effects. Prerequisite: COM 141 or permission of instructor. (3 crs.)

COM 242. VIDEO PRODUCTION II. A course designed to prepare a student to perform in the various areas of single camera electronic field production, including the fundamentals of scripting, planning and budgeting field shoots; gathering audio and video in the field; field lighting; skills and aesthetics of editing field produced video; and the understanding and reading of test equipment for video signals. Prerequisites: COM 142 or permission of instructor. (3 crs.)

COM 246. RADIO AND TELEVISION ANNOUNCING. Theories and practice of gathering, evaluating, writing, and delivering newscasts, sports, commercials, interviews, for radio and television audiences. Prerequisites: COM 240 or 245 or permission of the instructor. (3 crs.)

COM 250. ORAL COMMUNICATION: MANAGEMENT. Develop an awareness of, and an appreciation for communication in the business world; preparing and presenting oral reports and speeches designed especially for persons who function in organizations, businesses, or industries. (3 crs.)

COM 303. PUBLIC RELATIONS APPLICATIONS. This course seeks to develop the production skills necessary to function in an entry–level public relations position. Many assignments will help students develop: 1) proficiency using the host of vehicles PR practitioners use, and 2) a portfolio. Effort will be made to create an atmosphere similar to the first job in PR. The instructor will be the first PR supervisor - the boss - editing the work; criticizing style; asking for research; forcing the student to plan, analyze, write, rewrite, prepare, repair, organize, and reorganize. Prerequisite: COM 203. (3 crs.)

COM 315. LANGUAGE AND BEHAVIOR. Developing language habits that improve sensory and symbolic perception, inference–making, evaluation, and conflict management/resolution. Prerequisite: COM 165 or permission of instructor. (3 crs.)

COM 324. ADVANCED ORAL INTERPRETATION. Detailed analysis and evaluation of literary forms. Creative experimentation in adapting performing literature for solo and group presentations. Prerequisite: COM 224. (3 crs.)

COM 331. RADIO AND TELEVISION COMMERCIALS. The writing of commercial messages in varying lengths for both radio and television, including preparation of storyboards. Prerequisites: COM 240 or 245 or permission of the instructor. (3 crs.)

COM 332. RADIO AND TELEVISION WRITING: NEWS. The writing of news, commentary and documentary, scripts for radio and television; includes the press conference. Prerequisites: COM 240 or 245 or permission of instructor. (3 crs.)

COM 335. RADIO AND TELEVISION WRITING: DRAMA. Writing and analyzing teleplays, film and/or radio plays for understanding of dramatic composition and unique needs of specific writing genres and audiences. (3 crs.)

COM 336. BROADCAST REPORTING. A further exploration of the principles of reporting for the electronic media. Students will apply reporting techniques, ethical principles, and legal principles in actual field experiences. (3 crs.)

COM 341. AUDIO: AESTHETICS & APPLICATIONS. This course is designed as a discussion of various aesthetic principles in audio followed by application of these principles in student productions. Students must have mastered the mechanics of studio and field audio mixing, recording and editing prior to enrollment. Prerequisites: COM 141, 241, or permission of instructor. (3 crs.)

COM 342. VIDEO: AESTHETICS & APPLICATIONS. This course is designed as a discussion of various aesthetic principles in video followed by application of these principles in student produced programming. Students must have mastered the mechanics of shooting and editing video tape prior to enrollment in this course. Prerequisites: COM 142, COM 242. (3 crs.)

COM 350. PERSUASION. Methods of changing attitudes and behaviors through communication; analysis of individuals, audiences, occasions, and subjects for persuasive appeals. Study of logical and psychological arrangements and the ethics of persuading and being persuaded. Preparation of persuasive speeches. Prerequisites: COM 101 or 250 or permission of instructor. (3 crs.)

COM 355. BROADCAST MANAGEMENT. Development of a working knowledge of the managerial structures of broadcast organization. Prerequisite: COM 240. (3 crs.)

COM 360. APPRECIATION OF FILM. Preparation for intelligent response to cinema. Discussion of the screen play, director, and actor. Critical evaluation of outstanding films of the past and present. (3 crs.)

COM 370. PUBLIC COMMUNICATION LAW AND POLICY. This course examines the meaning of the speech and press clauses of the First Amendment and the application of those clauses to the formulation of public communication policy. It considers electronic media policy formulation in the area of commercial speech, contemporary speech controversies, privacy, public interest, and evolving communication technologies, from the perspectives of statute limitations, court constitutional interpretations, common law, regulatory mandates, and international treaties. (3 crs.)

COM 401. INTERNATIONAL BROADCAST SYSTEMS. An overview of world broadcasting systems. It prepares the student to function as a person with a world view of the field of electronic mass communication. Prerequisites: COM 355, COM 105. (3 crs.)

COM 410. PROFESSIONAL VIDEO COMMUNICATIONS. The field of business and institutional video. The course prepares the student to function as a corporate writer, producer, director, and editor of desktop videos, video press releases, videoconferences, training tapes, and other business and institutional videos. Prerequisites: COM 100, COM 105, COM 355. (3 crs.)

COM 438. PUBLIC RELATIONS CAMPAIGN MANAGEMENT. Seeks to increase understanding of the management of public relations campaigns by integrating communications theory with professional practice. Special attention is given to techniques for designing, implementing and evaluating effective campaign strategies for clients. Prerequisites: COM 203, COM 303. (3 crs.)

COM 429. SPECIAL PROBLEMS IN COMMUNICATION. Independent study and reporting of topics of interest to the student but not available in scheduled courses. (Variable crs.)

COM 445. RADIO AND TELEVISION IN A FREE SOCIETY. A study of the rights and obligations of the mass media producer, purveyor, and audience. Prerequisite: COM 105 or permission of the instructor. (3 crs.)

COM 459. COMMUNICATIONS STUDIES INTERNSHIP. Opportunities for practical, professional communication work and field experiences in various off-campus settings. Internships are to be jointly administered by an on-site supervisor and the departmental internship supervisor. (Variable crs.)

COM 461. COMMUNICATION CRITICISM. The study and application of the methods and critical perspectives used in communication criticism. Students will critique a wide range of communication artifacts which may include speeches, advertisements, films, and the messages of public relations. (3 crs.)

COM 463. MEDIA CRITICISM. The study of critical approaches to audio, video and cinematic texts. Emphasis on the discussion and application of approaches that examine: the meaning of media texts, the author's role in producing media texts, the impact of media texts on audiences, and the impact of the social and cultural milieu on the creative and critical process. Prerequisites: COM 105. (3 crs.)

COM 481. COMMUNICATION RESEARCH TECHNIQUES. This course is intended to provide an introduction to and practice in the construction of research that is appropriate to the student's area of interest in Communication Studies. It seeks to provide basic research skills to those anticipating graduate studies, and to those anticipating employment in areas of Communication Studies. Prerequisites: Major, junior standing or permission of instructor. (3 crs.)

COM 484. PUBLIC RELATIONS CASES AND PROBLEMS. This is the capstone course for students in the public relations option. It seeks to develop analytical skills so that graduates may function in the four primary roles of the public relations practitioner: 1. monitor of public opinion and change, 2. voice of the corporate conscience, 3. advocate for organizations, and 4. monitor of organizational policies and programs. Prerequisite: COM 438 or permission of instructor. (3 crs.)

COM 490. COMMUNICATION THEORY. A seminar in which the theories of human communication are analyzed, debated and evaluated. (3 crs.)

CSC - Computer Science

CSC 101. MICROCOMPUTER AND APPLICATION SOFTWARE. An introductory study of microcomputers and how to use them. The major topics include computer literacy, use of an MS-DOS microcomputer, and an introduction to and laboratory hands-on use of selected microcomputer applications software packages. (3 crs.)

CSC 105. BASIC PROGRAMMING LANGUAGE. This course will provide the student with the knowledge to write well structured, modular programs on a personal computer. It assumes no prior knowledge of computers or programming. The fundamentals of programming are taught in a style consistent with current thinking in the computing field. Prerequisites: High school algebra or equivalent. (3 crs.)

CSC 120. PROBLEM SOLVING AND PROGRAMMING CONSTRUCTIONS. Basic literacy of computers, introduce the operation of the VAX and DOS computers, present problem solving heuristics and structured programming techniques, present language independent data types, operations, programming constructs and statements, introduce arrays and linked lists, and implement fundamental programs using an appropriate programming language. Prerequisites: High school algebra or equivalent. (3 crs.)

CSC 123. INTRODUCTION TO COMPUTER SCIENCE WITH PASCAL. An introduction to computers, algorithms, and programs. Emphasis is on efficient program design using structured programming methods. Students are required to write and test programs on the main frame VAX system or on microcomputers. Prerequisites: One year of high school algebra or permission of instructor. (3 crs.)

CSC 199. FIELD EXPERIENCE IN COMPUTER SCIENCE. Designed for the Associate Degree person majoring in computer science, this course will enable the student to apply her/his knowledge of computers to the real world of computer technology. The field experience will provide the student with an opportunity to see and work with many aspects of computers in the work place and should enhance the student's job opportunities when the student graduates. Prerequisites: Students should have completed 32 credits with a good QPA plus sufficient background to meet the needs of the field experience in which they will be participating. (3 crs.)

CSC 201. DOS, WINDOWS, INTERNET. This primarily hands-on course will review computer system concepts, develop the non-major's proficiency using Windows, introduce the student to all facets of the Internet, and develop a student's proficiency in web page design and publishing. Using a lecture/laboratory format, the first part of the course reviews basic hardware/software concepts and the history and on-going development of DOS/Windows systems, and introduces the vocabulary/system concepts associated with Windows operating systems. The second part of the course provides "hands on learning" about the rudiments of the Windows graphical user interface, use of Windows applets, and transferring data among Windows applets; additionally, the idiosyncrasies involved in optimizing a Windows system will be investigated, and the internal/external DOS commands will be investigated from the Windows' DOS prompt icon. The third portion of the course introduces facets of Internet usage: accessing the Internet to send/receive e-mail, subscribing/unsubscribing to mailing lists, browsing and searching for information on the world-wide web, ftp'ing files to/from remote sites, accessing remote computer systems using telnet, searching for downloadable files using archie, exploring gopherspace, searching gopherspace using veronica, and subscribing to newsgroups and participating in discussion forums. The last portion of the course introduces web page design, development, and publishing on the world wide web using a "hands-on" laboratory format. Students will learn basic HTML (the language of the world wide web) and will utilize various HTML editors to produce personal web pages. Prerequisite: CSC101 or permission of the instructor. (3 crs.)

CSC 205. VISUAL BASIC. This course uses a visual programming language for Windows and is designed for the beginning course in visual programming. It is an object-oriented/event driven language, designed to teach programming concepts related to a Windows skills and file management. (3 crs.)

CSC 218. COBOL I. An introduction to the essential elements of the COBOL language using well structured programming techniques. Students are required to write COBOL programs and run them on the university's mainframe VAX system. Students will write and execute report programs, control break programs, data validation programs that implement tables. Good analysis, design and structure will be emphasized. Prerequisites: CSC 120. (3 crs.)

CSC 222. FORTRAN. The FORTRAN language will be studied. Most of the major programming constructs of FORTRAN will be covered including assignment statements, loops, decisions, subprograms, arrays, character manipulation and file processing. Comparisons with other languages will be made and documentation of programs will be emphasized. Prerequisites: CSC 120. (3 crs.)

CSC 223. C PROGRAMMING. This course builds on CSC 120. It gives the student a thorough understanding of the C language so that the student will develop the ability to program well in the C language. Emphasis is placed on efficient software development using structured programming techniques. Students are required to run programs using an appropriate version of C. Prerequisite: CSC 120. (3 crs.)

CSC 300. COMPUTER OPERATIONS. This course is designed for the computer science major who is looking for a general overview of computers, how they operate, how they store and use information, and how peripheral equipment associated with the computer world operates. Students will be given "hands-on" experiences to enhance their knowledge of computers. Prerequisites: At least two computer science courses. (3 crs.)

CSC 309. SURVEY OF OPERATIONS RESEARCH. A survey of the operations research (also known as management science or quantitative analysis) tools that are available to help a manager make better decisions, this course encompasses a number of mathematically oriented techniques that have been developed for/adapted to management problems in the areas of private industry, education, military, health care, and government applications. Mathematical modeling techniques will be studied in both lecture and microcomputer laboratory session formats. Prerequisite: CSC 101, (MAT 181 or 182), (MAT 215 or MAT 225), ECO 201, MAT 272 is recommended. (3 crs.)

CSC 316. LOGIC AND SWITCHING THEORY OF THE COMPUTER. An in-depth study of Boolean algebra and its application to switching and gating networks. Prerequisites: CSC 105 or CSC 121 or CSC 123 or MAT 272. Recommended courses: MAT 273 or MAT 281 and CSC 323. (3 crs.)

CSC 318. COBOL II. An in-depth study of the basis of digital computers. Number systems, arithmetic operations, codes, boolean algebra, boolean minimization techniques, state transition tables, and state transition graphs are discussed. Extensive emphasis is placed on the analysis and synthesis of synchronous combinational networks which form digital computers. Prerequisite: MAT 218. (3 crs.)

CSC 323. ASSEMBLER LANGUAGE PROGRAMMING. A study of the VAX Assembly language and some concepts related to the architecture and operations of the VAX computer. Programs will be written and implemented using the instructions in this assembly language. Constructs, such as selection, looping, and subprograms, will be implemented. Prerequisite: CSC 316 and CSC 377. (3 crs.)

CSC 324. COMPUTER GRAPHICS. An introduction to "state of the art" computer graphics software. Lecture and laboratory sessions will use this software in the development of advanced graphics concepts. Hardware devices will also be discussed. Prerequisites: CSC 323. (3 crs.)

CSC 333. OBJECT-ORIENTED PROGRAMMING. An introduction to object-oriented programming. Object-oriented offers a natural method for designing software systems that build on the concepts of data abstraction, information hiding, and modularity. Prerequisites: CSC 396. (3 crs.)

CSC 357. HYPERMEDIA AND CAI. The design, development, and evaluation of instructional software. Students will learn two software authoring systems, HyperCard on the Macintosh and ToolBook on the IBM, in order to design CAI. Prerequisites: CSC 120. (3 crs.)

CSC 375. SYSTEMS ANALYSIS. This project course in systems analysis experientially introduces the student to some of the basic concepts and tools of system analysis, within the competitive American free-enterprise system. This course introduces the "real world" to future data processing professionals who must also be familiar with "system's concepts": how to analyze a business's additional data processing needs, and then how to design and implement an appropriate computer system (both hardware and software) at minimum cost and maximum information processing power. Prerequisites: CSC 101 CSC 456, MGT 201, MGT 371, ENG 217, and PSY 326. (3 crs.)

CSC 377. INFORMATION STRUCTURES. The design, use, and programming of stacks, queues, linked lists, binary trees, and sorting and searching methods are discussed in this course. The analysis of algorithms will be considered as well as the applications of data structures. Prerequisites: MAT 272, CSC 323. (3 crs.)

CSC 378. COMPUTER ARCHITECTURE. An in-depth study of the organization of the central processing unit, control unit, instructions formats, and addressing schemes of digital computers. Extensive emphasis is placed on the translation of assembly language instructions into their microsequence operations within the control unit and the interconnection which form the central processing unit and the digital computer. Prerequisite: CSC 323. (3 crs.)

CSC 396. SOFTWARE ENGINEERING. An introduction to software engineering through the use of the Ada programming language. Students will study software requirements, specifications, design, module coding and testing, integrationand software maintenance. Prerequisites: CSC 223. (3 crs.)

CSC 400. OPERATING SYSTEMS. An introductory study of the main elements of an operating system—memory management, process management, device management, and file management. Prerequisites: CSC 323 -Co-requisite CSC 378. (3 crs.)

CSC 405. DATA COMMUNICATIONS. A study of the theory, implementation procedures, and problems associated with data communications. Prerequisite: CSC 377, CSC 378, MAT 272, MAT 341. (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 lamda calculus and recursive function theory. Prerequisites: CSC 377. (3 crs.)

CSC 419. COMPUTER SCIENCE INTERNSHIP. This course is designed for the computer science major who is seeking work in the computer science area. This intern experience will enable the student to apply her/his knowledge of computers in the work place. The internship will provide the student with the valuable computer experience that should enhance the student's job opportunities upon graduation. Prerequisites: Students should have completed 64 credits with a good QPA plus have sufficient background to meet the needs of the particular internship in which they will be participating. (Variable crs.)

CSC 420. ARTIFICIAL INTELLIGENCE. This course offers a selective survey of key concepts and applications of artificial intelligence, and an in-depth experience with a language commonly used for building AI systems. Prerequisite: CSC 410. (3 crs.)

CSC 424. NUMERICAL ANALYSIS. In this course, various mathematical concepts relating to the computer are investigated. These concepts include: roundoff errors and computer arithmetic; numerical instability; error analysis and estimation; approximation; Gaussian elimination and pivoting strategies for linear systems; numerical integration and solution of differential equations. Prerequisites: CSC 377, MAT 273, MAT 341. (3 crs.)

CSC 455. STRUCTURE OF PROGRAMMING LANGUAGES. In this course, the power and limitations of algebraic languages, string manipulation languages and interactive languages will be studied. Also, Object-oriented programming languages will be discussed. Prerequisite: CSC 377. (3 crs.)

CSC 456. DATA BASE MANAGEMENT SYSTEMS. The design, motivation, implementation, and application of data base management systems. There is an intense study of the design of data bases including the normalization of the files of a data base. Techniques of updating and retrieving from data bases are learned using several commercially available data base management systems and hands-on experience is gained in at least one of them. Prerequisite: CSC 218. (3 crs.)

CSC 460. LANGUAGE TRANSLATION. This course studies the design and construction of compilers. Lexical analysis, syntactic analysis, and code generation are investigated in detail. Language design, interpreters, semantic analysis, intermediate code generation, and code optimization are also considered. Prerequisite: CSC 323. (3 crs.)

CSC 475. THEORY OF LANGUAGES. An introduction to abstract machine theory, combinational 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. This course allows the student under the guidance of an instructor the opportunity to independently study topics or concepts not ordinarily covered in other courses. The course depends on the interests of the student and the faculty member instructing it. Prerequisite: Permission of instructor. (3 crs.)

CSC 496. SEMINAR IN COMPUTER SCIENCE. For the highly motivated student wishing to develop certain topics in Computer Science found in current journals. Topics to be developed in this course are chosen by the student under the guidance of the instructor. This class does not meet regularly; it meets by arrangement between the student and the instructor. Prerequisite: Minimum of 21 hours in computer science course work and permission of the department chair and permission of the instructor. (1 to 3 crs.)

DMA - Developmental Mathematics (see MAT)

EAS - Earth Science

EAS 100. INTRODUCTION TO EARTH SCIENCE. This introductory course is designed to acquaint the student with the four general areas of earth science: astronomy, geology, meteorology, and oceanography. The course consists of two hours of lecture and one hour of lab work. (3 crs.)

EAS 131. INTRODUCTION TO ENVIRONMENTAL GEOLOGY. This course deals with the interaction between man and his geologic environment. Emphasis is placed on the understanding of basic geologic principles and case studies of some of the classic examples of environmental problems. Laboratory exercises and problems are an integral part of the course. This is intended as a survey course and a student needs only a limited background in geology. (3 crs.)

EAS 150. INTRODUCTION TO GEOLOGY. A survey course intended primarily for the non-science major. Topics considered include the make-up of the earth, internal and external processes that occur within or on the earth, rocks and minerals, fossils, earth's origin and evolution, and the origin and evolution of life on this planet. Laboratory work 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. Map reading and map air photo interpretation are also treated. (3 crs.)

EAS 163. INTRODUCTION TO OCEANOGRAPHY. An introductory course in the study of the four main branches of oceanography: (1) Geology of the oceanic basins (origins of the oceans, structure and geomorphology of the ocean's floor, methods of investigation); (2) Chemistry of the ocean waters; (3) Physics of the oceans (currents, waves, tides, etc.); (4) Biology of the oceans (marine plants and animals). No preliminary studies required but previous course work in EAS 100 or EAS 150 recommended. (3 crs.)

EAS 166. GEOLOGY OF PENNSYLVANIA. A survey of the Commonwealth's geologic setting, geologic history, and mineral resources. There are no prerequisites. Students will be introduced to the necessary geologic concepts and terminology. Students are expected to participate in at least three of the four planned field trips. (3 crs.)

EAS 170. AREAL GEOLOGY. This course involves travel to selected points of geologic interest in the Rocky Mountains and Great Plains of the western part of the United States. Most activities will be in field situations. Activities will focus on rock, mineral, and fossil identification, topographic map interpretation, and the role of geologic processes in landform development. (3 crs.)

EAS 200. HISTORICAL GEOLOGY. A study of the geologic history of Earth and the succession of the major groups of plants and animals as based on the geologic interpretation of rock formations and fossils. Field trips are an integral part of the course. (4 crs.)

EAS 202. HYDROLOGY. A survey course about the existence of water on Earth. Topics include the occurrence and movement of water, physical and chemical characteristics of water, and climatologic and geologic considerations of surface and sub-surface water. (3 crs.)

EAS 210. SOILS. The study of the distribution of the soils of the earth, their characteristics, and how they developed. Emphasis will be placed upon the relationship between man and the soils of a given environment. (3 crs.)

EAS 232. EARTH RESOURCES. An introductory course in metallic and nonmetallic resources with emphasis on the nature of minerals, the lithosphere, and economic uses of earth resources. (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 are an integral part of the course. (3 crs.)

EAS 242. CLIMATOLOGY. In this course the elements and controls of climate are analyzed in a systematic fashion. Various methods and techniques of classifying climates are presented. The climate of each continent is regionalized and the factors which produce the climatic patterns are investigated. (3 crs.)

EAS 250. SYNOPTIC METEOROLOGY. An examination of the development and structure of large-scale weather systems and fronts. Emphasis on the technique of analyzing and forecasting synoptic scale weather situations. (3 crs.)

EAS 255. REMOTE SENSING. This course emphasizes the characteristics and scientific role of aerial photo, radar, and satellite image interpretation, as well as computer assisted processing of spectral data acquired from aircraft and satellites as they relate to earth and atmospheric resource analysis. (3 crs.)

EAS 264. SCENIC AREAS OF THE UNITED STATES. This course provides an analysis of the physical setting of some scenic areas in the United States. The focus is on differences in soils, vegetation, climates and landforms in scenic areas with special emphasis given to natural history. (3 crs.)

EAS 270. SCENIC AREAS OF THE WORLD. This course provides an analysis of the physical setting of scenic areas of the world. The focus is on differences in soils, vegetation, climates, and landforms with special emphasis given to natural history. (3 crs.)

EAS 271. CARTOGRAPHY. A laboratory course designed to acquaint the student with the nature and function of maps, including concepts of scales and cartographic symbols; graphic layout and design; and the use of cartographic tools and equipment in map construction. (3 crs.)

EAS 273. COMPUTER CARTOGRAPHY. This course provides an analysis of different methods and techniques of representing spatial data through the use of various computer-based technologies. The focus is centered upon the cartographic representation of surface data through the use of a personal-computer based program. (3 crs.)

EAS 302. FIELD WORK IN HYDROLOGY. This course is designed as a follow-up course to Hydrology. It gives students the opportunity to apply hydrologic principles and techniques in field settings. Topics are selected in consultation with the instructor. (3 crs.)

EAS 304. CARBONATE GEOLOGY. A study of carbonate deposition, lithification, and diagenesis. Includes chemical sedimentology, textural classification, cyclicity of shelf strata, facies interpretation for oil exploration, and correlation. Lab component. Prerequisites: EAS 200 and EAS 421. (3 crs.)

EAS 331. MINERALOGY. An introduction to the morphology and internal structure of crystals and the chemical and physical characteristics of minerals. Laboratory time is devoted to the study of crystal models and the identification of selected mineral specimens. (3 crs.)

EAS 332. PETROLOGY. A complete survey of the major rock types (igneous, sedimentary, and metamorphic) forms the basis of this course. Consideration is given to their origin, description, and classification. Of particular importance is the relationship of the various rock types to the composition and historical development of the solid earth. Laboratory component emphasizes hand specimen identification, but some microscopic thin section work is also done. (3 crs.)

EAS 341. FIELD WORK IN METEOROLOGY. A field-oriented course designed as a follow-up to basic meteorology. The course is concerned with the use of meteorological instruments to measure local weather conditions, plotting and analyzing these conditions. Other weather problems and library research are part of the course. (3 crs.)

EAS 342. DYNAMIC METEOROLOGY. An in-depth examination of the forces and laws that govern atmospheric flow. Topics investigated and analyzed include scale analyses, geostropic and gradient wind models, vorticity, vertical motion and boundary layer dynamics. (3 crs.)

EAS 343. GEOMORPHOLOGY. This course involves the study of the origin, history, and characteristics of landforms and landscapes as they are produced by the processes of weathering, mass-wasting, fluvial, glacial, wind, and wave erosion (or a combination of these) acting upon the geological materials and structures of Earth's crust. (3 crs.)

EAS 350. MICROPALEONTOLOGY. Micropaleontology deals with the essential biological and geological principles which are basic to all paleontological studies. In addition, considerable time is devoted to the study and identification of various microfossil groups. Consideration is also given to the origin of life and to its preservation in ancient Precambrian rocks. Laboratory work is emphasized. Problems to be solved are similar to those that would be encountered in the petroleum industry. (3 crs.)

EAS 372. FIELD MAPPING. This is a field-oriented course in which the student will learn proper use of measuring and mapping instruments and the techniques used in the construction of basic maps. (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 375. MAP AND AERIAL PHOTOGRAPHY INTERPRETATION. This course covers the composition and interpretation of aerial photographs and various types of maps. Students will learn how to interpret photos and maps for quantitative and qualitative information on natural and anthropogenic features. Some of the work requires independent and group interpretation of maps, photographic slides of satellite imagery, computer processed and enhanced images, and SLAR imagery. (3 crs.)

EAS 421. SEDIMENTOLOGY. An advanced course that deals with the detailed analysis of sediments and sedimentary rocks. Both qualitative and quantitative techniques are utilized to derive the maximum information from rock samples. This information relates to the erosional, transportational and depositional history of rocks. To the greatest extent possible, the student works independently through a complete set of problems. (3 crs.)

EAS 422. STRATIGRAPHY. In this course a study is made of the basic principles governing the origin, interpretation, correlation, classification, and naming of stratified rock units. The gross stratigraphy of the United States is considered, with particular emphasis placed on the rocks of the Pennsylvanian System. (3 crs.)

EAS 425. STRUCTURAL GEOLOGY. The primary and secondary structures of rock masses and their formation are covered in this course. Actual structures are examined in the field. Geologic maps are utilized. (3 crs.)

EAS 430. OPTICAL MINERALOGY. An in-depth examination of the optical behavior of mineral crystals in polarized light with emphasis on identification. (3 crs.)

EAS 436. FIELD METHODS IN EARTH SCIENCE. This is a course 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. This is a course designed to provide students with a knowledge of geologic problems encountered in field work and the techniques utilized to solve those problems. The student is exposed to geologic and topographic maps as well as various geologic instruments. The course consists of planned trips to areas of geologic interest. Summary reports, field exercises, and laboratory problems constitute the students' work responsibility. (3 crs.)

EAS 463. SEMINAR IN OCEANOGRAPHY. This seminar is designed for those who wish to improve their scientific writing abilities and to learn more about the oceans. The course is built around an excursion to sites of oceanographic interest, library information and data collection, the writing of both short and long papers and the presentation of research. (3 crs.)

EAS 464. SEMINAR IN METEOROLOGY. A scientific writing course in which the student pursues a meteorologic topic through library or field research. Students learn to define a problem, to obtain relevant literature, to gather data, and to write and defend a research paper. (3 crs.)

EAS 491. FIELD COURSE IN EARTH SCIENCE. This course is designed for Earth Science students who desire to apply their classroom knowledge to specific sites and earth science field problems. Each semester will include trips to various sites at which geologic, meteorological, or oceanographic processes, principles, and phenomena can be studied. (Variable crs.)

EAS 492. FIELD COURSE IN GEOLOGY. This course provides advanced geology students with opportunities to study geology *in situ*. Field trips to classic and less well known sites will be incorporated with lectures, data collection, and scientific reporting. Laboratory exercises will reflect field experiences. (Variable crs.)

EAS 494. GEOLOGY WORKSHOP. Provides the student with a variety of geologic experiences. Included are lectures, laboratory exercises, field work, and problems. To the greatest extent possible, the course also is tailored to meet the needs of individual students. Prerequisite: Permission of the instructor. (Variable crs.)

EAS 495. SEMINAR IN EARTH SCIENCE. A scientific writing course in which the student pursues a earth science topic through library or field research. Students learn to define a problem, to obtain relevant literature, to gather data, and to write and defend a research paper. (3 crs.)

EAS 496. SEMINAR IN GEOLOGY. A scientific writing course in which the student pursues a geologic topic through library or field research. Students learn to define a geologic problem, to obtain relevant literature, to gather raw data and to write and present a research paper. (3 crs.)

EAS 498. INTERNSHIP IN GEOLOGY. The student combines academic theory with practical on-the-job experience by spending up to a full semester in one of several state or local governmental agencies. The practicum can be taken for from 3 to 17 credits and includes supervision by the participating agency as well as performance evaluation by the academic advisor. Prerequisite: Geology majors. (Variable crs.)

EAS 527. TECTONICS. To evaluate tectonic theories within a framework of worldwide historical geology, but special attention is given to the Appalachian and the North American Cordilleran orogenic events. (3 crs.)

EAS 528. QUANTITATIVE APPLICATIONS IN EARTH SCIENCE. An upper-level course designed to provide students opportunity to apply various procedures to the solution of geologic problems. (3 crs.)

EAS 541. ADVANCED ENVIRONMENTAL GEOLOGY. This course deals with man's natural environment, particularly geologic factors that may impact upon his life or his way of life. Emphasis is placed on an in-depth study of environmental problems and possible alternative solutions to such problems. Basic engineering principles as applied to geological problems are considered. Laboratory exercises, problems, and written reports are an integral part of the course. (3 crs.)

EAS 547. RESERVOIR EVALUATION. The purpose of this course is to analyze in detail rocks which serve for the storage and ultimately for the production of petroleum. The characteristics of these rocks will be studied in hand specimen, in thin section, in cores, and on well logs. Laboratory work and problem solving are emphasized. (3 crs.)

EAS 550. REGIONAL CLIMATOLOGY. An advanced course that deals with the application of various analytical methods and classification systems in climatology. The Koppen classification of climates is stressed. The climate patterns of each continent and the factors which produce them are investigated. Prerequisite: EAS 242 or permission of the instructor. (3 crs.)

EAS 551. INVERTEBRATE PALEONTOLOGY. This course involves a detailed study of fossil representatives of the various invertebrate phyla as well as a consideration of the more important of these as index fossils. Emphasis is on laboratory exercises and problem solving. It is hoped that this course will prove to be of interest to students in biology as well as those in geology. (3 crs.)

EAS 563. COASTAL GEOMORPHOLOGY AND MARINE RESOURCES. A study of the physical processes that shape coastal landforms and the pelagic and neritic resources of the oceans. Topics include longshore transport, wave action, swash zone dynamics, estuarine and deltaic geomorphology, ferromanganese and petroleum resources, and beach structure. Prerequisite: EAS 163 or permission of the instructor. (3 crs.)

ECE - Early Childhood Education

ECE 203. FIELD EXPERIENCES WITH INFANTS, TODDLERS, AND PRESCHOOLERS. This course is intended to provide the student with an introduction to working with young children ages infancy through five, by providing field experiences in infant/ toddler day care centers and preschool centers (day care, Head Start, or nursery school). The student observes, plans activities, and prepares learning materials for children in group settings. Lectures and classroom teaching are combined to give students an opportunity to discover their aptitude for and interest in working with very young children. Prerequisites: EDF 290, PSY 208. (3 crs.)

ECE 302. EMERGING LITERACY. The purpose of this course is to prepare early childhood students to become facilitators of early literacy learning. The content of this class deals with concepts of emerging literacy and instruction in language arts strategies for children from infancy throughout the primary grades. (3 crs.)

ECE 304 . THEMATIC TEACHING IN EARLY CHILDHOOD. This course introduces a thematic approach to teaching integrated curricula and focuses on teaching science, social studies, and health concepts. Students will gain understanding and skill in developing and implementing thematic units. (3 crs.)

ECE 315. MATHEMATICAL CONTENT IN EARLY CHILDHOOD. The student is introduced to how mathematics develops in the very young child and how to assess this development. The student is introduced to the teaching of arithmetic, measurement, and geometry to the young child. Skills and understandings that children acquire from infancy to age eight are covered. (3 crs.)

ECE 319. PARENT AND COMMUNITY INVOLVEMENT IN EDUCATION. This course emphasizes the role of parents and community in the framework of educational planning for young children. The student will demonstrate skills in planning education workshops. Students will use interview and conferencing techniques to learn from parents and community people actively involved in programs for children. (3 crs.)

ECE 405. EARLY CHILDHOOD EDUCATION SEMINAR. This course investigates how young children have been viewed and educated by society throughout history. The present-day circumstances of children and families are studied. Students receive background in how to work together with parents, communities, other professionals, and policy-makers to ensure a quality, developmentally-appropriate education for young children. Prerequisites: EDF 290, PSY 208. (3 crs.)

ECO - Economics

ECO 100. ELEMENTS OF ECONOMICS. An introduction to the elements of economic analysis, structured particularly for the nonmajor. The student is exposed to the mechanics of the market system and a survey of modern macroeconomic theory and policy. (3 crs.)

ECO 200. CURRENT ECONOMIC ISSUES. An application of contemporary 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 in a modern mixed economy; supply and demand analysis is applied to consumer markets as well as resource markets. (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. Prerequisite: ECO 100 or ECO 201 is recommended. (3 crs.)

ECO 242. GOVERNMENT AND BUSINESS. A study of the legal framework within which business operates, including the Sherman Anti-Trust Act, Clayton Act, Robinson-Patmon Act, Federal Trade Act, and other newer forms of social control regulation. The course explores the relationships between government and business: government as regulator, subsidizer, partner, and competition. (3 crs.)

ECO 251. DEVELOPMENT OF THE AMERICAN ECONOMY. A survey of the beginning, development, and growth of the American economy with emphasis on the business sector. Prerequisite: ECO 100 or ECO 201 or ECO 202. (3 crs.)

ECO 301. INTERMEDIATE MICROECONOMICS. An analysis of the theories of consumer behavior and of firms in the allocation of resources, and of general price and distribution theory, with application to current economic issues. Prerequisites: ECO 201, ECO 202 or permission of instructor. (3 crs.)

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

ECO 307. STATE AND LOCAL FINANCE. Principles and problems of financing state and local governments. Topics include taxation, expenditures, intergovernmental grants, and governmental fiscal relations. Prerequisite: ECO 100 or equivalent. (3 crs.)

ECO 311. LABOR ECONOMICS. An introduction to labor economics, theories of the labor movement, the American labor movement, wage and employment theory, comparative labor movements and trade union impact on wages, prices, and national income. Prerequisites: ECO 201, ECO 202. (3 crs.)

ECO 320. MATHEMATICAL ECONOMICS. A course designed to enable Economics and Business majors to understand the simpler aspects of mathematical economics. Relationships of functions and graphs, simultaneous equations, maximization techniques, and those parts of algebra and calculus required for economic analysis are presented. Prerequisites: ECO 201, ECO 202 and MAT 181 or MAT 182. (3 crs.)

ECO 322. MANAGERIAL ECONOMICS. A survey of analytical techniques available to the modern business manager. Topics include economics for managers, business forecasting, cost and production functions, industrial pricing, profit planning, business decision making. Prerequisites: ECO 201, ECO 202, ECO 320 or a course in calculus. (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 100 or ECO 201 or ECO 202. (3 crs.)

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

ECO 401. INDUSTRIAL ORGANIZATION. Analysis of market structure and its relation to market performance, changing structure of U.S. industry, and pricing policies in different industrial classifications of monopoly and competition in relation to the problems of public policy. Prerequisite: ECO 201. (3 crs.)

ECO 405. PUBLIC FINANCE. A study of the role of federal, state, and local governments in meeting public wants. Topics include analysis of tax theory and policy, government expenditures, public debt management, government budgeting, benefit cost analysis and income redistribution. Prerequisites: ECO 201, ECO 202. (3 crs.)

ECO 421. APPLIED ECONOMETRICS. The formulation, estimation and testing of economic models. Topics include single variable and multiple variable regression techniques, estimation of lagged relationships, use of dummy variables, problems of multicolinearity and autocorrelation and system of equations. Prerequisites: MAT 225, ECO 201 and ECO 202. (3 crs.)

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

ECO 433. ECONOMICS OF GROWTH AND DEVELOPMENT. Understanding of the obstacles to economic growth, requirements for growth, and other topics related to economic growth in underdeveloped countries. Prerequisites: ECO 201, ECO 202. (3 crs.)

ECO 451. HISTORY OF ECONOMIC THOUGHT. An extensive survey of the development of economic thought from ancient times to the present stressing the contributions of Smith, Ricardo, Marx, Marshall and Keynes. This course should be taken quite late in the undergraduate career. Prerequisites: ECO 201, ECO 202. (3 crs.)

ECO 479. HONORS COURSE IN ECONOMICS. Integrated reading under staff direction. Selected topics are investigated and written reports are submitted. Prerequisites: ECO 201, ECO 202 or permission of instructor. The course is repeatable for one time if course content is different. (3 crs.)

ECO 490. COMMUNITY RESOURCES WORKSHOP. A workshop that exposes teachers to various community resources and encourages their implementation into educational programs. Emphasis is placed on the economic aspects of community life with approximately twenty-five hours of classroom economics supplementing numerous field trips and lectures. This is not a repeatable course. Prerequisites: Senior standing or college degree. (6 crs.)

ECO 492. ECONOMICS INTERNSHIP. The student is placed with a business firm, a bank, an industrial firm, a government office, a health care facility or a similar institution for on-the-job experiences related to classroom course work. This course should be taken quite late in the undergraduate career. Credit hours will range from 1 to 12 depending upon the nature of the particular assignment. Prerequisite: Senior standing or permission of instructor. A maximum of 12 credits can be used toward the completion of degree. (Variable crs.)

ECO 495. SEMINAR IN ECONOMICS. An intensive examination of selected subjects from the fields of Economics, Management, Business and Labor Relations. It is a repeatable course if course content is different. Prerequisite: Permission of instructor. (3 crs.)

EDE - Elementary Education

EDE 100. READING, STUDY AND LISTENING SKILLS. The purpose of this course is to develop reading, study, and listening skills at the college level. Included are suggestions for taking more efficient notes, time management, locating and utilizing library resources, development of vocabulary, and improving reading and listening skills for college reading purposes. (3 crs.)

EDE 211. INSTRUCTIONAL STRATEGIES IN ELEMENTARY AND EARLY CHILDHOOD EDUCATION. This course is designed to teach students a set of teaching behaviors that are related to student achievement in the elementary and early childhood classrooms. Topics covered include: conception of elementary/early childhood curriculum, Bloom's taxonomy of cognition, questioning and discussion behaviors, utilization of thinking skills, integration of subject areas, inductive and deductive teaching, observation and assessment of children, cognitive and affective concerns of children as outlined by Piaget, and content presentation skills. Through class discussions, practice sessions, role-playing, and microteaching, the students will learn how to plan for and utilize strategies based on research in effective teaching and in the cognitive and affective development of children. (3 crs.)

EDE 300. LANGUAGE AND LITERACY IN THE ELEMENTARY SCHOOL I. This is the first in a series of two required courses that examine the development of literacy in elementary-age children. Students are taught how to teach reading, writing, listening, and speaking skills using an integrated approach, consistent with the constructivist theory of teaching and learning. Theoretical orientations to several approaches of literacy instruction are introduced, analyzed, and evaluated. Practical implications of these theories are examined in detail, and students are expected to demonstrate strategies through the use of microteaching, as well as in field work. (3 crs.)

EDE 305. MATHEMATICAL CONTENT AND METHOD IN THE ELEMENTARY SCHOOL. Emphasis is on understanding children's cognitive development and perception and their work with mathematics. To accomplish this it is suggested that students work with children. The professor demonstrates learning activities appropriate to the developmental and academic levels of children. As time permits, and on the basis of the experiences gained through observing and working with children, critical analyses of commercial arithmetic materials and texts, as well as recent trends and current projects in arithmetic, will be considered. Prerequisites: 32 college credits, 9 natural science credits. (3 crs.)

EDE 306. TEACHING OF SOCIAL STUDIES FOR ELEMENTARY GRADES. The foundations of the social studies are examined. Instructional strategies for the constructivist classroom will be emphasized. Attention will be given to current trends and the present status of social studies. Prerequisites: 32 college credits, 9 social science credits. (3 crs.)

EDE 307. SCIENCE FOR THE ELEMENTARY SCHOOL. This course is designed to acquaint students with the history of science curricula, the content of science, and the process of science teaching. The instructor will generate enthusiasm for science, encourage scientific inquiry, demonstrate positive attitudes, enhance appreciation for science and science interests, and model effective science teaching consistent with the Elementary/Early Childhood Department's Constructivist Model for Teaching. Prerequisites: 32 college credits; 9 natural science credits. (3 crs.)

EDE 311. CHILDREN'S LITERATURE. This course acquaints the student with literature available for children and various techniques that may be employed in elementary classrooms to stimulate interest in reading and telling stories and poems. Prerequisites: 32 college credits; 9 humanities credits. (3 crs.)

EDE 320. FIELD EXPERIENCES MIDDLE SCHOOL. 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 321. FIELD EXPERIENCES ELEMENTARY SCHOOL. The students receive background and experience in working with elementary 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.)

EDE 330. TEACHING IN THE MIDDLE SCHOOL. Successful instruction in the middle school calls for creating an environment which is responsive to the developmental needs of early adolescents. This course provides the student with an understanding of the overall structure of middle school curriculum and instruction. The historical development, goals, philosophy, and mission of middle level education will be explored. The student will be introduced to a variety to instructional strategies appropriate for the wide diversity of development among middle school students. (3 crs.)

EDE 340. LANGUAGE AND LITERACY IN THE ELEMENTARY SCHOOL II. This is the second in a series of two required courses that examine the development of literacy in elementary-age children. Students review the theoretical bases of an integrated approach to teaching the language arts. Specific strategies that reflect these theories are then investigated, demonstrated, and practiced. Such strategies teach children necessary literacy skills through a meaning-centered approach, and emphasize the integration of all subject areas, as well as the connection between the language arts modes. Students are expected to demonstrate their abilities to connect theory to practice in field work. (3 crs.)

EDE 450. ASSESSING CHILDREN'S PERFORMANCE. This course presents practical methods and techniques for planning, construction and use of oral, performance, essay, and objective tests with an assumption that evaluation's role in the teaching/learning process is both active and fundamental. (3 crs.)

EDE 461. STUDENT TEACHING. During this course the student is assigned to work in two classrooms in the public schools. Under supervision, the student observes and participates in all teaching activities related to the performance of a teacher's work in the elementary grades. 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. Opportunities are provided to discuss problems encountered by students in their student teaching experiences. Teaching opportunities are identified and discussed on a weekly basis. (12 crs.)

EDF - Educational Foundations

EDF 290. POLICY STUDIES IN AMERICAN EDUCATION. A course for prospective teachers designed to study the educational policy process at all levels, from local school districts to the federal government, as well as a study of the policies that have shaped educational practices in today's schools. Through a critical examination of a number of timely and interesting developments in contemporary education, students will relate historical, philosophical and social perspectives to contemporary interpretation. Prerequisite: Must have sophomore standing. (3 crs.)

EDF 301. COMPUTERS FOR TEACHERS. This course in educational computing provides the learner with fundamental concepts and skills that build a foundation for applying computers and other hardware and software in educational settings. The course focuses on the computer as an object of instruction, a productivity tool, and an adjunct to instruction in the classroom. Laboratory assignments requiring use of the university computer facilities are designed to provide generalizable and transferable competencies. (3 crs.)

EDF 302. APPLIED INSTRUCTIONAL TECHNOLOGY. This course is the study of the principles of selection, use and development of basic and advanced instructional technology. The student will study "Instructional Systems Technology," and appropriate media. Laboratory sessions include learning and practicing the proper operation of equipment and identifying and solving typical instructional problems. Prerequisite: EDF 301 Computers for Teachers or computer literacy by examination. (3 crs.)

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

EDS - Educational Studies

EDS 300 PROBLEMS OF SECONDARY EDUCATION. This is a course in professional development which focuses on the practical problems of teaching and learning in the secondary school. Field experiences enable student participation in a range of activities which provide real life experiences with the problems confronting public school teachers today. (3 crs.)

EDS 430. EDUCATIONAL TESTS AND MEASUREMENTS IN SECONDARY SCHOOLS. A consideration of the simpler statistical measures, with particular stress on the application to classroom work and of the principles underlying the construction of valid, reliable objective tests. Alternative forms of assessment such as journals, portfolios and culturally relevant strategies are also studied. (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 secondary schools. 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 that may be used in teaching social studies. Emphasis is placed on the philosophy, objectives, courses of study, and organization of subject matter for teaching purposes; curriculum materials; procedures; and development. (3 crs.)

EDS 455. MODERN METHODS IN SECONDARY SCHOOLS. A general methods course for those students unable to schedule specialized methods. Different approaches are modeled, then students present lessons and experiences. Classroom management and organization are included as well as extensive utilization of Information Age Technology. (3 crs.)

EDS 460. TEACHING MATHEMATICS IN SECONDARY SCHOOLS. To further develop the mathematics required to be an effective teacher of secondary school mathematics. To acquaint the student with general procedures in classroom preparation, organization, control and evaluation. To acquaint the student with specific procedures for developing a problem-solving approach to the teaching of mathematics. Results of mathematical standards according to recent research, studies and trends are indicated. The evaluation and use of technological and visual aids pertaining to mathematics are considered. (3 crs.)

EDS 461. STUDENT TEACHING AND SCHOOL LAW. This is the final and most extensive clinical experience. Students are assigned to a supervising teacher or teaching team at one of our clinical sites. The students spend full time in classroom teaching for a semester of fifteen weeks. A university supervisor observes periodically and a weekly practicum brings student teachers together to discuss common problems and concerns and those aspects of school law pertinent for classroom teachers. Student teaching is scheduled during either the fall or spring terms of the senior year. Pass/fail grade. (12 crs.)

EDS 465. DEVELOPMENTAL READING IN THE SECONDARY SCHOOL. Intended to help the prospective teachers of the Secondary Education academic subject areas develop an understanding and appreciation of the reading skills needed by their students. Methods of establishing awareness of general reading needs as well as the special skills unique to their subject areas are stressed. (2 crs.)

EDS 466. TEACHING MODERN LANGUAGES (K through 12). The course covers the theory and practice of teaching modern languages. Instruction in the use of the laboratory is given. Emphasis is given to the student developing an adequate understanding of the needs, interests, learning characteristics and motivations of students at various ages of development, K through 12. (3 crs.)

EDS 467. TEACHING OF SCIENCE IN SECONDARY SCHOOLS. This course prepares pre–service middle school and high school science teachers to engage students in understanding science through personal experience. The course emphasizes strategies that engage students in active inquiry, collaboration with peers, and acquiring and using tools of learning in an experiential learning environment. The approach of the course is experiential, inquiry–oriented and reflective. Prerequisite: 12 hours of work in the major field and junior–level status. (3 crs.)

EDS 494. STUDENT TEACHING WORKSHOP. For those individuals who have had at least one year of teaching experience in a private school, college, military, etc. Approval by the department chair and director of student teaching is required. Typically, students are placed in a public school during the month of May until the close of the school year (5–6 weeks) in order to determine competence in a public school setting for state certification. (6 crs.)

EET - Electronics Engineering Technology

EET 110. DC CIRCUITS. An introduction to the study of electrical circuits. Topics include resistance, voltage, current, mesh analysis, and nodal analysis. Network theorems pertaining to dc sources are presented. Corequisite: MAT 181. (4 crs.)

EET 160. AC CIRCUITS. An introduction to the study of electrical circuits in the sinusoidal steady state. Topics include capacitors, inductors, complex numbers, ac mesh analysis, ac nodal analysis and network theorems pertaining to ac sources. Prerequisite: EET 110. Corequisite: MAT 191. (4 crs.)

EET 170. DIGITAL ELECTRONICS DESIGN. An introduction to the design of combination and sequential digital logic circuits. Topics include number systems, codes, gates, latches, decoders, multiplexers, flip-flops, counters, A/D and D/A concepts and memory circuits. (3 crs.)

EET 210. LINEAR ELECTRONICS I. A study of solid state diodes and transistors. Methods of biasing, temperature stabilization, determining voltage gain and input resistance for small signal amplifiers. Prerequisite: EET 160. (4 crs.)

EET 220. INTRODUCTION TO ELECTRIC POWER. A study of the fundamentals of three-phase circuits, transformers, dc machines, polyphase ac machines, and single-phase ac machines. Prerequisite: EET 160. (4 crs.)

EET 260. LINEAR ELECTRONICS II. An introduction to power amplifiers, differential amplifiers, field effect transistors, operational amplifiers, frequency effects, voltage regulation, and operational amplifier applications. Prerequisites: EET 210, MAT 281. (4 crs.)

EET 270. INTRODUCTION TO MICROPROCESSOR DESIGN. Introduction to programming concepts includes branching, stack operations, subroutines and vector interrupts. Interfacing topics include coding, drivers, D/A and A/D conversion. Prerequisite: EET 170. (3 crs.)

EET 310. METHODS IN ENGINEERING ANALYSIS. Introduction to matrix theory, classical first and second order transient analysis, active filter and oscillator design, and Fourier analysis. Computer solutions to special problems will be presented. Prerequisites: EET 260, MAT 281. Corequisites: EET 320, MAT 282. (4 crs.)

EET 320. NETWORK ANALYSIS. A calculus-based circuit theory course. Topics include the introduction to Laplace transforms, and the use of Laplace transforms in the study of circuit analysis, transfer functions and frequency response. Circuit analysis programming is used to compare computer solutions with analytic solutions. Prerequisites: EET 260, MAT 281. Corequisites: EET 310, MAT 282. (4 crs.)

EET 330. ADVANCED MICROPROCESSOR DESIGN. Applications of microprocessors and microcomputers to instrumentation, control, and communications. Topics include machine and assembly language programming, I/O interfacing circuits, advanced A/D and D/A conversions, handshaking, interrupts, serial and parallel communications and programmable timer algorithms. A semester project is required. Prerequisite: EET 270. (3 crs.)

EET 360. MICROPROCESSOR ENGINEERING. The analysis and development of MCU stand-alone controllers. The requirements for the design of industrial applications and the use of advanced software development tools and PCs as development systems will be presented. Prerequisite: EET 330. (4 crs.)

EET 370. INSTRUMENTATION DESIGN I. The design of electronic instruments utilizing linear and digital integrated circuits and opto-electronic devices. Topics will include dual slope digital voltmeters, electronic thermometers, isolation amplifiers, frequency counters and function generators. Numerical linearization methods for non linear transducers are introduced. Prerequisite: EET 320. (4 crs.)

EET 400. SENIOR PROJECT PROPOSAL. The student will submit a written proposal for a project. After approval of the project the student will be assigned a faculty advisor. Minimum requirements for the proposal are submission of a functional specification and a time schedule for completion. Prerequisite: Senior Status. Corequisite: ENG 217. (1 cr.)

EET 410. AUTOMATIC CONTROL SYSTEMS. Design of feedback control systems and devices as applied to electrical machinery and transducers. Topics will include Bode plots, the root-locus method and nyquist diagrams. Prerequisite: EET 370. Corequisite: EET 420. (4 crs.)

EET 420. INSTRUMENTATION DESIGN II. A microprocessor-based instrumentation design course utilizing linear, digital and opto-electronic devices. Software solutions to input/output problems will be considered along with software solutions to nonlinear transducer data. Prerequisite: EET 370. Corequisite: EET 410. (4 crs.)

EET 430. RF COMMUNICATIONS. Communication systems principles including: AM/FM modulation, AM/FM demodulation, transmitters, receivers, antennas, transmission lines, digital techniques and protocols. Prerequisite: EET 320. (4 crs.)

EET 440. COMPUTER NETWORKING. This course involves the electronic hardware of networking systems such as those used to connect heterogeneous computers. Major topics include locality, topologies, media standards, internetworking devices and protocols. Hands-on application of network theory is provided via a laboratory style term project involving a multi-user network computer system. The student will design and develop the hardware and communication software required to implement a multi-node microprocessor-based packet network. (4 crs.)

EET 450. SENIOR PROJECT. Employs the design, construction and analysis of an electronic device or instrument. Depending on the complexity of the project, total construction may not be required. With the approval from the advisor, group projects may also be involved. Prerequisite: EET 400. (3 crs.)

EET 460. DIGITAL SIGNAL PROCESSING. Introduction to linear systems, digital filters and the Z-Transform, and the Fast Fourier Transform. Fundamentals of sampling concepts and the interfacing of analog and digital signal processing will also be covered. Prerequisites: EET 410, EET 360. (4 crs.)

EET 475. BIOMEDICAL ENGINEERING TECHNOLOGY. A study of widely used medical devices with emphasis upon those types used for patient care in the hospital. The Physics and Engineering of various devices will be presented and their relationship to human anatomy and physiology will be emphasized. Hospital organization and the role of the Clinical Engineering department will be examined. Prerequisite: EET 420. (4 crs.)

EET 476. BIOMEDICAL ENGINEERING TECHNOLOGY INTERNSHIP. Upon acceptance to a hospital the student will work with a Clinical Engineer and/or a Biomedical Equipment Technician inspecting, maintaining, calibrating and modifying biomedical equipment. Programs of instruction will vary from hospital to hospital, but the student will be exposed to medical devices from all special and critical care areas. Prerequisite: EET 475. (4 crs.)

ENG - English

ENG 100. ENGLISH LANGUAGE SKILLS. A beginning course which provides guided practice in writing and reading, with emphasis on the interrelationship of reading, thinking, and writing. English Language Skills stresses fundamental principles of and attitudes toward writing, as well as how to put these principles and attitudes into practice. It emphasizes the ability to read correctly and to organize material effectively and, by adherence to the innate logic of language (revealed in its rules of grammar, syntax, punctuation and vocabulary choice), to express ideas clearly and precisely. (3 crs.)

ENG 101. ENGLISH COMPOSITION I. Composition I is a sequel to English Language Skills. It provides guided practice in writing, with emphasis on thoughtful analysis of subject matter, clear understanding of the writing situation, flexible use of rhetorical strategies, and development of stylistic options, particularly those related to an understanding of a variety of purposes and voices. ENG 101 continues the development of the essential writing, reading and thinking skills stressed in ENG 100. (3 crs.)

ENG 102. ENGLISH COMPOSITION II. The sequence of Composition I – Composition II provides guided practice in writing, with an emphasis on more demanding writing situations. It continues the work begun in Composition I with more complicated rhetorical strategies and stylistic options, especially audience–centered considerations. ENG 102 introduces research and research writing at the undergraduate level. (3 crs.)

ENG 106. INTRODUCTION TO POETRY. An introduction to the elements of poetry through the close analysis and explication of selected poetry from a variety of poets. (3 crs.)

ENG 107. INTRODUCTION TO FICTION. An introduction to the elements of fiction through the close reading of selected short stories and novels by a variety of authors. (3 crs.)

ENG 108. INTRODUCTION TO DRAMA. An introduction to the basic elements of drama. Readings will be selected from works from the Greek Classical Period to the Modern Age. (3 crs.)

ENG 151. WORD PROCESSING. An introduction to the basic concepts of word processing. The student learns such operations as disk formatting, editing and printing standard document files, copying files from other sources, creating simple database files, and merging files to do mass–mailings. The course assumes no prior knowledge of computers. This course may not be used to satisfy Humanities requirements in the General Education program. (1 cr.)

ENG 155. BLACK LITERATURE. An introduction to the writings of Black Americans in poetry, fiction, and drama, ranging from the Harlem Renaissance of the 1920s to the contemporary productions of Leroi Jones, Ishmael Reed and Toni Morrison. (3 crs.)

ENG 167. JOURNALISM I (NEWSWRITING). An introduction to basic news gathering and newswriting taught by in–class exercises early in the semester, followed by weekly assignments that require submissions to the California Times. (3 crs.)

ENG 169. JOURNALISM II (FEATURE WRITING). Feature writing and in–depth news reporting. Students write four feature articles suitable for publication in the California Times. (3 crs.)

ENG 191. STUDENT PUBLICATIONS WORKSHOP. The university 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 selections from the most highly regarded literature of the world. The range is from the classical Greek era to the twentieth century. (3 crs.)

ENG 205. WORLD LITERATURE TO 1600. Examples of works from a variety of periods and cultures through 1600 are examined for their literary merit and national characters. Works are read in translation. (3 crs.)

ENG 206. WORLD LITERATURE FROM 1600. Examples of works from a variety of cultures and periods after 1600 are examined for their literary merit and national characters. Works are read in translation. (3 crs.)

ENG 211. BUSINESS WRITING I. An introduction to the analysis, writing, and oral presentation of formal and semi–formal documents essential to 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: ENG 211 Business Writing I or equivalent writing ability. (3 crs.)

ENG 215. LITERATURE AND AGING. The study of literature that includes aging as a thematic device. (3 crs.)

ENG 217. SCIENTIFIC AND TECHNICAL WRITING. An introduction to the specific techniques used in the preparation of reports and other scientific documents. Recommended for Science and Technology majors. Prerequisite ENG 101. (3 crs.)

ENG 218. SCIENTIFIC AND TECHNICAL WRITING II. A problem solving approach to technical writing: adapting to various audiences, organization of complex documents, computer documentation. Students will prepare extensive technical reports. (3 crs.)

ENG 254. AMERICAN JOURNALISM: A study of the recent history of journalism and of the present state of the profession. The emphasis is on print journalism; however, the news gathering and reporting aspects of radio and television are covered. Prerequisites: ENG 167 Journalism I and ENG 169 Journalism II for writing majors. (3 crs.)

ENG 265. THE AMERICAN EXPERIENCE IN LITERATURE: NINETEENTH CENTURY. A survey of selected works which (1) were very popular; (2) were influential in the course of American history; (3) reveal facets of American life in the 19th century. (3 crs.)

ENG 266. THE AMERICAN EXPERIENCE IN LITERATURE: TWENTIETH CENTURY. A study of selected literature of twentieth century America in the context of major social, historical, economic, and intellectual trends. In addition to the treatment of standard twentieth century classics, books which have had a wide popular appeal or which have influenced or interpreted the cultural life of modern America are studied. All genres are included, with special emphasis on fiction and non–fiction. A lower division course designed for the general educational student. (3 crs.)

ENG 301. ENGLISH LITERATURE I. A survey of English literature from 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 306. PRESS LAW AND ETHICS. This course helps student journalists understand not only what they can or can't do by law, but what they should or should not do within commonly accepted standards of good taste and morality. (3 crs.)

ENG 308. RESEARCH FOR WRITERS. For students in each of the Professional Writing tracks. Basic library materials and techniques, on–campus resources, government documents, research libraries, and advanced techniques of interviewing, document analysis, etc. Concludes with a prepublication draft of a researched paper in the student's area of specialization. (3 crs.)

ENG 310. SURVEY OF OLD AND MIDDLE ENGLISH LITERATURE. A study of English literature from 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 Thomas Malory's Morte D'Arthur), and selections from Geoffrey 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 312. JOURNALISM III. Working on college publications, editing, proofreading, and rewriting materials for print are learned in the classroom and in the production of actual publications. (3 crs.)

ENG 313. SPORTSWRITING I: A study of the history of sportswriting in America and the techniques of writing daily coverage of sports and athletes. Students will study interviewing, finding and using statistics, the standards and practices of the profession and the make–up, layout and design of the daily sports page. Students will be assigned beats and will be asked to write at least one story per week. (3 crs.)

ENG 314. SPORTSWRITING II: A study of the techniques of writing lengthy, in–depth stories about sports and athletes. Students will be asked to write columns, feature stories and profiles and to do investigative reporting. Students should have taken Journalism I and Sportswriting I. (3 crs.)

ENG 315. SURVEY OF AMERICAN WOMEN WRITERS: METHOD AND TEXT. The importance of both text and method in the study of American women writers is emphasized in this course. Assigned readings and research workshops introduce students to a variety of texts and sources as well as to methods for reading, discovering, and interpreting writings. Integration of text and method is achieved through a series of writing and research projects that are tied to the assigned readings. (3 crs.)

ENG 316. MYTHOLOGY I. An exploration of the origins of mythology and various myths through a study of 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 analyze poems in great detail, stressing poetry as an act of language and something which is made as much as it is inspired. Students become acquainted with the variety of means by which the literary craftsman creates feeling and meaning. (3 crs.)

ENG 321. THE ENGLISH RENAISSANCE: SKELTON THROUGH DONNE. A study of nondramatic prose and poetry chosen from such writers as Thomas Wyatt, the Earl of Surrey, Thomas Sackville, John Skelton, Sir Philip Sidney, Edmund Spenser, William Shakespeare, and John Donne, with emphasis on such literary genres as the lyric and sonnet, and an examination of various philosophical, historical, and social documents. (3 crs.)

ENG 322. THE ENGLISH RENAISSANCE: BACON THROUGH MARVELL. A study of the nondramatic prose and poetry of England in the seventeenth century from the works of John Donne, Ben Jonson, Robert Herrick, George Herbert, John Milton, and Henry Vaughan. Emphasis on the three schools of poetry of this century. (3 crs.)

ENG 334. NEWSPAPER REPORTING I. A professional level course that acquaints students with basic newsroom procedures and assignments. Prerequisites: ENG 167, ENG 169. (3 crs.)

ENG 335. NEWSPAPER REPORTING II. The course builds on material learned in Newspaper Reporting I, but the emphasis shifts to extended coverage of more complex institutions and issues, culminating in a multi–part story which demonstrates a knowledge of both the issue and the governing, deliberative or enforcement agency involved. Prerequisites: ENG 167, ENG 169, ENG 334. (3 crs.)

ENG 336. COMPUTER ASSISTED NEWSREPORTING. An advanced level journalism course designed to show students how to gain access to computer records and how to arrange that material into meaningful patterns using an interrelational data base program and a simple spread sheet program. The course assumes no prior knowledge of computers and is designed for the computer novice. (3 crs.)

ENG 341. ROMANTIC LITERATURE. An intensive study of selected works by such Romantic poets as William Blake, William Wordsworth, Samuel Taylor Coleridge, Percy Bysshe Shelley, John Keats, and Lord Byron. (3 crs.)

ENG 342. VICTORIAN LITERATURE. An historical and critical survey of the poetry and nonfictional prose of the Victorian period through such writers as Alfred Tennyson, Robert and Elizabeth Barrett Browning, Thomas Carlyle, Matthew Arnold, Dante Gabriel and Christina Rossetti, Gerard Manley Hopkins, John Stuart Mill, John Ruskin, John Henry Newman, T. H. Huxley, and Walter Pater. (3 crs.)

ENG 345. ENGLISH GRAMMAR AND USAGE. Provides future English teachers, professional writing majors, and other interested students, with a sophisticated background in English grammar. The course covers a variety of grammatical theories, issues of mechanical correctness in writing, and the sociology of usage. (3 crs.)

ENG 346. HISTORY OF THE ENGLISH LANGUAGE. A survey of the development of the language from its Germanic base to the emergence of American English. Explanations of sound shifts and foreign and social influences. (3 crs.)

ENG 347. INTRODUCTION TO LINGUISTICS. An examination of the several areas of language study: history of the language, phonology and morphology, grammars (traditional and modern), and contemporary American usage, dialects, lexicography, and semantics. (3 crs.)

ENG 348. HISTORY OF LITERARY CRITICISM. An examination of major critical documents from Plato through the modern critics. An intensive examination of the works themselves, with some additional concern on their place in literary history. (3 crs.)

ENG 351. PUBLISHING THE MAGAZINE. Students in this course publish a magazine, Flipside. They contribute works of literature and reportage, illustrate it with original work or with photographs, solicit contributors, finance the magazine through advertising, and establish editorial policy. (3 crs.)

ENG 352. STUDIES IN WRITING. A study in style, its definition, its analysis, and the techniques modern writers of creative nonfiction use to achieve it. Students analyze the work of such writers as Tom Wolfe, Joan Didion, Hunter Thompson and Truman Capote, then apply to their own prose the techniques these writers use. (3 crs.)

ENG 355. SURVEY OF THE ENGLISH NOVEL I: THE BEGINNING THROUGH SCOTT. A study of the development of the novel from its beginnings through the Romantic period, with emphasis on Daniel Defoe, Samuel Richardson, Henry Fielding, Tobias Smollett, and Jane Austen. (3 crs.)

ENG 356. SURVEY OF THE ENGLISH NOVEL II: DICKENS TO THE PRESENT. A study of the novels and novelists of the Victorian period and the twentieth century, including Charles Dickens, Charlotte, Emily and Ann Brontë, W. M. Thackeray, George Eliot, Joseph Conrad, James Joyce, and Virginia Woolf. (3 crs.)

ENG 357. TWENTIETH CENTURY BRITISH LITERATURE TO WORLD WAR II. A study of fiction, drama, and poetry with emphasis on W. B. Yeats, D. H. Lawrence, George Bernard Shaw, James Joyce, Joseph Conrad, Virginia Woolf, E. M. Forster, and W. H. Auden. (3 crs.)

ENG 358. CONTEMPORARY LITERATURE SINCE WORLD WAR II. An exploration of texts, in a variety of genre including major movements, critical, social and political from writings both in English and in translation. (3 crs.)

ENG 365. AMERICAN LITERATURE to 1865. The first sequence in the survey of American literature covers the period from settlement to 1865. Readings take into account the discovery and rediscovery of new as well as traditional texts. Writings of Native Americans, Colonists, Federalists, Romantics, Transcendentalists, and others are studied with an emphasis upon the influence of Puritan and Enlightenment thought and upon the context of the implicit conflicts in American social history and culture. (3 crs.)

ENG 366. AMERICAN LITERATURE 1865 to WW I. The second sequence in the survey of American literature focuses on the period of the Civil War to the end of World War I in which fiction and poetry dominate the literature. Consideration is given to the emergence of Black (in the Harlem Renaissance) and women writers within the context of a maturing America: growing expansion, immigration, industrialization, and national definition. (3 crs.)

ENG 367. AMERICAN LITERATURE from WW I. The final sequence in the survey of American literature deals with writings from World War I to the present. A growing diversity of voices, styles, and genre reflect the increasing complexity and richness of the American literary landscape. Both Modernists and contemporary writers are studied. (3 crs.)

ENG 371. CRITICAL THEORY AND THE TEACHING OF LITERATURE. A required course for English majors in the Secondary English track, Critical Theory and the Teaching of Literature shows students how to relate contemporary literary criticism to the teaching of literature. The varieties of literary criticism covered include New Criticism, reader-response criticism, deconstructive criticism, psychological criticism, feminist criticism, and New Historicism. The literature studied emphasized items typically taught in secondary schools, including both canonical (e.g., Shakespeare's plays) and non-canonical (e.g., Young Adult literature and Multicultural literature) works. (3 crs.)

ENG 372. COMPOSITION THEORY AND THE TEACHING OF WRITING. A required course for English majors in the Secondary English track, Composition Theory and the Teaching of Writing is an introduction to rhetorical theory as it concerns the nature of writing and the teaching of writing. The course also offers practical information about, and experience with, modern course design and pedagogy, as well as discussion of the politics of writing instruction in contemporary schools. (3 crs.)

ENG 375. ADVANCED WRITING. The theories and practice of expository, persuasive, and specialized report writing. Prerequisites: ENG 101, ENG 102 or equivalent writing ability. (3 crs.)

ENG 376. CREATIVE WRITING: FICTION. Techniques of fiction are studied and applied to the writing of short stories, and students are encouraged to use and shape their own experience, transmitting those everyday things around them into fictional realities. (3 crs.)

ENG 377. CREATIVE WRITING: POETRY. Aspects of poetry, such as line length, rhythm, sound patterns and imagery, are discussed. Students will apply those techniques to their own experience and vision, developing a poetic voice or style. (3 crs.)

ENG 378. CREATIVE WRITING: DRAMA. Writing techniques for the modern stage; students progress from idea through written text to the production of a scene or a one-act play. (3 crs.)

ENG 401. COPYWRITING. Students who have already taken the basic advertising course are expected to improve preexisting writing skills through individual and group projects in each of these areas: (1) direct mail advertisements, (2) newspaper and magazine space advertisements, (3) industrial newsletters and brochures, (4) radio and TV advertisements. Each student writes at least two usable advertisements for off-campus and one for a campus program or organization. Not for beginners. Prerequisite: ENG 437. (3 crs.)

ENG 415. CHAUCER. The Canterbury Tales and other works. (3 crs.)

ENG 419. INTERNSHIP IN PROFESSIONAL WRITING. Introduces students to the competitive world of professional writing. Students and cooperating institutions conclude a formal agreement whereby they work at a job and simultaneously receive undergraduate credit. All details of the course are to be worked out with the Coordinator of Professional Writing. (Variable crs.)

ENG 425. SHAKESPEARE. Explores in considerable depth, and with special reference to the condition 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 written texts to each of the following: television, theater, and film. (3 crs.)

ENG 435. ARTICLE WRITING. The styles and techniques of article writing. The student learns the editorial demands of numerous magazines, and demonstrates versatility and writing ability by tailoring the work to the demands. Promotes astuteness by showing how to illustrate, "package," and market a special kind of writing. (3 crs.)

ENG 437. ADVERTISING. An introduction to marketing theories, behavior patterns, and techniques of advertising campaigns: copywriting, layout, and production of advertising through working for an actual client. (3 crs.)

ENG 440. LINGUISTICS AND THE TEACHING OF ENGLISH. The purpose of this course is to help prepare English and Language Arts majors through an understanding of two applications of linguistics to language learning and research. In the first application, students will examine linguistic research focused upon the study of schooling and the teaching and learning of language to advance an understanding of students' developing reading, writing and literary practices. In the second application, students will analyze various linguistic research methodologies to develop a sense of how they might apply one or more of them to their own teaching. Assignments and course readings are intended to encourage students to acquire a critical sense of pedagogical practice used in the teaching of reading and writing, as well as a critical sense of the relative merit of various research approaches to the study of language learning. (3 crs.)

ENG 445. DESCRIPTIVE LINGUISTICS. An examination of the methods used by linguists to describe languages in terms of their internal structures. Topics explored include world language families, language classification, writing systems, inventories of speech sounds, and other related material. (3 crs.)

ENG 448. PRACTICAL CRITICISM. Provides examples of criticism and the opportunity to criticize poetry, fiction, and drama. (3 crs.)

ENG 478. DIRECTED PROJECTS. (Variable 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, neoclassical criticism. (3 crs.)

ENG 484. STUDIES IN NINETEENTH CENTURY LITERATURE. Nineteenth century drama, Romantic prose, nineteenth-century literary criticism, the pre-Raphaelites, the Edwardians, and the Georgians. (3 crs.)

ENG 485. STUDIES IN TWENTIETH CENTURY ENGLISH LITERATURE. Contemporary trends in literature, the war novel, the poets of the thirties, Irish literature, the British novel and theater. (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 nonfiction. (3 crs.)

ENG 488. STUDIES IN DRAMA. Classical drama, theater of the absurd, continental drama, film and television as drama, realism and naturalism in drama. (3 crs.)

ENG 495. CREATIVE WRITING SEMINAR. The fictional principles learned in ENG 376 are applied to the writing of major creative work, such as novella, and the student is given the opportunity to polish and extend writing skills previously acquired. (3 crs.)

ENG 496. WRITING FOR PUBLICATION. Students analyze regional and national markets and refine their work for publication. They are expected to publish at least one work during the semester. (3 crs.)

ENS - Environmental Studies

ENS 100. MAN AND THE ENVIRONMENT. The broad field of environmental management. Man's biological basis, soil, land use, water pollution, air pollution, noise pollution, and agencies and laws associated with the above topics. No one area is covered in depth. Rather, the student is introduced to each problem, its source, current corrective measures, and possible future technology. Three lecture hours weekly. (3 crs.)

ENS 341. TECHNIQUES IN WATER AND WASTEWATER ANALYSIS. A study of the chemical testing of water in wastewater plants, streams, and drinking water sources. Emphasis is placed on learning acceptable levels of chemicals in different types of water. Samples of water from sources of concern are analyzed in the laboratory portion of the course. Prerequisites: CHE 101, 102. Three lecture hours and three laboratory hours weekly. (4 crs.)

ENS 420. PRINCIPLES OF WILDLIFE MANAGEMENT. This course is designed to provide students with an understanding of the philosophies and concepts of scientific wildlife management. Major emphasis will be placed on wildlife management in North America, but differing perspectives from other regions of the world will be incorporated into the course. Topics to be covered will include monitoring habitats and habitat management, population exploitation and administration, economics, and socio-political topics as they relate to wildlife management. Prerequisites: BIO 115, BIO 120. Three lecture hours and three laboratory hours weekly. (4 crs.)

ENS 423. WILDLIFE MANAGEMENT TECHNIQUES. This course will cover techniques commonly used by wildlife biologists with emphasis on those applicable to birds and mammals. Important techniques covered in the course include aging and sexing of important game species, habitat measurement and evaluation, population analysis, and analysis of food habits. The lecture portion of the course provides an introduction to common techniques and the lab emphasizes practical use and application of those techniques. Prerequisites: BIO 115, BIO 120 and BIO 125. Three lecture hours and three laboratory hours weekly. (4 crs.)

ENS 430. AIR QUALITY MONITORING. The technologies involved in the abatement of emissions from mobile and stationary sources, monitoring techniques, and air quality standards. Prerequisites: CHE 331, CHE 361, PHY 121 and 122, MAT 215. Three lecture hours weekly. (3 crs.)

ENS 431. SOLID WASTE MANAGEMENT. The fundamental techniques involved in the collection, processing, and disposal of urban, industrial, and agricultural wastes. Prerequisites: CHE 331. Three lecture hours weekly. (3 crs.)

ENS 432. ENVIRONMENTAL REGULATIONS. This course will cover the history of natural resource protection, local, state, and federal laws and policy, enforcement, and current issues. Lectures will include discussion of laws ranging from the Clean Air act to local Fish and Wildlife regulations. (3 crs.)

ENS 459. ENVIRONMENTAL RESEARCH PROBLEMS. An independent study with a cooperating faculty member. Emphasis on scientific research on contemporary environmental problems. These independent studies are as field-oriented as possible, with a final research paper written in proper scientific format. This course is not repeatable. (3 crs.)

ENS 475. WETLANDS ECOLOGY. A coordinated lecture/laboratory approach that will emphasize wetlands within the continental United States. The course will provide a background in both historical and modern wetland issues; characteristics of freshwater, estuarine and marine wetland types, including important plants and animals of each; processes of wetland determination and delineation; regulatory framework of wetlands protection; and procedures involved in wetland restoration and conservation. Prerequisites: BIO 310 and permission of instructor. (4 crs.)

ENS 492. ANIMAL POPULATION DYNAMICS. This course is designed to provide students with an understanding of theoretical and applied aspects of animal population dynamics. The course will examine variation in population size and sex/age composition, reproduction and mortality, and quality and condition of animals in populations. Emphasis will be placed on principles and techniques used by wildlife ecologists to quantify and predict populations of vertebrate animals. The lecture portion of the course will include lecture and discussion on issues and concepts in population dynamics. The lab portion of the course will emphasize application of common techniques and models used by wildlife population ecologists. Prerequisites: BIO 310, MAT 215. Three lecture hours and three laboratory hours weekly. (4 crs.)

ENS 495. DESIGN AND ANALYSIS. The purpose is to provide with the theoretical and applied basis of experimental design, sampling theory and sampling designs, data input and output, statistical analysis and interpretation of research studies. The application of computer methods for data base, spreadsheet, word processing, and statistical packages will also be emphasized. Prerequisites: BIO 115, MAT 273 or MAT 281 or permission of the instructor. Three lecture hours weekly. (3 crs.)

ESP - Special Education

ESP 101. EXCEPTIONAL CHILD I. Exceptional Child I is the first of a two–course introductory sequence to handicapped children and to the field of special education. This course examines 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, preschool 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. (4 crs.)

ESP 200. EXCEPTIONAL CHILD II. Exceptional Child II is the second of a two–course introductory sequence to handicapped children and to the field of special education. (4 crs.)

ESP 301. BEHAVIOR PRINCIPLES I. Behavior Principles I is the first of a two-semester introduction to the professional discipline of Applied Behavior Analysis. Applied Behavior Analysis is an educative approach due to three of its fundamental characteristics: (1) it is always responsive to some form of human problem; (2) it restructures the problem into behavior(s); such as underdeveloped academic skills or socially undesirable responses, and; (3) it applies the principles of behavior to change these problematic behaviors and, in the process, identifies important functional relationships contributing to an expanding technology of human behavior change. Truly this is consistent with most conceptions of the purposes of education. (4 crs.)

ESP 401. BEHAVIOR PRINCIPLES II. Behavior Principles II is the second of a two-semester introduction to the professional discipline of Applied Behavior Analysis. (4 crs.)

ESP 461. STUDENT TEACHING AND SCHOOL LAW. Student teaching is the culmination of preservice training in Special Education at California University of Pennsylvania. The student teaching program is designed 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 provides an intensive experience for the student in two of the handicapping areas for a period of 16 weeks. The practicum seminar component meets weekly to provide Special Education majors 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 devises, learning centers, and curriculum materials used in their classrooms. (12 crs.)

ESP 501. INTRODUCTION TO EXCEPTIONALITY. This course introduces the student to the physical, social, emotional and educational characteristics; incidence; prevalence and educational intervention for the major categories of exceptionality enrolled in public and private educational facilities in the K-12 grade range. In addition, the course will identify ancillary services and agencies frequently impacting special populations including the major professional organizations and those concerned with residential programming and vocational training. The course will also identify the major litigation and legislation that have significantly influenced the nature of service to exceptional populations. (3 crs.)

ESP 502. EDUCATION OF THE SEVERELY/PROFOUNDLY HANDICAPPED. This course teaches/prepares students to work with children and/or adults who possess severely or profoundly handicappping conditions. Students are required to do tutoring at facilities for this population. (Variable crs.)

ESP 503. DIAGNOSTIC TESTING AND PRESCRIPTIVE TEACHING. This course teaches students how to administer, score, and interpret both norm-referenced and criterion-referenced assessment devices and how to prescribe programs of remediation based on the results of these devices. (Variable crs.)

ESP 504. CURRICULUM PLANNING AND METHODS I. This course is offered to Special Education majors the semester prior to their student teaching experience. Curriculum Planning and Methods I is a materials and methodology course for pre-service special education teachers. An emphasis is placed on assessment, instructional techniques, and materials necessary to teach reading and language arts skills and concepts to children with disabilities. The course stresses: (1) a behavioral diagnosis of communication strengths and weaknesses, (2) the development and implementation of intervention strategies for various populations of exceptional children, (3) the selection and/or development of appropriate materials for instruction, and (4) the procedures and techniques for continuous evaluation for the instructional process. (Variable crs.)

ESP 505. CURRICULUM PLANNING AND METHODS II. This course is offered to Special Education majors the semester prior to their student teaching experience. Curriculum Planning and Methods II is a methods course for Special Education teachers in training which emphasizes the assessment, instructional skills and materials necessary to teach arithmetic concepts to children with disabilities. The course stresses: (1) a behavioral diagnosis of arithmetic strengths and weaknesses, (2) the development and implementation of intervention strategies for various populations of exceptional children, (3) the selection and/or development of appropriate materials for instruction, and (4) the procedures and techniques for continuous evaluation for the instructional process. (Variable crs.)

ESP 506. HABILITATION TRAINING. This course deals with special education programs for senior high school students as well as those persons who reside in the community. Emphasis is placed on vocational preparation and training. Specific techniques for task analysis of jobs, daily living skills, and social adaptation constitute a major portion of this course. Emphasis is placed on the development of functional skills that contribute to normalized development. (Variable crs.)

FIN - Finance

FIN 201. INTRODUCTION TO FINANCE. A survey course which covers an introduction to financial markets and institutions responsible for the flow of funds in the economy. The basic principles and concepts which assist the market participants in making sound financial decisions are discussed. Prerequisite: ECO 100 is recommended. (3 crs.)

FIN 211. PERSONAL MONEY MANAGEMENT. A guide to personal finance to best meet one's objectives and make financial decisions easier. Topics include budgets, major purchases, use of credit and bank loans, insurance, real estate and investment in securities, taxes and estate planning. Prerequisite: ECO 100 or permission of instructor. (3 crs.)

FIN 301. FINANCIAL MANAGEMENT. The study of financial analysis, planning and control, including working capital management, capital budgeting, cost of capital, and other selected subjects. Advanced techniques of financial analysis are employed. Prerequisites: ECO 201, MAT 171. MAT 225 is recommended. (3 crs.)

FIN 302. ADVANCED FINANCIAL MANAGEMENT. A continuation of FIN 301. An intensive study of cost of capital, long-term financing and analysis of cases relating to financial decisions of firms. Prerequisite: FIN 301. (3 crs.)

FIN 305. INVESTMENTS. An introduction to financial investments. Topics include securities and securities markets, investment risks, returns and constraints, portfolio policies, and institutional investment policies. Prerequisite: MAT 171 or permission of instructor. (3 crs.)

FIN 341. INSURANCE AND RISK MANAGEMENT. A survey of the nature and significance of risk and the basic ideas, problems, and principles found in modern insurance and other methods of handling risk. (3 crs.)

FIN 351. REAL ESTATE FUNDAMENTALS. A basic cognitive course covering physical, legal and economic aspects of real estate. Topics include valuation, agreements of sale, title, leasing, settlements and landlord-tenant relations. (2 crs.)

FIN 352. REAL ESTATE PRACTICE. Role of the real estate agent in listing, sales contract, financing, and completion of RESPA approved settlement sheet. The course examines the legal and ethical aspects of brokerage. (2 crs.)

FIN 405. ADVANCED INVESTMENT ANALYSIS. Systematic approach to security analysis and valuation; portfolio construction and management. Prerequisite; FIN 305 or permission of instructor. (3 crs.)

FIN 411. FINANCIAL MARKETS AND INSTITUTIONS. Description and analysis of major financial institutions, money and capital markets. Current topics in financial market and institutions. (3 crs.)

FIN 531. BANK MANAGEMENT. Detailed analysis of operational decisions faced by bank managers in the areas of loans, investments, sources of funds, and liability management. (3 crs.)

FRE - French

FRE 101. ELEMENTARY FRENCH I. For the student without previous knowledge of French. The development of the fundamentals of correct idiomatic French. Instruction in basic audio-lingual comprehension, sentence structure, reading, writing, and speaking. Classroom instruction is supplemented by laboratory study and practice. Three class hours each week and one hour language laboratory per week. (3 crs.)

FRE 102. ELEMENTARY FRENCH II. A continuation of French 101. Three class hours each week and one language laboratory per week. Prerequisite: FRE 101 or one year of high school French. (3 crs.)

FRE 203. INTERMEDIATE FRENCH I. French grammar and reading. A review of essential French grammar. Development of audio-lingual comprehension, reading and writing facility. Three class hours each week; one hour language laboratory per week. Prerequisites: FRE 101 and FRE 102 or two years of high school French. (3 crs.)

FRE 204. INTERMEDIATE FRENCH II. Continuation of French 203. Oral-aural work continues but is accompanied by a development of reading skill through discussion of selected prose and poetry. Three class hours and one hour language laboratory each week. Prerequisite: FRE 203 or equivalent. (3 crs.)

Culture Courses are taught in English and are intended to satisfy General Education Humanities requirements as well as those in the major. One culture course is offered each semester.

FRE 240. THE MIDDLE AGES AND THE RENAISSANCE (800-1600). This course surveys the evolution of French culture from the Middle Ages to the end of the sixteenth century, from an age of analogy to one of skepticism. While it follows sociological, political, philosophical and historical developments to a certain degree, the course puts its primary emphasis on the artistic domains of literature, music, architecture, and the visual arts of the period. In so doing, this course illustrates the ways in which France has been influenced by its rich cultural heritage. (3 crs.)

FRE 296. THE SEVENTEENTH CENTURY AND THE CLASSICAL AGE. This course surveys the evolution of French culture from the early seventeenth century or the Baroque (1600-1640) to the classical period (1640 to the end of the century). The course seeks to introduce the student to the history of French thought in the Splendid Century. While it follows sociological, political, philosophical and historical developments to a certain degree, its primary emphasis is on the artistic domains of literature, music, architecture, and the visual arts of the period. In so doing, this course illustrates the ways in which France has been influenced by its rich cultural heritage. (3 crs.)

FRE 297. THE EIGHTEENTH CENTURY AND ENLIGHTENMENT. This course surveys the evolution of French culture throughout the Age of Enlightenment, when scientific discovery and new historical methods acted as agents of change upon the traditional foundations of belief. We will consider how these changes affected French thought, especially in the artistic domains of literature, music, architecture, and the visual arts of the period. The course will introduce the student to this age of criticism and reconstruction, an age viewed as the crisis of the European mind and gave birth to the philosophe, or philosopher, one who was not only involved with the theories but with social reform as well. These reforms in human institutions and thought will be shown to terminate in the revolution of 1789 and the end of the Ancient Regime. (3 crs.)

FRE 298. THE AGE OF FRENCH ROMANTICISM: FROM THE NAPOLEONIC EMPIRE TO THE REVOLUTION OF 1848. This course surveys the evolution of French culture throughout the romantic movement which permeated the sensibility of the young in France under the reign of Louis XVI and which reached a true flowering in the nineteenth century, particularly from 1820 to 1845. Both the precursors and the masters of this movement are considered through a study of the artistic expression of the times. (3 crs.)

FRE 299. THE AGE OF FRENCH REALISM: THE SECOND EMPIRE TO THE AFTERMATH OF THE FRANCO-PRUSSIAN WAR. This course surveys the evolution of French culture during the Age of Realism; including the Franco-Prussian War, positivism and its aftermath. This period encompasses the dictatorship of Napoleon III, a monarchy marked by material success among the middle class and by disappointment and pessimism among thinkers, writers, and artists. This course considers the artistic achievements of the period within the framework of the sociological, political, and historical setting. It studies two separate schools of art, naturalism and symbolism and seeks to illustrate how these conflicting schools of artistic expression manifested themselves in the principle works of literature, philosophy, music, and the visual arts. (3 crs.)

FRE 300. THE BIRTH OF THE MODERN FRENCH CULTURE IN THE ARTS 1900-WORLD WAR II. This course surveys the evolution of French culture from 1900, the time of the Belle Epoque or Beautiful Period at the turn of the century, to the advent of the Second World War. While the course follows the sociological, political, and historical developments of the period, it puts emphasis on the artistic ramifications of this period of conflict and rapid change. The inter-war years are treated in all their artistic output, especially in inter-war theater, fiction, and the presence of the school of Surrealism in poetry, fiction, theater, and art. (3 crs.)

FRE 301. CONTEMPORARY FRENCH CULTURE IN THE ARTS SINCE WORLD WAR II. This course surveys the evolution of French culture from the Occupation and Vichy Regime in France to the present day. It seeks to introduce the student to the literature, philosophy, music, films, and visual arts of the period which reveal the rich cultural heritage of France. As an orientation to the cultural arts, consideration will be given to the impact which important geographical, social, and historical elements had upon them. (3 crs.)

FRE 311. FRENCH CONVERSATION, COMPOSITION, AND PHONETICS I. Cultural themes as a basis for idiomatic conversation and discussions. Written compositions are assigned to teach the student how to write correct French. The course also provides a systematic study of the sounds and sound patterns of the French language. Three class hours and one hour language laboratory each week. Prerequisite: FRE 204. (3 crs.)

FRE 312. FRENCH CONVERSATION, COMPOSITION, AND PHONETICS II. Continuation of French 311 on a more advanced level as reflected in conversation, composition, and exercises in phonetic transcription. Prerequisite: FRE 311. (3 crs.)

FRE 401. ADVANCED COMPOSITION: GRAMMAR AND STYLISTICS. An in-depth grammatical analysis of the French language through intensive practice in exercises, compositions, and translations. It is required of all majors in Liberal Arts as well as those seeking a teacher certification degree or certification in French. Prerequisite: FRE 312. (3 crs.)

FRE 421. SURVEY OF FRENCH LITERATURE I. An introduction to French literature from the Middle Ages to 1800 through an examination of representative novels, plays, and poems of the period. Three class hours each week. (3 crs.)

FRE 422. SURVEY OF FRENCH LITERATURE II. An introduction to French literature from 1800 to the present through an examination of representative novels, plays, and poems of the period. Three class hours each week. (3 crs.)

FRE 450. FOREIGN LANGUAGE COLLOQUIUM IN FRENCH. An advanced course in intensive spoken contemporary French required of all French majors as well as those seeking teacher certification in French. Prerequisite: FRE 311. (3 crs.)

FRE 469. STUDIES IN FRENCH LITERATURE. Subject matter to be arranged. Designed for French majors who wish to take additional credits and/or study aboard. Prerequisite: 18 hours of French. (Variable crs.)

GCT - Graphic Communication Technology

GCT 100. GRAPHIC COMMUNICATION PROCESSES I (LAB). This course offers the student an opportunity for experiences of practical application in the five major printing processes. It covers image design, conversion, assembly, carrier preparation, transfer and finishing techniques related to lithographic, screen, letterpress, flexographic, and gravure printing. Related areas of studies include duplication, ink chemistry, paper use and selection, and photography. Course will meet for two hours of lecture and four laboratory hours per week. (3 crs.)

GCT 110. SCREEN PRINTING TECHNIQUES (LAB). The first in a series of three courses that define and analyze the process of screen printing, this course is an introduction to the various applications of screen printing. Emphasis of the course is centered on establishing repeatability of the printing process by controlling variables; photographically generated stencil systems; single and multiple color image generation, conversion, assembly and transfer; sheet-fed manual and semi-automatic presswork; flat substrate printing applications of simple and complex close register line artwork. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisite: GCT 100. (3 crs.)

GCT 200. GRAPHIC COMMUNICATION PROCESSES II (LAB). Emphasis in this second course is on equipment, processes, materials and supplies utilized by the industry for phototypesetting, photo-composition, darkroom techniques, image assembly, platemaking, and offset duplicator operations. Learning experiences develop a comprehensive understanding of the scope, structure, products and related process of the printing industry. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisite: GCT 100 or TED 111. (3 crs.)

GCT 210. ADVANCED SCREEN PRINTING TECHNIQUES (LAB). A study of the techniques used for image transfer of line and halftone copy on substrates commonly used by the screen printer. Each student has the opportunity to identify, calibrate and print upon selected substrates. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisite: GCT 110. (3 crs.)

GCT 220. BLACK AND WHITE PHOTOGRAPHY (LAB). This course emphasizes techniques involved in monochromatic still photography and introduces color photography. It covers the basic aspects of picture taking, camera operation, film processing, enlarging, print processing, finishing procedures and selecting photographic equipment and supplies. Course will meet for two hours of lecture and four laboratory hours per week. (3 crs.)

GCT 225. PRINCIPLES OF LAYOUT AND DESIGN. A presentation of design elements principles used to produce various layouts for printing production. The individual must strive to develop harmonious relationships between these design elements and principles and various printing applications through practical activity assignments. The fundamentals of producing mechanical layouts for newspaper, magazine, direct mail, poster, display and point of purchase advertising are considered. Use of computers for electronic/desktop publishing is emphasized. Production and practical application assignments are to be performed in conjunction with theory explanations as out of class activities. (3 crs.)

GCT 230. COLOR PHOTOGRAPHY (LAB). A study of the concepts and techniques involved in producing color prints and color transparencies from color negatives. Emphasis is placed on picture composition, developing color negatives, contact printing, filter fundamentals, enlarging calibration procedures and photo finishing. Microphotography and digital photography techniques are also covered. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisite: GCT 220. (3 crs.)

GCT 240. ELECTRONIC DESKTOP PUBLISHING (LAB). This course provides an in-depth study into the electronic desktop publishing systems and their concept of architecture, operation, networking, financing and design role in the publishing industry. It covers the basic aspects of graphic designing, creating page layouts, scanning of text and continuous tone photographs, connectivity, telecommunications, image setting and encryption of data. Each student will experience hands-on activities with microcomputers utilizing high-end design, draw, paint, scanning, and integrated layout software packages. Course will meet for two hours of lecture and four laboratory hours per week. (3 crs.)

GCT 270. LITHOGRAPHIC TECHNIQUES (LAB). An in-depth study of photographic process as it relates to line and halftone reproduction of graphic materials. Projects representing the various combinations of line and halftone materials as they are used in the industrial setting are produced. Besides the projects required of each student, the theoretical aspects of the optical system are investigated, as well as the areas of sensitive materials, light and related chemical reactions. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: GCT 100 and GCT 200. (3 crs.)

GCT 310. SCREEN PRINTING PRODUCTIONS (LAB). This course is directed study relevant to the individual's career objectives based on specific screen printing applications. The student formulates specifications, estimates and a procedural rationale for self-determined screen printed product. Student productions are organized as a portfolio consistent with the individual career objective that has been developed through previous screen printing course work. Four-color process screen printing with ultraviolet curing theory and practice is analyzed for application through student independent study course work. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisite: GCT 210. (3 crs.)

GCT 330. FLEXOGRAPHY AND PACKAGE PRINTING (LAB). This course provides an in-depth study of the processes and techniques involved in the printing and converting of packaging and labeling materials. Laboratory applications include the design, preparation and flexographic printing and converting of various paper, foil and plastic substrates. Emphasis is placed on establishing repeatability of the printing process by controlling variables. Methods and techniques of quality assurance are implemented as an integral part in the production of flexographic printed products. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisite: GCT 100. (3 crs.)

GCT 342. ESTIMATING AND COST ANALYSIS. A critical examination of the operations involved in the production of graphic materials for the purpose of determining costs of the operations to be included. The procedures necessary to assemble this information to produce estimates of typical printing matter are discussed. The identification and study of cost centers as they relate to the hour costs and ultimately to the selling price are examined. Students are required to prepare a number of cost estimates for the course. Prerequisite: GCT 210 or GCT 270. (3 crs.)

GCT 365. COLOR IMAGING (LAB). Primary emphasis is placed on developing an understanding of the nature of light, the nature of color, its relation to filters and printing inks used in the graphics industry and the problems caused by color contamination in making color separations. A presentation of direct and indirect methods of color separations as well as the various masking techniques is included. The use of various control devices is discussed and employed in the laboratory. Special techniques required to strip projects, make the plates, and produce them on the press are also covered. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: GCT 225, GCT 230, GCT 320 and GCT 370. (3 crs.)

GCT 370. ADVANCED LITHOGRAPHIC TECHNIQUES (LAB). A continuation of GCT 270 which utilizes the film elements produced in order to complete required projects for this course. This course treats the subjects of stripping, platemaking and presswork. A critical study of imposition of various type of jobs, from simple single-color to more complex multi-color jobs. The latest techniques of platemaking as well as information on types of plates presently in use are discussed. Feeder-delivery setup, press packing methods, inking/dampening systems, control devices, rollers, blankets and other related press activities are thoroughly discussed. Also, some folding and binding techniques are included. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisite: GCT 270. (3 crs.)

GCT 380. ADVANCED FLEXOGRAPHIC TECHNIQUES (LAB). This course provides advanced study of the processes and techniques involved in the printing and converting of packaging and labeling materials. Laboratory applications include the design, preparation and flexographic printing and converting of tonal and special effects images on various substrates. Emphasis is placed on establishing repeatability of the printing process by controlling variables related to advanced flexographic reproduction. Methods and techniques of quality assurance are implemented as an integral part in the production of flexographic printed products. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: GCT 100, GCT 200 and GCT 330. (3 crs.).

GCT 390. GRAVURE PRINTING (LAB). This course is a comprehensive study of gravure printing. You will examine the various products printed by gravure including: publications, labels, package, wallcovering, vinyl flooring and wrapping paper. Industry visits to gravure printing plants that specialize in each of these products will be made. Product design for each gravure printing product will be explored. Environmental compliance in the gravure industry will be covered in depth. Course will meet for two hours of lecture and four laboratory hours per week. (3 crs.)

GCT 430. FLEXOGRAPHIC PRINTING PRODUCTIONS (LAB). The third and final course in a series which is directed study relevant to the individual's career objectives based on specific flexographic printing applications. The student generates specifications, estimates, and procedures for the production of self-directed flexographic printed products. The student productions are organized as a portfolio consistent with the individual career objective that has been developed through previous flexography coursework. Process color flexographic printing, ultraviolet curing theory and practice, statistical process control, and current trends in flexographic printing are analyzed for application through student coursework. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: GCT 100, GCT 200, GCT 330 and GCT 380. (3 crs.)

GCT 460. SUBSTRATES AND INKS (LAB). This course is a comprehensive study of all the substrates and inks used in offset lithography, screen printing, flexography, gravure, and other specialty printing processes. The course covers the fundamentals of substrate and ink manufacturing, selection, and testing. How substrates and ink interact and the identification and prevention of potential problems will be included in the course. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: GCT 100 and GCT 200. (3 crs.).

GCT 470. WEB OFFSET (LAB). This course is a comprehensive study of the web offset printing industry and covers both heatset and non-heatset printing. The student will study all aspects of prepress, press, and post-press activities that are unique to web offset printing. The course includes the design and printing of two magazine format products to be printed on a heatset web offset press and a non-heatset web offset press. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: GCT 365 and GCT 370. (3 crs.).

GCT 485. GRAPHICS SEMINAR. This is an all-encompassing seminar-type course designed to provide graduating seniors in Graphic Communications Technology with opportunities to enhance their knowledge base in the following areas: process photography/ photographic techniques, lithographic applications, layout and design, estimating/cost analysis, paper/ink, electronic imaging, desktop publishing, screen printing and flexography. Additionally, students will be exposed to selected visitation sites, guest lecturers from the field, and an exploration of current problems and issues relating to the Graphic Communications industry. Each student is required to do a major research paper on a particular problem or issue relating to the graphics industry. Career services workshops will also be included. Prerequisites: Senior Standing. (3 crs.).

GCT 495. GRAPHIC COMMUNICATIONS INTERNSHIP. Student interns are placed with an organization which most nearly approximates employment goals. If this is not possible, students are placed in some type of graphics environment which is available at the time. The intent of the internship is to provide students with practical work experience in an environment in which they will be dealing with real problems requiring real solutions in a relatively short time frame. Advisor and Department chairperson approval is required before course enrollment. This is a repeatable course and may be taken as follows: Students may earn up to seven credits of internship. Prerequisite: Upper Level Standing. (1-7 crs.)

GEO - Geography

GEO 100. INTRODUCTION TO GEOGRAPHY. Introduces students to regional differences throughout the world in terms of landforms, climates, soils and vegetation as well as population characteristics and economic activities. Representative areas such as Western Europe, Russia, Japan and Latin America are developed. (3 crs.)

GEO 105. HUMAN GEOGRAPHY. The course provides insights into the existing patterns and distributions of various social groups. Broad outlines of human evolution, development and demographic patterns are emphasized. (3 crs.)

GEO 110. MAP PRINCIPLES. A non-technical course to develop competence in development, recognition, understanding and evaluation of map information. Interpretation of thematic maps, both regional and world, is emphasized. (3 crs.)

GEO 150. SURVEY OF TRAVEL AND TOURISM. An overview of the travel and tourism industry is emphasized. Topics include introductory principles, measuring and forecasting demand, tourism planning, tourism marketing, tourism development, and the role of the geographer. (3 crs.)

GEO 155. HOSPITALITY INDUSTRY & OPERATIONS. An introduction to the field of hospitality services. Topics covered relate directly to the operation of resorts and hotels. (3 crs.)

GEO 200. ECONOMIC GEOGRAPHY. The study of areal variation on the earth's surface in man's activities related to producing, exchanging, and consuming resources. (3 crs.)

GEO 205. WORLD CITIES/GEOGRAPHY OF TOURISM. The geography of tourism in selected cities of the world with an emphasis on form and function. Topics include an analysis of resources for tourism, the organization of related land use patterns, and developmental processes. (3 crs.)

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

GEO 217. DEMOGRAPHIC ANALYSIS. A basic course on demographic processes and trends. Emphasis is placed on distribution patterns and environmental ramifications. (3 crs.)

GEO 220. GEOGRAPHY OF THE UNITED STATES AND PENNSYLVANIA. A study of the physical and cultural environment throughout the United States and Pennsylvania particularly as it relates to spatial patterns of population, agriculture, industry, service and transportation patterns. (3 crs.)

GEO 240. HUMAN ECOLOGY. A social science approach to the relationship between humanity and the organic and inorganic environment. Emphasis is placed on the physical, biological and cultural basis of human adaptation. (3 crs.)

GEO 285. RETAIL TRAVEL. The skills used in the worldwide travel industry that are essential for a career as a travel agency owner, manager, or agent, as a tour operator, or as a corporate, convention travel planner or manager. (3 crs.)

GEO 306. MARKETING GEOGRAPHY. Spatial patterns associated with the consumption of goods and services. Emphasis is placed on the collection and distribution of goods and services as related to aspects of the cultural environment. (3 crs.)

GEO 311. GEOGRAPHIC INFORMATION SYSTEMS. This course provides an analysis of different methods and techniques of representing geographic data through the use of various manual and computer-based technologies. The focus is upon the processes involved in the collection, compilation, and display of geographic data within a data base. (3 crs.)

GEO 317. LAND USE ANALYSIS. An analysis of the structure of urban and rural land use which emphasizes patterns and trends in land use. Methods of analysis are developed so that land use can be effectively understood. (3 crs.)

GEO 325. GEOGRAPHY OF EUROPE. A study of forces which have shaped the human landscape of Western Europe. National and regional disparities ranging from land relief and climate to social and economic phenomena are studied. (3 crs.)

GEO 328. GEOGRAPHY OF LATIN AMERICA. A regional analysis of the physical and cultural environments that make the human landscape. Present Latin America society is studied through a historical perspective. (3 crs.)

GEO 331. GEOGRAPHY OF RUSSIA. A regional study of the physical and cultural features of Russia. The emphasis is placed upon those factors responsible for the current position of Russia as a major world power and on potential future development. (3 crs.)

GEO 338. GEOGRAPHY OF THE PACIFIC BASIN. A regional study of the physical and cultural environments of the Pacific rimland. Emphasis on Australia, Indonesia, Japan, New Zealand, and the Philippines. (3 crs.)

GEO 340. HISTORICAL GEOGRAPHY. A study of the interrelationships between the natural and cultural environments and the historical development of the cultural landscape. Historical development of the United States is emphasized. (3 crs.)

GEO 345. POLITICAL GEOGRAPHY. The state is the focus of the course, emphasis on the role played by the physical and cultural environment in terms of its form and function. Particular emphasis placed on frontiers, boundaries, law of the seas, transportation and ecology. (3 crs.)

GEO 350. SYSTEMS APPLICATION FOR TRAVEL INDUSTRY. An applied course in the principles and practices of travel industry automation. (3 crs.)

GEO 358. COMPREHENSIVE TRAVEL PLANNING. A basic understanding of the procedures and components of travel planning and promotion. The student is introduced to the major principles and techniques used in the development of travel programs, trip packages, and group tours. (3 crs.)

GEO 362. SITE PLANNING AND DESIGN. The components of the site design process. Specific tools and procedures necessary for effective planning of recreation and park facilities. Introduction to the complete planning process from concept to construction. (3 crs.)

GEO 374. DEVELOPING AND MANAGING LEISURE ENTERPRISES. An overview of the commercial leisure industry, specifically focusing on the procedures involved in the developing, marketing, and managing of the enterprise. The student is introduced to the methods used in starting a leisure business. The emphasis is placed on the management skills necessary for the effective and profitable management of the enterprise. (3 crs.)

GEO 378. RECREATION INDUSTRY MANAGEMENT. Analysis of managerial and administrative practices and processes in recreation, park and agency departments, including departmental organization, policy making, liability and negligence, personnel management and staffing, fiscal management, budgeting, finance, records and reports, office management, and public relations. (3 crs.)

GEO 412. PROGRAM PLANNING AND ADMINISTRATION. The course emphasizes the analysis of a community, assessment of its residential leisure needs, and implementation of recreational programs into the community. The course stresses planning, objectives, goal setting, structural organization, advertising, and evaluation. (3 crs.)

GEO 425. CORPORATE TRAVEL OPERATIONS. An applied course in the principles of corporate travel managing such as corporate travel requirements, policies, economics, and travel industry automation. (3 crs.)

GEO 474. DEVELOPING THE MASTER PLAN. The course examines planning as a process. Attention is focused on the elements and activities necessary to prepare and implement a comprehensive plan. The course provides an opportunity for the student to apply acquired planning skills to specific urban and regional problems. (3 crs.)

GEO 479. INTERNSHIP. The internship provides the student with the opportunity to apply classroom theory to realistic, professional-level situations. It is intended to give the student a concentrated practical experience in a professional organization. The concepts and experiences acquired in the classroom are honed and fine-tuned at this level to prepare students for their career undertaking. (Variable crs.)

GEO 491. FIELD COURSE IN GEOGRAPHY. Field investigation utilizing geographic tools and techniques concentrating on primary data. (Variable crs.)

GEO 493. SEMINAR IN GEOGRAPHY. Consideration of evolving geographic thought, evaluation of selected geographic literature, and the development of individual or group research projects. Recommended as a culminating course for majors in geography. (3 crs.)

GEO 520. PHYSIOGRAPHY OF THE UNITED STATES. This course is for students with a background that includes Principles of Geomorphology. It involves a systematic survey of the major physiographic provinces in the United States. Emphasis is placed on the relationship of the underlying geology, geologic history, and climate to the development of today's landscapes. Laboratory work principally involves interpretations from air photos and topographic maps. (3 crs.)

GER - German

GER 101. ELEMENTARY GERMAN I. For students who have had no previous instruction in German or who require additional instruction before attempting a more advanced level. Develops the fundamentals of correct idiomatic German through instruction in basic audio-linguistic patterns and sentence structure. Language laboratory is used in conjunction with this and the following courses. Three class hours and one hour language laboratory each week. (3 crs.)

GER 102. ELEMENTARY GERMAN II. Continuation of German 101. Three class hours and one hour language laboratory per week. Prerequisite: GER 101 or one year of high-school German. (3 crs.)

GER 203. INTERMEDIATE GERMAN I. The goals are to understand, speak, and write German on a more advanced level. A review of the structural principles covered in German 101 and German 102 and additional structural material, idioms, etc., is given. More emphasis is placed on speaking and reading. Three class hours and one hour language laboratory each week. Prerequisite: GER 102 or two years of high school German. (3 crs.)

GER 204. INTERMEDIATE GERMAN II. Continuation of German 203, with speaking, reading, writing on a more advanced level emphasized. Three class hours and one language laboratory per week. Prerequisite: GER 203. (3 crs.)

Culture Courses are taught in English and are intended to satisfy General Education Humanities elective requirements as well as those in the major. One culture course is offered each regular semester.

GER 240. FROM TACITUS TO LUTHER. Fifteen hundred years of German Cultural History is traced in this course, including the tribal era, establishment of the Holy Roman Empire and medieval society. (3 crs.)

GER 296. THE GERMAN BAROQUE. This course examines approximately two hundred years of German cultural history beginning with the spread of Protestantism in the late Renaissance and concluding at the apogee of Enlightenment thought and influence. (3 crs.)

GER 297. THE AGE OF GOETHE: PART I ENLIGHTENMENT. The first half of the life of Johann Wolfgang von Goethe is the basis for the course chronology: 1749-1796; the period reflects the acceptance, endorsement and ultimate waning of Enlightenment ideals in the German lands. (3 crs.)

GER 298. THE AGE OF GOETHE: PART II ROMANTICISM. The concluding segment of Goethe's life (1796-1832) encompasses the reaction against Enlightenment ideals and the realities of the Napoleonic Wars. These led to the rise of romanticism and the first decisive steps to German cultural prominence in nineteenth century Europe. (3 crs.)

GER 299. RICHARD WAGNER AND HIS TIMES: TRIUMPH OF THE BOURGEOISIE. The period covered begins in the year of Goethe's death, 1832, which is also the year which witnessed the first attempts of writing for the musical stage by Richard Wagner. The rise of the German middle class and triumph of bourgeois ideals form the background for the endeavors and developments of Wagner and his contemporaries. (3 crs.)

GER 300. THE WILHELMINIAN ERA. The survey covers the period 1870-1918 when German lands are united into a powerful national state, the Deutsches Reich. Germany is viewed at the peak of her cultural leadership in western civilization before the debacle of the First World War. (3 crs.)

GER 301. THE WEIMAR REPUBLIC. The ill-fated German Weimar Republic lasted fourteen years, from 1919 to 1933, but in that period the world witnessed an unparalleled concentration of cultural endeavor born from military defeat, political humiliation and social and economic chaos following World War I. (3 crs.)

GER 302. GERMAN CULTURE UNDER THE NATIONAL SOCIALISTS. The premise for this course is that German culture did not cease to manifest itself during the period from 1933 to 1945 when Adolf Hitler and the Nazi Party controlled Germany's destiny. What the German public was permitted in the way of cultural consumption during the Nazi era is the focal point of the survey. Only works produced in Germany at the time and either explicitly or tacitly endorsed by the Nazi government are dealt with. (3 crs.)

GER 303. GERMAN CULTURE IN EXILE. Many intellectuals uprooted for political or racial reasons by the Nazi usurpation of political power in Europe fled their homelands, never to return. Documentary evidence from 1933 to 1949 is used to understand their exile and German culture abroad. (3 crs.)

GER 309. POSTWAR GERMANY 1945 TO 1990: BUNDESREPUBLIK (FEDERAL REPUBLIC OF GERMANY, WEST GERMANY). The cultural spectrum of the Federal Republic of Germany (West Germany, Bundesrepublik Deutschland) is the subject of this survey. (3 crs.)

GER 310. POSTWAR GERMANY 1945 TO THE PRESENT: DEUTSCHE DEMOKRATISCHE REPUBLIK (GERMAN DEMOCRATIC REPUBLIC, EAST GERMANY) the cultural spectrum of the German Democratic republic (East Germany, Deutsche Demokratische Republik) is the subject of this survey which begins with the year and continues to its demise. (3 crs.)

GER 311. GERMAN CONVERSATION, COMPOSITION, AND PHONETICS I. Selected readings are used to develop further skills in reading, writing, and speaking German. Three class hours and one hour language laboratory per week. Prerequisite: GER 204. (3 crs.)

GER 312. GERMAN CONVERSATION, COMPOSITION, AND PHONETICS II. Continuation of German 311, conducted on a more advanced level. Three class hours and one hour language laboratory per week. Prerequisite: GER 311 or GER 204 with a grade of A or B. (3 crs.)

GER 313. AUSTRIA: FROM THE BABENBERGS TO THE CONGRESS OF VIENNA 976-1813. This topic presents an approximately one thousand year cultural history of the Austrian empire from its birth as protector and successor of the Holy Roman Empire, to its twilight at the end of the Napoleonic Wars. (3 crs.)

GER 314. AUSTRIA: FROM THE CONGRESS OF VIENNA TO THE TREATY OF VERSAILLES 1813-1918. The last century of Hapsburg rule is the backdrop for this survey of the Golden Age of Austrian cultural enterprise. (3 crs.)

GER 316. AUSTRIA: FIRST REPUBLIC HEIM INS REICH SECOND REPUBLIC (1919-PRESENT). This course presents a cultural history of Austria from 1919 to the present with representative works from the first Republic (1919-38), the period of Nazi annexation (Anschluss) (1938-45) and the post-World War II era which gave rise to the Second Republic (1955 to the present). (3 crs.)

GER 317. SWITZERLAND. This course presents a cultural survey of the German speaking Swiss primarily though the cultural contributions of the other language groups are represented. Although it begins in the days of the Roman Empire and proceeds swiftly through the formation of the Swiss Confederation in the 13th century to the beginning of the 18th century, the greater part of the course deals with the last two hundred years of Swiss cultural enterprise. (3 crs.)

GER 401. ADVANCED COMPOSITION: GRAMMAR AND STYLISTICS. The course provides in-depth grammar analysis of German. Intensive practice is given for translation and composition. Refinement of expository writing is a major goal and emphasis is placed on achieving fluent and idiomatic expression to a degree acceptable by a native and educated speaker. (3 crs.)

GER 421. SURVEY OF GERMAN LITERATURE I. Presents a foundation on literary definition (style, form, period) and illustrates them through the works of leading German speaking authors. (3 crs.)

GER 422. SURVEY OF GERMAN LITERATURE II. Continuation of German 421. Three class hours each week. (3 crs.)

GER 450. FOREIGN LANGUAGE COLLOQUIUM IN GERMAN. The colloquium in German is designed for students in teacher education who must demonstrate a fluency in oral presentation in order to meet requirements for employment and tenure in Pennsylvania's school systems; as such it is required for students in teacher education. It is designed secondarily for the liberal arts major who wishes to enhance fluency in speaking, but it is not required for the German major. (3 crs.)

GER 452. HISTORY OF THE GERMAN LANGUAGE. For German language majors but open to any student meeting the prerequisites (all courses from GER 203 to GER 422). The course begins with the emergence of a German language group from its Indo-European heritage and traces the development of contemporary German from Gothic through Old High German, Middle High German and dialect manifestations, as well as its encounters with other European languages. The course is required for German majors. (3 crs.)

GER 469. STUDIES IN GERMAN LITERATURE. Subject matter to be arranged. Designed for German majors who wish to take extra credits and/or study abroad. Prerequisite: 18 hours of German. (Variable crs.)

HIN - Harrisburg Internship Program

HIN 374. HARRISBURG INTERNSHIP ASSIGNMENT. This internship gives selected students an opportunity to work in various state government offices including the Governor's office, the Senate, and the House of Representatives. Prerequisites: 45 credits, 3.0 QPA, and permission of program director. (Variable crs.)

HIN 375. HARRISBURG INTERNSHIP. This course is completed in conjunction with HIN 374. (3 crs.)

HIN 376. PUBLIC POLICYMAKING. This seminar is completed in conjunction with HIN 374. (3. crs)

HIS - History

HIS 101. HISTORY OF THE U.S. TO 1877. American history from the Pilgrims to the age of modern industry: the colonial heritage, American Revolution, the emergence of a new nation, westward expansion, Civil War and postwar Reconstruction. (3 crs.)

HIS 102. HISTORY OF THE U.S. 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 104. HISTORY OF WESTERN SOCIETY TO 1740. Western society from its origins in the near East to the period of Absolutism in Europe. (3 crs.)

HIS 106. HISTORY OF WESTERN SOCIETY SINCE 1740. Western society from the Enlightenment to the present. (3 crs.)

HIS 107. HISTORY OF SOUTHWESTERN PENNSYLVANIA. This course surveys the role of southwestern Pennsylvania from the local, regional, national and international perspectives. These include the reactions of the Native Americans to the coming of the "white" frontier; the military events leading to the French and Indian War; the Whiskey "insurrection"; the evolution of transportation from the flatboat/keelboard and steamboat eras to the railroad and automobile; the rise and decline of the iron/steel industry; immigration and agriculture; and education and culture, particularly the influence of the former and the significance of the latter. (3 crs.)

HIS 111. DEVELOPMENT OF MAJOR WORLD CIVILIZATIONS. The process and interplay of the major world cultures in their evolution: Indian, Moslem, East Asian (China, Korea, Japan), Slavic, Western European, Latin American, and African. (3 crs.)

HIS 112. MAJOR WORLD CIVILIZATIONS IN TRANSITION. Significant factors influencing change in the world's major cultural areas: industrialization and urban conflict, the democratic revolution, and the rise of charismatic leaders from Napoleon to Hitler. (3 crs.)

HIS 147. HISTORY OF THE MIDDLE EAST. A history of the region, emphasizing the twentieth century interplay of cultural changes with traditional ways; Islam and modernization; Soviet-American rivalry; the politics of oil; the Arab-Israeli conflict; and Arab nationalism; its leaders; the role of terrorism. (3 crs.)

HIS 150. HISTORY OF THE ANCIENT WORLD. A study of the origins of Western Civilization from its beginning to the disintegration of the Roman Empire, the cultural aspects of the Fertile Crescent and Greco-Roman civilizations. (3 crs.)

HIS 188. LOCAL HISTORY. An introduction to the location, evaluation, and significance of local history by using the problem-solving and genealogical approach. Specific topics are analyzed in order to get to know at first hand the importance of local and family history at the grass roots level. (3 crs.)

HIS 200. HISTORY OF PENNSYLVANIA. The history of Pennsylvania from colonial times to the present; the changes involved in social, economic, and political life are treated from internal and external points of view. (3 crs.)

HIS 201. CIVIL WAR AND RECONSTRUCTION. The causes of the Civil War; the military, political, economic, and social developments during the war; the consequences of the postwar period from the standpoint of contemporary developments and their applications today. (3 crs.)

HIS 203. HISTORY OF TRANSPORTATION IN PENNSYLVANIA. The roles that Pennsylvania has played in the development of transportation systems since Colonial times, including turnpikes, canals, river transport (flatboats to steamboats), railroads, and motor transportation. (3 crs.)

HIS 204. HISTORICAL PERSPECTIVES ON AGING. A chronological survey of aging in American culture from colonial times to the present. Principle subjects for examination are the emergence and development of retirement programs, and institutional and non-institutional treatment of the elderly in social, religious, political, and cultural contexts. (3 crs.)

HIS 210. INTRODUCTION TO PUBLIC HISTORY. This course is an overview of the methods and arenas of the public historian. Through hands-on experience in such areas as museum design, collection development, museum education, archival management, historic preservation and historical editing, the student will gain an understanding of the challenges and rewards of the public historian. (3 crs.)

HIS 215. 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, and the scientific revolution. (3 crs.)

HIS 216. HISTORY OF ENGLAND. The history of England from the reign of Henry VII to the modern era, with particular attention to the social and cultural aspects of British life. (3 crs.)

HIS 217. AFRO-AMERICANS IN U.S. HISTORY. A survey of the role of Afro-Americans in the course of American history. The course explores African roots, American slavery, the rise of black protests, the Civil Rights movement, and the rise of the Black City. (3 crs.)

HIS 218. HISTORY OF SPORT IN AMERICA. Sport as a pervasive facet of our popular culture, as a social institution, as an arena of human activity, and as a drama; sports and cultural values and values conflict; the relationship of sport to social change throughout American history. (3 crs.)

HIS 220. UNITED STATES MILITARY HISTORY. The development of America's military strategy and the growth of the United States military establishment; principle campaigns and battles; the role of the armed forces as a social and political institution from the Revolution to the post-Vietnam Era. Emphasis is given to twentieth century strategy and related policy problems. (3 crs.)

HIS 225. HISTORY OF CONTEMPORARY EUROPE. Major developments in Europe within the last 45 years which have significance in challenging and transforming many of the traditional values of society. The decline in the pre-eminent position of Europe in world affairs and the rise of a global civilization. (3 crs.)

HIS 226. HISTORY OF MEDIEVAL EUROPE. A study of the political, social, economic, and cultural forces of the Middle Ages, with emphasis on institutional and cultural life from the fall of Rome to the Renaissance. (3 crs.)

HIS 227. RENAISSANCE AND REFORMATION. A study of Renaissance culture in Europe from the fourteenth to the sixteenth century, with emphasis on Italian Renaissance and the German Reformation, considering late medieval civilization, humanism, the artistic Renaissance, the universal church, and the appearance and character of the principle branches of Protestantism. (3 crs.)

HIS 230. HISTORY OF EASTERN EUROPE. The medieval origins of Poland, Czechoslovakia, Hungary, Yugoslavia, and Bulgaria. Romania through the period of national revival of the nineteenth century, independence after World War I, sovietization after World War II, and reemerging nationalism. (3 crs.)

HIS 234. URBAN PLANNING IN HISTORICAL PERSPECTIVE. The planning implications of urbanization; the early city planning of the pre-industrial era, and the efforts by city planners and developers to make the city more attractive and livable in various periods of urban growth. (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, industrialization, technology and the rise of mass culture. The emergence of progressive reform and the implication of these forces on urban spatial development. (3 crs.)

HIS 238. HISTORY OF AMERICAN LABOR. American labor from early colonial times to the present. (3 crs.)

HIS 240. HISTORY OF THE COLD WAR. The origins and continuance of Soviet-American rivalry since World War II. Confrontation in Europe; NATO; the Warsaw Pact; the growing nuclear arsenal; regional conflict in Africa, Latin America and Asia; the Congo, Angola, Cuba, Iran, China, Vietnam; the politics and leadership of both nations; the emergence of Russia as a global power. (3 crs.)

HIS 245. HISTORY OF RUSSIA. Russian history, culture, and institutions from the inception of the Kievian state to the present; the pre-Soviet periods and those aspects of development of the Russian state and people that have played a dominant role in the shaping of Russian character, temperament, and history. (3 crs.)

HIS 247. HISTORY OF ETHNIC AMERICA. The immigrant in United States history from the eighteenth century through the contemporary period. (3 crs.)

HIS 250. AMERICAN CONSTITUTIONAL HISTORY. The growth of the American constitutional system, with special emphasis on those aspects of constitutional growth that relate closely to the fundamental structure of American government and social order. (3 crs.)

HIS 260. WOMEN IN U.S. HISTORY. A study of women from the colonial era until the present, arranged around topics such as reform, abolition, political activism, working conditions, and contemporary issues. (3 crs.)

HIS 262. WOMEN IN ANCIENT AND MEDIEVAL EUROPEAN HISTORY. A study of the lives and attitudes of women living in ancient and medieval times, from Classical Greece to late medieval Northern Europe. Social, cultural, religious, economic and political matters will be discussed, with special consideration given to the role women played in the shaping of western civilization. (3 crs.)

HIS 265. HISTORY OF LATIN AMERICA. The emergence of modern Latin America from the Aztecs to Castro; economic and social development of the region in the twentieth century; struggle for social justice among diverse cultures; conflicts within Latin American political life; military dictatorships; parliamentary democracy; guerrilla warfare and counterterrorism. (3 crs.)

HIS 275. PITTSBURGH HISTORY. Examines the history of the City of Pittsburgh from 1750 to the present. The course focuses on the evolution of Pittsburgh first into a quintessential Industrial City, then into a pioneer renaissance city, and finally into a post-industrial, service-oriented city. Therefore, the course affords a unique urban perspective on the social, spatial, and political implications of both industrialism and post-industrialism. Pittsburgh History features lectures, field trips, as well as class discussions. (3 crs.)

HIS 304. GREAT DEPRESSION AND WORLD WAR II. The stresses and strains of the 1930-1945 period of United States history using recent trends in scholarship. (3 crs.)

HIS 305. CONTEMPORARY HISTORY OF THE U.S. The unprecedented changes that have occurred in the United States since the end of World War II. (3 crs.)

HIS 310. CHRISTIANITY TO 1700. This course discusses the development of Christianity from earliest times to the seventeenth century. Explores Christianity's role in transforming society through study of its belief system, the growth of monasticism and the institutional church, issues of dissent and reform before and after the Reformation, European wars of religion in the sixteenth and seventeenth centuries, and the expansion of Christianity to the New World. (3 crs.)

HIS 320. ANATOMY OF DICTATORSHIP. The basic, social, economic, psychological, and political elements that make up the modern dictatorship. (3 crs.)

HIS 329. HISTORY INTERNSHIP. Application of historical methodologies to various professional environments, under faculty supervision. (Variable crs.)

HIS 350. ADOLF HITLER. The philosophical and psychological elements that led to the rise of National Socialism, and its impact upon the western world. (3 crs.)

HIS 379. SPECIAL PROBLEMS IN HISTORY. Development of individual programs by students. (Variable crs.)

HIS 495. SEMINAR IN U.S. HISTORY. A study of American historians and their writings; the changing interpretations of major topics in American history. (3 crs.)

HON - Honors Program

HON 100. HONORS AND UNIVERSITY ORIENTATION. This course provides the honors student with a fairly comprehensive introduction to university life in general and the honors program in particular. Practical matters including a comprehensive review of the honors program curriculum, requirements to remain in the program, advisement and registration procedures to be followed and an elaboration and description of ancillary university services available to the student are covered. The meaning and function of a university, the importance of the liberal/general education part of the curriculum, the relationship between the university and society and current issues affecting the academy are addressed through selected readings and discussion. Also, students will be required to establish a portfolio that will be maintained throughout the undergraduate experience. (1 cr.)

HON 150. HONORS COMPOSITION I. Honors Composition I, a course designed specifically for first-year students in the Honors Program, is an introduction to the advanced literacy of the academy. In this course, students will develop an understanding of how diverse scholarly disciplines employ differing strategies and conventions for organizing and transmitting knowledge. (3 crs.)

HON 187. INFORMATION LITERACY. "Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information upon it." Dr. Samuel Johnson (1709-1784). The course will focus its attention on the second kind of knowledge described by Dr. Johnson. The honors student will learn how to find information, and evaluate and use it effectively. The Louis L. Manderino Library, the Internet, and other electronic resources will be the primary emphases of the course. The course will provide the honors student with practical research and bibliographic skills that can be utilized in any area of study. (3 crs.)

HON 197. EURASIAN AND NORTH AFRICAN CIVILIZATION. This course is the first in a two semester sequence on the origin, nature, accomplishments and failures of the diverse civilization of this planet. A panoramic, balanced picture of human achievement in technology, government, religion, and the arts is provided. A decided emphasis is placed on the student critically analyzing some enduring themes and questions common to the different civilizations. (3 crs.)

HON 201. QUANTITATIVE PROBLEM SOLVING. This course will provide the student with an application-oriented, investigative mathematics curriculum. The students will use technology and cooperative group work to solve real-life problems and strengthen their understanding of mathematics. The goals of the course are parallel to those of the National Council of Teachers of Mathematics Curriculum and Evaluation Standards. The topics covered target Pre-Calculus where the problems associated with engineering, physical and life sciences, business, finance and computer science drive the mathematics. This course will provide the student with a foundation to pursue further study in calculus, finite mathematics, discrete mathematics and statistics. (3 crs.)

HON 250. HONORS COMPOSITION II. Honors Composition II, a course designed specifically for first-year students in the Honors Program, is a companion and follow-up course to Honors Composition I. In Honors Composition II, students will investigate an academic research question on a topic and in a field of their choosing and produce a research paper addressing this question. Research results will be presented before a panel of interested peers and faculty. (3 crs.)

HON 281. KNOWLEDGE AND CULTURE: SOME EXPLORATIONS. "To be culturally literate is to possess the basic information needed to thrive in the modern world." E. D. Hirsch. This course explores what every student needs to know to read intelligently. Class sessions focus on skills needed to acquire cultural literacy, i.e., the grasp of a coherent community of values and recognitions. The course provides honors students with a framework of reference and bibliographic skills that they can utilize in their areas of study. (3 crs.)

HON 285. PROTEST MOVEMENTS IN THE 1960S. This course affords a general and comprehensive perspective on the unique, exciting, and dangerous world of 1960s politics. Understanding the period entails the use of films, videos, and records as well as extensive reading. (3 crs.)

HON 286. COMMENTARIES ON TECHNOLOGY. A study of the history of the development of science and technology from the humanity point of view. The view that technology is good and beneficial to man is examined along with the way that man looks at himself. Diverse literature is used to explore and examine modern institutions with the expectation of identifying why things are the way they are and how they might have been different under other circumstances. What is and what has been will be studied to predict future developments and their effect on humanity. (3 crs.)

HON 287. THE LITERATURE OF SOCIAL UNREST. This course will analyze the relationship between literature and social change by studying contemporary fiction and drama from Eastern Europe, Latin America, and South Africa. Class discussion will emphasize the historical and political significance of works by such authors as Jerzy Kosinski, Milan Kundera, Vaclav Havel, Gabriel García Márquez, Athol Fugard, and Nadine Gordimer. (3 crs.)

HON 295. LITERATURE, THE VISUAL ARTS AND THE WORLD VIEW. This course investigates the relationship between literature and the visual arts, primarily sculpture and painting, as revealed in various periods of history and culture—Ancient Greece, the Renaissance, Mannerism, the Baroque, the Rococo, Romanticism, Realism, and Naturalism, Impressionism, and Expressionism. The course focuses on an exploration and analysis of the historical, social, and philosophical backgrounds and "world view" of each period, and how these factors contribute to the emergence of artistic movements or "schools." (3 crs.)

HON 297. SCIENTIFIC INQUIRY. Scientific Inquiry is an interdisciplinary foray into the hard sciences. It presumes no prior acquaintance with chemistry, physics, or biology. It defines science, its terminology and its methodology, and exposes students to its essential elements. A perspective of scientific evolution will be developed by examining salient events and personalities. Various topics, especially from the physical sciences will be examined with an emphasis on how scientific knowledge is used to elicit technical innovations, solve problems, and shape the future. Later class discussions will focus on defining possible and probably future yields and prioritizing national efforts. (3 crs.)

HON 315. EXPRESSION OF SELF IN THE ARTS AND HUMANITIES. This course, broadly conceived as a humanities appreciation course, focuses on three general themes—Relationships: The Impact of Love, Family, and Friends; Passages: An Exploration of Life's Transitional Periods; and The Search for Meaning and Understanding. By examining and critically analyzing selected works from literature, the fine arts, music, theatre, photography, and film, the student is expected to develop a nonprescribed but comprehensive and integrative overview of these central themes. Also, students will have the opportunity to explore their own self-expression through a creative, artistic assignment. (3 crs.)

HON 381. EVOLUTION OF EARTH SYSTEMS. The evolutionary dynamics of living systems; namely, how the interrelationships between plants, animals, humans and environment shape their evolution, extinction, diversity, geographic distribution, geologic history, and, for humans, their cultural history. Specific examples of past and present biotic communities include Ice Age vertebrates, living mammals, amphibians and reptiles, continental and island faunas, and human cultures from Peru, Egypt, the Amazon Basin and the Arctic. Lectures are strongly supplemented with study of specimens, artifacts, and exhibits from The Carnegie Museum of Natural History. (3 crs.)

HON 385. BIOLOGICAL ORIGINS OF SOCIAL BEHAVIOR. The purpose of this course is to develop an understanding of sociobiology and the influence of the process of natural selection on social behavior in nonhuman and human animals. Findings from the biological and social sciences are integrated to provide a comprehensive view of the origin and nature of various social behaviors. Field and laboratory observations of animal behavior are used to demonstrate a complex variety of social behaviors. (3 crs.)

HON 388. PRINCES AND PAUPERS: STUDIES IN SOCIAL CLASS, WEALTH AND POVERTY IN WORLD HISTORY. The course examines the impact of social and economic inequality on world history. Using a case study approach, students will explore the existence of wealth and poverty in Ancient Rome, in Medieval and Reformation Europe, in Colonial America, in Victorian England, and in 20th century urban America. (3 crs.)

HON 499. HONORS THESIS. The seniors honors project serves as the capstone of the university honors program. Under the supervision of a faculty advisor of the student's choice, the honors student seeks to make a substantive contribution to the discipline. Considerable latitude in the form of the contribution is permitted. Empirical and historical research as well as creative products are all appropriate. A reader/reviewer is assigned to independently pass judgment on the student's scholastic effort. An oral defense, demonstration or display of the completed honors project is required. (3 crs.)

HPE - Health and Physical Education

HPE 100. HEALTH. Provides the student with a critical analysis of health problems facing people today. Topics studied include communicable diseases, chronic diseases, abusive substances, mental health, sex education, nutrition, exercise, and stress management. (2 crs.)

HPE 102. AIDS PREVENTION. This course is designed to meet the following objectives: learn the facts about HIV and AIDS; gain skills for safer behaviors; and increase an awareness for coping with HIV and other STDs for improving the overall quality of life. (1 cr.)

HPE 202. COED AEROBIC FITNESS AND NUTRITION. The course is designed to increase an individual's fitness through higher level exercises. The activity portion of the class will include low impact aerobics, rope jumping, swimming, etc., to improve the student's cardiopulmonary endurance, strength and flexibility. There will be lectures on nutrition and basic exercise physiology. (2 crs.)

HPE 265. BADMINTON AND GOLF. Basic instruction in the rules, strategy, techniques and courtesies of both golf and badminton. (1 cr.)

HPE 266. TENNIS AND VOLLEYBALL. Fundamentals and game techniques of tennis and volleyball. Game drills and conditioning exercises are also a part of the course. (1 cr.)

HPE 275. VOLLEYBALL AND BASKETBALL. Instruction and participation in the fundamental techniques, methods, rules, and game strategy of the two sports. (1 cr.)

HPE 308. KINESIOLOGY. The biomechanics of motor performance. Prepares students to analyze movement in order to teach, correct, or improve human performance. Offered as part of the Sports Medicine program. (3 crs.)

HPE 309. EXERCISE PHYSIOLOGY. The course covers the scientific theories and principles underlying strength, muscular endurance, cardio–vascular endurance, flexibility, training and conditioning in human movement. Offered as part of the Athletic Training program. (3 crs.)

HPE 314. FIRST AID AND PERSONAL SAFETY. Provides an understanding of the cause–effect, prevention and treatment of emergency situations. This course is helpful to all students, especially students in the teacher education program. Three year certification is offered by the American Red Cross. (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. Offered when there is student need and interest. (1 cr.)

HPE 316. LIFEGUARD TRAINING. An American Red Cross Certification course designed to prepare individuals to be lifeguards in pools and (non-surf) facilities. Course includes certification in community first aid and CPR for the professional rescuer. Prerequisite: Water Test. (3 crs.)

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 DIVING. Prepares students to become National Certified Divers. There is an additional fee for the certification dives. Prerequisite: Deep water swimmer. (2 crs.)

HPE 500. EMERGENCY MEDICAL TECHNICIAN (EMT). Prepares students to become certified as Emergency Medical Technicians. Emphasis is placed upon the care and treatment of the ill or injured in a variety of emergency situations. Students are required to devote at least ten hours to actual in–hospital observation. Prerequisite: Age 16. (4 crs.)

HSD - Highway Safety and Drivers Education

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. Develop various teaching methods and materials that can be used to teach safety in the elementary or secondary schools. (3 crs.)

HSD 307. MOTORCYCLE SAFETY. A comprehensive study of all aspects of motorcycle safety. Various classrooms 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 408. PROBLEMS IN DRIVER AND TRAFFIC SAFETY. Current problems in many areas of the driver and traffic safety. Federal Highway Safety Program Standards are analyzed. (3 crs.)

IND - Industry and Technology

IND 101. DRAWING AND DESIGN. An introductory course for those who wish to become more skilled and confident in their ability to draw and design. Design elements, principles and practices are studied. Creativity, self-discovery, and self-expression are encouraged. The student is required to develop a disciplined approach to problem solving and a sensitivity to craftsmanship in order to create solutions to a wide variety of challenging design assignments. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 110. TECHNICAL DRAWING I. A beginning course with emphasis on the graphic language, mechanical drawing, lettering, geometric construction, sketching and shape description, multi-view projection, sectional views, dimensioning, axonometric projection, and oblique projection. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 130. INTRODUCTORY CIRCUIT ANALYSIS. An introduction to DC and AC circuit theory and analysis. The theory includes electrical measurement systems, Ohm's Law, Kirchoff's Laws, circuit theorems, and component characteristics. Laboratory work provides experiences with electrical components, schematics, electrical tools, and basic electrical and electronic instrumentation. Class meets for two lecture and four laboratory hours per week. Prerequisite: MAT 181. (3 crs.)

IND 135. DIGITAL ELECTRONICS. An introduction to the theory and application of logic gates, Boolean algebra, combinational logic, sequential logic, shift registers, counters, and arithmetic circuits. Laboratory experiments provide experiences with digital integrated circuits, circuit behavior, and digital trouble-shooting techniques. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 165. MACHINE PROCESSING I. An introduction to basic foundry (metal casting) and machine metalworking. Includes sand moldmaking and gating, layout, tool geometry, lathe work, milling, shaping, drilling, and bench work. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 184. ENERGY AND POWER SYSTEMS. An application of the systems approach to the study of energy sources and converters, power transmission, and controls. Instruction will focus on energy as it is applied to propulsion systems, residential conservation, and industrial uses. Energy alternatives, system efficiency and conservation are emphasized. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 210. TECHNICAL DRAWING II. Provides experiences in problem-solving through the use of technical working drawings. Special emphasis is placed on American National Standards drawing practices, shop processes, conventional representation, standardization of machine parts and fasteners, preparation of tracings, the reproduction of drawings, and surface development. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 110. (3 crs.)

IND 215. COMPUTER-AIDED DRAFTING (CAD) I. This course involves the use of computer software and hardware as applied to mechanical design and drafting. Students learn to manipulate basic geometric entities (points, lines, and arcs) to create 2-D and 3-D models. Experiences dealing with dimensioning, level/layer surfaces and planes are also explored. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 110. (3 crs.)

IND 218. DESCRIPTIVE GEOMETRY & SURFACE DEVELOPMENT. Adding to the knowledge and experiences gained in Technical Drawing I, this course covers the theory of projection in detail with emphasis on the manipulation of points, lines and planes in space. In addition, surface development and design in order to serve of value in future advances such as computer-aided drafting, computer-aided instruction and computer-aided manufacturing. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 110. (3 crs.)

IND 230. INTRODUCTION TO LINEAR ELECTRONICS. An investigation into the fundamental concepts of analog electronics including semiconductor device theory, power supplies, amplifiers, operational amplifiers, oscillators, linear integrated circuits, and control circuits. Laboratory experiments provide experiences with electronic instrumentation, electronic components, and electronic circuit behavior. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 130. (3 crs.)

IND 235. INTRODUCTION TO MICROPROCESSORS. A presentation of number systems and codes, microprocessor architecture, computer arithmetic, machine language programming, and microprocessor interfacing. Emphasis is placed on laboratory experiments dealing with machine language program execution and microprocessor interfacing. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 135. (3 crs.)

IND 250. CONSTRUCTION PROCESSES I. An introductory course in construction with an emphasis on residential housing. Instruction and experiences will include aspects of construction such as, planning and estimating, personnel and time management, site preparation, footings and foundations, framing, and roofing. The safe and intelligent use of tools and materials is stressed. Class meets for two lecture and four laboratory hours per week. Prerequisite: TED 115. (3 crs.)

IND 265. MACHINE PROCESSING II. Current foundry (metal casting) processes are studied. Advanced machine metalworking processes, including indexing and gear cutting are emphasized. Students are responsible for determining the sequence of operations necessary to produce a product. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 165. (3 crs.)

IND 270. HYDRAULIC/PNEUMATIC FLUID POWER. This is an introductory course in the study of basic hydraulic and pneumatic circuits and systems. Topics covered are: physical laws applicable to fluid power components, circuit construction and analysis, the use of manually and remotely controlled devices, the use of linear and rotary actuators, and the operation of hydraulic pump and air compressor systems. Theoretical concepts are verified by practical hands-on laboratory activities. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 278. PLASTICS TECHNOLOGY. This is a survey course designed to provide the student with an opportunity to gain information about the industrial and technological uses of plastic-like materials. In the laboratory the student designs, constructs and uses a variety of tools, forms and molds. Depending upon the activity and the time allotted, students will be encouraged to create well-designed products for personal and/or professional use. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 282. SMALL GASOLINE ENGINES. An introduction to the theory, operation and major overhaul procedures of small 2 and 4-cycle gasoline engines. Engine components, diagnosis, testing, maintenance, disassembly, reassembly, and trouble shooting are stressed in the course to afford the participants the opportunity to develop the expertise in course content skills and the background to repair small gasoline engines. Laboratory work provides for the opportunity to apply theoretical concepts in general practices. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 310. TECHNICAL DRAWING III. An extension of Technical Drawing I and II with continued emphasis on skill, technique, and the use of ANSI and ISO drafting standards. The course is developed around current industrial drafting practices and includes instruction in geometric tolerancing, surface texture, weldments, metrication, etc. Prerequisites: IND 101, IND 110, and IND 210. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 315. COMPUTER AIDED DRAFTING (CAD) II. This course is an extension of Computer Aided Drafting (CAD) I and will include more complex problems and procedures in the development of graphic solutions. The use of extended geometry will comprise an important part of the course. Students will gain additional experiences on PC based computer drafting systems. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 215. (3 crs.)

IND 320. ARCHITECTURAL DRAFTING AND DESIGN. Experience is provided in basic residential design. The fundamental sequences in designing and drawing are stressed as the student completes the architectural drawings necessary for the construction of a residence. Elements of the course include architectural styles, area planning, structural detailing, pictorial rendering, building specifications, and cost analysis. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 110. (3 crs.)

IND 330. INDUSTRIAL ELECTRICITY/ELECTRONICS. An investigation into the theory and applications of motors and motor controllers, thyristors, transducers, programmable controllers, microprocessor controllers, servomechanisms, and Robotics. Laboratory experiences include motor identification, motor disassembly and repair, motor testing, control circuitry, and servomechanisms. Class meets for two lecture and four laboratory hours per week. Prerequisites: IND 130 and IND 230. (3 crs.)

IND 332. COMMUNICATION ELECTRONICS. The application of devices and circuits to electronic communications. The major topics include modulation, demodulation, transmission, data transfer, optical techniques, test equipment, and system analysis. Class meets for two lecture and four laboratory hours per week. Prerequisites: IND 230, IND 235. (3 crs.)

IND 335. ADVANCED MICROPROCESSORS. This course deals with advanced concepts in machine language programming. It introduces the world of editors, assemblers, and debuggers. It also covers the advanced architecture of modern microprocessors and their more sophisticated instruction sets and addressing modes. The student will learn to develop hardware and software required to apply microprocessors to real world problems. Class meets for two lecture and four laboratory hours per week. Class meets for two lecture and four laboratory hours per week. Prerequisite: IND 235. (3 crs.)

IND 336. ELECTRONIC SYSTEMS AND PRODUCT DEVELOPMENT. An experience in developing electronic systems and/or products. The student will select a project subject to instructor approval and develop that project to the prototype stage. The student will also verify all performance specifications for the project. Prerequisites: IND 235 and IND 230. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 345. CONSTRUCTION PROCESSES II. A course in construction with an emphasis on residential housing. Instruction and experiences will include aspects of construction such as planning and estimating, personnel and time management, site preparation, footings and foundations, framing and roofing. The safe and intelligent use of tools and materials is stressed. One third class time and two thirds lab time. (3 crs.)

IND 355. WOOD TECHNOLOGY. A study of woodworking providing instruction in furniture and case work. The safe use and care of machines and hand tools is stressed. Emphasis is placed on project planning and design, cost analysis, wood technology, material selection and product development. Students design and produce a project involving operations on basic machines. Class meets for two lecture and four laboratory hours per week. (3 crs.)

IND 365. SPECIAL MACHINE PROCESSING. A special course designed to allow the student to investigate a specific area of interest in the metal machining field. Students interested in taking this course will complete a document identifying the scope of their interest, specifying the activities that will be pursued throughout the semester, and have it approved by the instructor six weeks before the beginning of the class. The student's background in the metal machining processes will be broadened by completing the laboratory experiences outlined in the approved proposal. Class meets for two lecture and four laboratory hours per week. Prerequisites: IND 165 and IND 265. (3 crs.)

ITE - Industrial Technology

ITE 101. INDUSTRIAL SAFETY. An introduction to the fundamentals of safety as well as sound management-oriented practices related to the development of a safe work place. Legal requirements of OSHA and worker's compensation laws are discussed. Students will be able to identify cause of accidents, identify safety hazards, and apply methods of accident prevention. (3 crs.)

ITE 181. MATERIALS TECHNOLOGY I (LAB). A study of the theory and application of materials and materials testing used in a wide variety of industrial applications. Study includes the chemical, physical, mechanical and dimensional properties of metallic materials including ceramics. Sufficient background in general chemistry is included to provide a proper foundation. Course includes two hours of lecture and four hours of laboratory per week. (3 crs.)

ITE 311. INDUSTRIAL ERGONOMICS. An introduction to techniques and procedures for developing and applying the principles of human factors and ergonomics to system design and the systematic analysis, identification and evaluation of human-machine systems. Current advances in practical biomechanics and ergonomics in industry in combating musculoskeletal injury and illness will be discussed. Prerequisite: ITE 101. (3 crs.)

ITE 325. STATICS AND STRENGTH OF MATERIALS (LAB). The study of statics and strength of materials focuses on the pragmatic technologist who needs a better understanding of the fundamentals of mechanics. The statics portion of the course is concerned with parts (bodies) of machines and structures, while the strength portion covers the ability of these individual parts to resist applied loads. Then the technologist will be able to determine the dimensions to ensure sufficient strength of the various industrial materials and manufactured components. Course includes two hours of lecture and four hours of laboratory per week. (3 crs.)

ITE 375. PRINCIPLES OF PRODUCTION. An introduction to the methods used in analyzing the production flow from raw material to the finished product. Topics covered include a study of the major manufacturing processes, materials handling, plant layout, operations analysis, industrial engineering, inventory control and shipping. An overview of the role of production management as it relates to the various areas of industrial environment will be presented. (3 crs.)

ITE 385. INDUSTRIAL COST ESTIMATING. An introduction to the methods used to cost and budget a production organization. Topics include some accounting basics, cost accounting, the time value of money and cost estimating as related to industrial operations. (3 crs.)

ITE 420. PRODUCTION ANALYSIS. A continuation of the principles of production with an emphasis on the calculations associated with production management. Topics include linear programming, scheduling and project management as with pert, simulation and inventory control. Use is made of personal computers for the calculations involved. Prerequisite: ITE 375. (3 crs.)

ITE 445. QUALITY CONTROL. An introduction to the methods used in analyzing quality control. Topics include a study of the fundamentals of statistics and probability, the construction and use of control and attribute charts, the definition and use of acceptance criteria and the use of computers in modern quality control operations. An overview of the role of quality control department of a manufacturing facility will be presented. (3 crs.)

ITE 460. PRINCIPLES OF MANUFACTURING. An introduction to the methods used in manufacturing processes. Topics covered include a study of the manufacturing ability, fabricability, and marketability of manufactured products. Problems encountered by production managers in changing raw materials into a consumable product are discussed. The use of personal computers for the solution of manufacturing problems is included. Prerequisites: ITE 375 and ITE 385. (3 crs.)

ITE 480. PROBLEMS IN INDUSTRIAL TECHNOLOGY (LAB). This is a multidiscipline course that combines the various elements in industrial technology, giving the student the opportunity to study problems typically encountered by an industrial technologist. The exact content of the course will vary depending upon the background and experience of the instructor but it is intended to include problem solving and role playing in a wide variety of industrial settings. Industrial consultants will also be used to expose the student to modern industry. Course includes two hours of lecture and four hours of laboratory per week. Prerequisite: Senior Standing. (3 crs.)

LIT - Literature

LIT courses are introductions to literature, with emphasis on the subject indicated in the title. They are primarily intended for the general student and may not be used to fulfill requirements for the English major.

LIT 111. "STAR TREK" AND MODERN MAN. (3 crs.)

LIT 115. MAN'S VIEW OF GOD. An introduction to the Bible as a chronicle of Hebrew history in light of recent archeological and philological discoveries, to demonstrate how deeply this book has affected the western mind. (3 crs.)

LIT 116. MYTH, MAGIC AND MYSTICISM. The four basic paths into the unknown: magic, mysticism, fantasy, and myth. (3 crs.)

LIT 118. THE AMERICAN HERO. The development of the American hero in fiction, with specific emphasis on the hero's nature, character, and maturation. (3 crs.)

LIT 125. THE AMERICAN WEST. A general introduction to the literature of the Great American West through an examination of a variety of literary types. (3 crs.)

LIT 127. WOMAN AS HERO. An exploration of heroic roles assigned to women in literature, the contrast between reality and the literature, and the differences between fictional women created by male and female authors. An analysis of the reasons for these differences forms part of the subject. (3 crs.)

LIT 130. ATHEISM AND EXISTENTIALISM. (3 crs.)

LIT 138. WAR IN THE NOVEL. A study that limits itself to those wars fought after 1900 and to their treatments in literature. In particular, the course is interested in the effects of war upon individuals, and in the ambivalence toward war shown by novelists. (3 crs.)

LIT 147. SCIENCE FICTION. An introductory survey of the forms of science fiction, with particular emphasis on the author's ability to detail and predict future developments. (3 crs.)

LIT 148. HORROR IN LITERATURE. An examination of the tradition of horror literature in England and America from a literary, historical, and psychological viewpoint. Some emphasis on the sociological implications of the popularity of the form. (3 crs.)

LIT 150. BASEBALL IN LITERATURE. This course requires the student to read, write, and talk about a game that Steinbeck called a "state of mind," a game that is, in the words of Jacques Barzun, a way "to know America." Thus the student that works learns about both himself and his country. (3 crs.)

LIT 160. AMERICAN NATURE WRITERS. An introduction to the best of America's great naturalists emphasizing the development of informed and educated attitudes towards America's natural resources and issues of protection and exploitation. (3 crs.)

LIT 166. SACCO AND VANZETTI. A study of the journalism and literature surrounding one of the twentieth century's most notorious trials. (3 crs.)

LIT 170. ALL ABOUT WORDS. An introduction to the total complexity and fascination of words. The course deals with words as shapes, analogues, formulas, and games. Indirectly, but significantly, it instructs in vocabulary by introducing a sizable vocabulary for talking about words and nurturing a student's natural curiosity about words. (3 crs.)

MAT - Mathematics (including DMA)

DMA 092. INTRODUCTORY ALGEBRA. Designed to aid the student in the transition from arithmetic to algebra. It may be a terminal course for some or may be a preparation for a traditional College Algebra course and topics will include: Operations on integers and polynomials, factoring and linear equations. This course may not be used as a Natural Science elective. This course does not earn credit toward graduation. (3 crs.)

DMA 094. INTERMEDIATE ALGEBRA. Designed for the student who has recently and successfully completed a course covering concepts and skills associated with an Introductory Algebra course. Intermediate Algebra was established to provide the student with further development of the basic essentials of algebra and serve as a bridge to a required college mathematics course such as College Algebra or Technical Mathematics I. Expected topics to be covered: set notation, solving linear equations and related applications, solving linear inequalities, graphs of linear equations, functional notation, solving systems of linear equations, polynomials, rational exponents, radicals, complex numbers, rational expressions, solving quadratic equations. (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; logic. (3 crs.)

MAT 171. MATHEMATICS OF FINANCE I. Simple interest, compound interest, value of money relative to time and interest, discounting, accumulation, mortgage points, annuities, amortization schedules, and equations of value. Prerequisite: MAT 181 or MAT 182 (3 crs.)

MAT 181. COLLEGE ALGEBRA. Fundamental operations; factoring and fractions, exponents and radicals; functions and graphs; equations and inequalities; systems of equations. Prerequisite: MAT 099 or high school algebra. (3 crs.)

MAT 182. TECHNICAL MATHEMATICS I. An introduction to algebraic topics usually covered in a high school algebra course, such as functions, graphs, exponents and radicals, and linear and quadratic equations. Emphasis on technology applications. (3 crs.)

MAT 191. COLLEGE TRIGONOMETRY. Polar coordinates; identities; solving trigonometric equations; functions and inverse functions, complex numbers and logarithms. Prerequisite: The student should have an adequate background in algebra, and some plane geometry is desirable. (3 crs.)

MAT 192. TECHNICAL MATHEMATICS II. An emphasis on trigonometry: trigonometric functions, vectors, graphs of trigonometric functions, exponents and logarithms, and additional topics in trigonometry. Emphasis on technology applications. Prerequisite: MAT 181 or MAT 182. (3 crs.)

MAT 199. PRE–CALCULUS. Fundamental notions (functions, lines, segments, slopes, angle between lines, graphs and equations), conics, algebraic and transcendental curves. (3 crs.)

MAT 201. MATHEMATICAL MODELING. This course provides an introduction to mathematical modeling for majors as well as non-majors. An in-depth study of Discrete Dynamical Systems (DDS) is covered along with an introduction to calculus. The course affords the student an early opportunity to see how the pieces of an applied problem fits together. Using computer technology (simulation and spreadsheet software) the student investigates meaningful and practical problems chosen from many academic disciplines, including mathematical sciences as well as management and life sciences. Prerequisites: CSC 101, MAT 181. (3 crs.)

MAT 203. GEOMETRY. Analysis of axiomatic systems, axiomatic development of elementary Euclidean geometry and non–Euclidean geometry. Prerequisites: MAT 181 and MAT 191, or three years of high school mathematics. (3 crs.)

MAT 215. STATISTICS. For non mathematics majors; not counted toward a mathematics major. Frequency distribution, percentiles, measures of central tendency and variability, normal distribution and curve, populations, samples, sampling distribution of means, sampling distribution of proportion, null and alternative hypotheses, type I and type II errors, tests of means, confidence intervals, decision procedures, correlation, chi–square, simple analysis of variance and design of experiments. Prerequisite: MAT 181. (3 crs.)

MAT 225. BUSINESS STATISTICS. Statistical techniques relevant to business applications. Primary emphasis is placed upon identification of appropriate statistical methods to use, proper interpretation and appropriate presentation of results. Topics include descriptive statistics, probability concepts, the normal probability distribution, estimation techniques, tests of hypotheses, simple and multiple linear regression. Statistical software is used to implement many of the statistical methods. Prerequisite: MAT 181 or MAT 182. (3 crs.)

MAT 271. MATHEMATICS OF FINANCE II. Generalized annuities; bonds, amortization of premiums and accumulation of discount; cash flows; depreciation schedules; comparison of depreciation; net cash flow; rate of return; capitalized cost and annual return; life annuities; life insurance. Prerequisite: MAT 171 (3 crs.)

MAT 272. DISCRETE MATHEMATICS. An introduction to theories and methods of mathematics that are relative to computer science. Topics include: logic, sets, elementary number theory, mathematical induction, combinatorics, relations, digraphs, Boolean matrices, trees. (3 crs.)

MAT 273. BASIC CALCULUS. The techniques of differentiation and integration are covered without the theory of limits and continuity. Applications in business and biological science are considered. Prerequisites: MAT 181 or MAT 182, MAT 191 or MAT 192. (3 crs.)

MAT 281. CALCULUS I. A review of absolute value and inequalities; an introduction to analytic geometry; functions, limits, and continuity; the derivative; applications of the derivative. Prerequisite: MAT 181 or MAT 199 or four years of high school mathematics. (3 crs.)

MAT 282. CALCULUS II. The integral; fundamental theorem of integral calculus; applications of the integral; inverse functions; logarithmic functions; exponential functions; trigonometric functions; hyperbolic functions; techniques of integration. Prerequisite: MAT 281. (3 crs.)

MAT 300. MATHEMATICAL INSIGHTS. A gradual introduction to the basic concepts of logic, set theory, and abstract algebra. The axiomatic structure is emphasized. (3 crs.)

MAT 304. HISTORY OF MATHEMATICS. This course is a historical summary of the development of mathematics. Emphasis will be relating mathematics to the development of world culture and its relationship with all aspects of our culture. The lives and discoveries of many mathematicians are discussed. Methods of incorporating the history of mathematics into high school mathematics courses are a major focus of the course. Prerequisites: MAT 203, MAT 282. (3 crs.)

MAT 305. THEORY OF EQUATIONS. Complex numbers; theorems involving polynomials in one variable; cubic and biquadratic equations; separation of roots, Sturm's theorem, and approximate evaluation of roots. Prerequisite: Junior or Senior standing. (3 crs.)

MAT 341. LINEAR ALGEBRA I. Systems of linear equations and matrices; determinants; vectors in 2–space and 3–space; vector spaces; linear transformations. (3 crs.)

MAT 351. ABSTRACT ALGEBRA I. Fundamental concepts of logic; natural numbers, well–ordering property, induction, elementary concepts of number theory; groups, cosets, Lagrange's theorem, normal sub–groups, factor groups; homomorphism, isomorphism, and related topics including Cayley's theorem, natural hemomorphism, and the three fundamental homomorphism theorems. (3 crs.)

MAT 381. CALCULUS III. Indeterminate forms and improper integrals, polar coordinates and conic sections, infinite series, and the theory of infinite series. Prerequisite: MAT 282. (3 crs.)

MAT 382. CALCULUS IV. Vectors in the plane; vectors in three space; theory or curves and surfaces; the differential calculus and the integral calculus of functions of several variables. Prerequisite: MAT 381. (3 crs.)

MAT 406. DIFFERENTIAL EQUATIONS. Ordinary differential equations and their solutions. The existence and uniqueness of solutions. Various types of differential equations and the techniques for obtaining their solution. Some basic applications, including numerical techniques. Computer solution techniques are discussed. Prerequisite: MAT 282 and MAT 381. (3 crs.)

MAT 441. LINEAR ALGEBRA II. Extends the concepts learned in Linear Algebra I. The content is not fixed, but usually includes the following topics: linear transformations, change–of–bases matrices, representation matrices; inner–product spaces, eigenvalues and eigenvectors, diagonalization. Prerequisite: MAT 341. (3 crs.)

MAT 451. ABSTRACT ALGEBRA II. Study of rings, ideals, quotient rings, integral domains, and fields; ring homomorphisms; polynomial rings, division algorithms, factorization of polynomials, unique factorization, extensions, fundamental theorem; finite fields. Prerequisite: MAT 351. (3 crs.)

MAT 461. STATISTICAL ANALYSIS I. Basic concepts of both discrete and continuous probability theory. The study of random variables, probability distributions, mathematical expectation and a number of significant probability models. Introduction to statistical estimation and hypothesis testing. Prerequisites: MAT 282 (3 crs.)

MAT 462. STATISTICAL ANALYSIS II. Statistical theory and application of statistical estimation techniques and hypothesis testing methods. Simple linear and multiple linear regression models. Statistical techniques are implemented with microcomputer statistical software. Prerequisites: MAT 461. (3 crs.)

MAT 469. HONORS COURSE IN MATHEMATICS. Mathematics majors must, as a prerequisite for this course, have completed 64 credits with a QPA of 3.25 in all work and the permission of the department chair. (3 crs.)

MAT 481. ADVANCED CALCULUS I. Logic and techniques of proof; relations, functions, cardinality, and naive set theory; development of real numbers from natural numbers through topology of the line; convergence and related ideas dealing with functions (sequences and series) including continuity. (3 crs.)

MAT 482. ADVANCED CALCULUS II. Further development of the limit concept pertaining to functions including differentiation and integration along with appropriate theorems and properties; continuation of development of sequences and series including functions. Prerequisite: MAT 481. (3 crs.)

MAT 490. TOPOLOGY. Set theory as applied to topological spaces including the real line; metric spaces. Prerequisite: MAT 351 or MAT 481. (3 crs.)

MAT 495. SEMINAR IN MATHEMATICS. Topics in this course are chosen jointly by the instructor and the student or students involved. Prerequisite: Permission of instructor and chair of the department. (Repeatable for a maximum of 3 crs.)

MGT - Management

MGT 201. PRINCIPLES OF MANAGEMENT. A survey of the theories in the field of management, covering concepts developed by the classical school, the behavioral school, and the management science school. Emphasis is on human factors, but the influences of economics and technological factors are also considered. Prerequisite: PSY 100 or permission of instructor. (3 crs.)

MGT 205. ENTREPRENEURSHIP I: SMALL BUSINESS FUNDAMENTALS. Entrepreneurship and new venture initiation. A study of the development of a business appropriate to the objectives and resources of the individual entrepreneur. This course deals with the initiation of a new business venture rather than the management of ongoing enterprises, and treats new venture formation primarily from the standpoint of the individual entrepreneur rather than that of an established enterprise expanding into a new area. (3 crs.)

MGT 271. COMPUTER APPLICATIONS IN BUSINESS I. An introduction to the basic tools and techniques of software used to solve business problems. This course is taught on a lecture-laboratory basis in which the computer is utilized to present applications of the spreadsheet in business situations. (1 cr.)

MGT 273. COMPUTER APPLICATIONS IN BUSINESS II. A continuation of Computer Applications in Business I with an emphasis on more advanced topics and problem-solving. This course is taught on a lecture-laboratory basis in which the computer is utilized to present applications of the spreadsheet in business situations. (1 cr.)

MGT 301. ORGANIZATIONAL BEHAVIOR. An examination of theories and concepts relating the individual to the organization. The course analyzes the forces which influence behavior within an organization. Prerequisite: MGT 201 Principles of Management or permission of instructor. (3 crs.)

MGT 305. ENTREPRENEURSHIP II: SMALL BUSINESS MANAGEMENT. A management course designed to integrate all business functions at a small business level. Study of the development and management of a business plan appropriate to the objectives and resources of the individual entrepreneur. This course deals with the management of ongoing enterprises. A computer software package is utilized to develop various cases and problems found in the text. Each student develops a business plan in either Retailing Operations, Service Business, or Manufacturing Operations. (3 crs.)

MGT 311. ORGANIZATION THEORY AND DESIGN. Organizations are essential to the way our society operates and permeate and shapes our lives. In addition to being the means for providing goods and services, organizations create the settings in which most people will spend a good part of their lives working either as subordinates or managers or both. This course offers students an understanding of the components that make up an organization, its complexity, its structure and design and the interrelationships that exist among all of its components. Prerequiiste: MGT 201. (3 crs.)

MGT 315. ORGANIZATION DEVELOPMENT AND CHANGE. Change pervades modern society. All organizations exist within a changing environment. To survive and develop, organizations must be able or adapt to these changes and respond to opportunities for growth. Change is also an inherent aspect of management. Managers must understand and manage change if the organization is to thrive and grow. This course is about planned organization change and is designed to introduce the student to the field of organization development, its definition, goals, precedents, emergence, approaches, and current status. Prerequisite: MGT 201. (3 crs.)

MGT 352. HUMAN RESOURCE MANAGEMENT. Decision-making and analyses of major management problems that arise in manpower planning, recruitment, selection, development, compensation, and appraisal of employees in various organizations. Prerequisite: MGT 201. (3 crs.)

MGT 353. COMPENSATION MANAGEMENT. The design, implementation and evaluation of wage and salary packages in both private and public sectors. Prerequisite: MGT 352. (3 crs.)

MGT 362. LABOR RELATIONS. A survey of the many facets of employee–management relations. The course examines the historical, statutory and social bases for modern workplace relationships with emphasis given to the role of organized labor. Prerequisite: Junior level standing or permission of instructor. (3 crs.)

MGT 371. MANAGEMENT INFORMATION SYSTEMS. An introduction to management control systems, which include control of production costs, standard costs, flexible budgets, managed costs, profit centers and capital acquisitions. Prerequisite: MGT 201, CSC 101, and MGT 271. (3 crs.)

MGT 373. COMPUTER BASED MANAGEMENT INFORMATION SYSTEMS. An introduction to the technology, application, and management of computer-based information systems. Topics covered include business computer systems, computer hardware, computer software, data–based management systems, general accounting application, materials control application, management information processing, systems planning, and operations management. The course uses LOTUS 1-2-3. Prerequisites: CSC 101, MGT 371, ACC 202. (3 crs.)

MGT 402. STRATEGIC MANAGEMENT. The integrated decision making of general management. Topics include corporate strategy and implementing corporate strategy. Prerequisites: MGT 201, MKT 301, FIN 301, or permission of instructor. (3 crs.)

MGT 431. INTERNATIONAL BUSINESS MANAGEMENT. The concepts, problems and policies of international business enterprises for managers. Prerequisite: Junior level standing. (3 crs.)

MGT 452. HUMAN RESOURCE STRATEGY AND PLANNING. The human resource is emerging as a significant contingency in organizational strategic plans. Personnel policies and programs as well as the available skills, knowledge, and attitudes can provide particular opportunities or limitations to management . This course examines organizational human resources management from a strategic perspective. The key focus is on exploring HR planning and strategy concepts, developing an understanding of the related analytical tools, and determining how these concepts and tools can be used to enhance an organization's competitive position. (3 crs.)

MGT 492. SMALL BUSINESS INTERNSHIP. A program in which business majors intern with a local firm for a semester. Students draw upon their academic knowledge to aid the local enterprise in its over-all operation. The type and scope of the problems vary with each individual situation. The course is open to students with junior or senior standing who have submitted a formal application, have the recommendation of a faculty member, and have a satisfactory Q.P.A. (Repeatable; Variable crs.; a maximum of 12 credits can be used toward the completion of a baccalaureate degree.)

MKT - Marketing

MKT 222. PRINCIPLES OF SELLING. A study of basic principles of persuasive communications with emphasis on proven, practical selling techniques. Activities include interactive class discussions and video role-playing. Prerequisite: BUS 100. (3 crs.)

MKT 301. PRINCIPLES OF MARKETING. An introduction to basic principles of marketing management. Other topics covered are selecting target markets, developing marketing mixes, functions of marketing management. Prerequisite: ECO 100 or ECO 201, and MGT 201. (3 crs.)

MKT 321. SALES MANAGEMENT. Proven management techniques for remotely located field sales force member, are fully explored. Motivation, evaluation, and control of sales force activities are developed through case presentations and class discussions. Prerequisites: MGT 201, MKT 222. (3 crs.)

MKT 331. RETAILING. A management and marketing analysis of department, discount, specialty and chain stores with special emphasis on location, human resources, merchandising and effective pricing. Prerequisite: BUS 100 recommended. (3 crs.)

MKT 341. MARKETING FOR NON-PROFIT ORGANIZATIONS. A marketing course designed for both business and nonbusiness majors that differentiates between for-profit and not-for-profit organizations, investigates the competitive environment facing nonprofits (e.g., hospitals, churches, charities, colleges, performing artsgroups), and applies research techniques and marketing management tools (product policy, distribution and delivery systems, monetary pricing, and communication strategies) to the nonbusiness entity. (3 crs.)

MKT 351. ADVERTISING MANAGEMENT. A study of the basic components of the advertising mix, establishing media selection techniques, and determining the best vehicles for specific selling and promotional efforts commonly confronting marketing managers today. Prerequisite: MKT 301. (3 crs.)

MKT 402. MARKETING MANAGEMENT. Description and analysis of the nature, strategies and techniques of marketing management. Prerequisite: MKT 301. (3 crs.)

MKT 421. CONSUMER BEHAVIOR. This integrates the disciplines of psychology, anthropology, economics and sociology with marketing to explain, understand, and predict consumer decisions. This is achieved by exploring both the theoretical and practical implications of (1) individual behavior variables such as motivation, learning, perception, personality, and attitudes; (2) group influences such as family, culture, social class and reference group behavior; and (3) consumer decision processes such as cognitive dissonance, brand loyalty, new product adoption and risk reduction. (3 crs.)

MKT. 431. MARKETING RESEARCH. Description of behavioral and statistical tools for designing and implementing research projects. Prerequisites: MKT 301, MAT 225. (3 crs.)

MKT 451. BUSINESS MARKETING. The characteristics of business-to-business marketing are explored and developed focusing on environment, pricing, planning, distribution, evaluation and strategy development for marketing business and industrial products to the professional user or buyer. Prerequisite: MKT 301. (3 crs.)

MKT 501. INTERNATIONAL BUSINESS MARKETING. Upon completion of the course, the student will be able to evaluate and make recommendations and decisions concerning the strategy and tactics of real-life targeting and marketing mix development for both global and country-specific markets. The course will also cover selected elements of international marketing research. (3 crs.)

MTE - Manufacturing Technology

MTE 236. NUMERICAL CONTROL PROGRAMMING I (LAB). An introduction to the procedures for manually programming numerically controlled equipment. Students write programs following a machine format detail, using Cartesian coordinates for motion command and incorporating preparatory and miscellaneous commands necessary to manufacture parts on a machining and turning center. Course includes two hours of lecture and four hours of laboratory per week. (3 crs.)

MTE 250. INTRODUCTION TO AUTOMATION (LAB). This course provides a variety of introductory experiences in industrial automation. Instruction will include theoretical applications as well as practical hands-on laboratory applications in robotics, automatic guided vehicles (AGV's), computer aided drafting (CAD), machine vision, automatic identification, and programmable logic controllers (PLC's). Students learn what automation is, its advantages and disadvantages, and how it is applied. Course includes two hours of lecture and four hours of laboratory per week. (3 crs.)

MTE 265. PROGRAMMABLE CONTROL SYSTEMS (LAB). This course focuses on the use of programmable logic controllers (PLCs) to control industrial sequences. Students are provided with theoretical and hands-on experience in designing, programming, testing and controlled by a PLC. Course includes two hours of lecture and four hours of laboratory per week. (3 crs.)

MTE 268. AUTOMATED SUPPORT SYSTEMS (LAB). This course emphasizes the use of non-robotic types of automation. These types include sensors, automatic guided vehicles (AGVs), machine vision, and automatic identification. Students are provided with theoretical and hands-on experience that will enable them to understand the appropriate application of non-robotic types of automation in industrial situations. Additional topics include artificial intelligence, computer interfacing, connectors, and cables. Course includes two hours of lecture and four hours of laboratory per week. Prerequisite: MTE 250. (3 crs.)

MTE 336. NUMERICAL CONTROL PROGRAMMING II (LAB). The second of two courses in the manual programming of numerically controlled machines. Concentration is placed on continuous path machining of parts using the linear interpretation capability of machines to cut chords of arcs to closely approximate curves. Circular interpolation is studied with the additional word addresses that are necessary. Assignments provide experiences in three axis linear interpolation programming and two axis circular interpolated programming. Course includes two hours of lecture and four hours of laboratory per week. Prerequisite: MTE 236. (3 crs.)

MTE 337. COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (COMPACT II) (LAB). A study of the COMPACT computer language used to produce machine tape instructions for manufacturing parts. Students learn to access and utilize a computer to produce part geometry and direct a machine tool to accomplish a variety of metal machining operations. The graphics capability of BRAVO software will be explored. Course includes two hours of lecture and four hours of laboratory per week. Prerequisite: MTE 236. (3 crs.)

MTE 338. COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (APT) (LAB). An investigation of the APT machine tool language for programming numerically controlled machine tools. Students write APT programs and operate equipment with the produced tapes to manufacture milled and turned parts. Course includes two hours of lecture and four hours of laboratory per week. Prerequisite: MTE 236. (3 crs.)

MTE 350. ROBOTIC SYSTEMS (LAB). This course emphasizes the use of robots in automated applications. Students are provided with theoretical as well as hands-on experience in the design, programming, debugging, setup, and interfacing of industrial robotic applications. Also discussed are servo systems, their operation, components, functions, and application to automated equipment. Course includes two hours of lecture and four hours of laboratory per week. Prerequisite: MTE 250. (3 crs.)

MTE 437. ADVANCED COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (COMPACT II) (LAB). An investigation into the more sophisticated processes of the COMPACT II machine tool programming language. Parts are programmed and manufactured on a CNC milling machine and lathe using the COMPACT II language and the BRAVO3 graphic software. Course includes two hours of lecture and four hours of laboratory per week. Prerequisite: MTE 337. (3 crs.)

MTE 438. ADVANCED COMPUTER PROGRAMMING NUMERICALLY CONTROLLED EQUIPMENT (APT) (LAB). 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. Course includes two hours of lecture and four hours of laboratory per week. Prerequisite: MTE 338. (3 crs.)

MTE 450. APPLICATIONS OF INDUSTRIAL AUTOMATION (LAB). An advanced automation course that incorporates many of the topics of previous courses, but in a more in-depth and integrated manner. The focus is to provide students with the opportunity to learn about automated systems through the planning and implementing of such a system. Students are involved in the design, programming, setup, installation, and troubleshooting of an automated system that includes robots, but may also include an automatic guide vehicle (AGV), machine vision system, programmable logic controllers, bar code scanners, computers, and a computerized numerical control (CNC) machine. Course includes two hours of lecture and four hours of laboratory per week. Prerequisites: MTE 250, MTE 268, and MTE 350. (3 crs.)

MTE 495. MANUFACTURING TECHNOLOGY INTERNSHIP. Student interns are placed with an industrial organization which most nearly approximates their goals for employment. The intent of the internship is to provide students with practical work experience in an environment in which they will be dealing with practical problems requiring real solutions in a relatively short time frame. Advisor and Department Chairperson approval is required before course enrollment. This is a repeatable course and may be taken as follows: Students may take up to six credits. The extra credit may be used as a free elective or for a credit deficiency due to other program changes. Prerequisite: Junior or Senior Standing. (1-6 crs.)

MUS - Music

MUS 100. INTRODUCTION TO MUSIC. Exposes the student to the various historical, analytical and aesthetic elements of music, thereby providing an opportunity to broaden and enrich personal enjoyment. This exposure to music is made through the use of visual aids, audio and video recordings, and concerts. (3 crs.)

MUS 104. VOICE CLASS I. This course is designed for students who want to improve their singing voice as a musically expressive instrument. Breathing, vocal placement, and diction will be emphasized. Attention will also be given to improving sight–singing ability. (3 crs.)

MUS 105. SURVEY OF JAZZ. Covers the historical background of jazz from 1900 to the present, the important artists and ensembles and their contributions to the art form, and analysis of jazz styles and forms via guided listenings to recordings, videos, and attendance at live performances. MUS 100 is strongly recommended prior to enrollment. (3 crs.)

MUS 106. SURVEY OF TWENTIETH CENTURY MUSIC. Assists in a realization and understanding of the impact of modern twentieth century compositional and performance techniques upon the musical heritage of the traditional legitimate music of the past. The student will emerge with a theoretical knowledge of numerous twentieth century musical concepts and techniques, as well as a pertinent vocabulary for their intelligent discussion. Important composers and a descriptive analysis of their works will play a dominant role throughout the course. MUS 100 is strongly recommended prior to enrollment. (3 crs.)

MUS 107. AMERICAN MUSIC. Presents a panoramic view of the musical activities which have occurred in America from Colonial times through the present. Included in this study of American folk, popular and art music are the various aspects of primitive music, psalmody, early opera, and concert life, African and European folk music's influence in America, the singing school, the musical effect of European immigrants, and the roots of jazz and its ramifications. MUS 100 is strongly recommended prior to enrollment. (3 crs.)

MUS 114. VOICE CLASS II. This course is designed for students who have taken Voice I, or have had comparable vocal training and who want to continue to improve their singing voice as a musically expressive instrument. Breathing, vocal placement and proper diction will be emphasized. A more demanding level of vocal literature, commensurate with the student's singing ability will be performed. Attention will also be given to further improvement of sight–singing ability. MUS 104 and MUS 205 are strongly recommended prior to enrollment. (3 crs.)

MUS 115. FUNDAMENTALS OF MUSIC. Provides a knowledge of the fundamentals of music and an ability to execute basic skills, including the study of notation, rhythms and meter signatures, major and minor scales and key signatures, intervals and chords. The reading and executing of basic rhythms and an introduction to piano keyboard is also included. Strongly recommended for Elementary Education students and any others interested in strengthening their knowledge of music fundamentals. (3 crs.)

MUS 196. JAZZ ENSEMBLE. Entrance by interview with Jazz Ensemble Director. Required attendance at rehearsals and all public performances. Membership granted only by audition. (1 cr.)

MUS 203. SURVEY OF THE AMERICAN MUSICAL. This course will present the various historical, cultural, and social elements of the American Musical. This will be accomplished through the use of visual aids, audio recordings, television, video tapes, films, and whenever possible, attendance at live performances. Experts in the field will be utilized as guest lecturers. MUS 100 is strongly recommended prior to enrollment. (3 crs.)

MUS 205. SIGHT SINGING AND EAR TRAINING. This course focuses on the concentrated sight reading of graded melodic, harmonic and rhythmic materials from easy to moderately difficult. Emphasis is placed on intervals and chords and their application in reading melodic contour. Ear training is developed through regular dictation of the above materials. MUS 115 is strongly recommended prior to enrollment. (2 crs.)

MUS 211. KEYBOARD I. For the beginning students interested in achieving facility at the piano. Includes playing of major and minor scales, patterns and fingerings. Chords (I, IV, V) in both major and minor keys followed by their inversions and the common tone chord sequence pattern. A student completing the course should be able to play simple songs by combining melody with chord accompaniment. It is expected that students will be at an entry level in keyboard experience. MUS 115 is strongly recommended prior to enrollment. (3 crs.)

MUS 109 - PRIVATE INSTRUCTION, BRASS I (1 cr.)
MUS 209 - PRIVATE INSTRUCTION, BRASS II (1 cr.)
MUS 309 - PRIVATE INSTRUCTION, BRASS III (1 cr.)
MUS 409 - PRIVATE INSTRUCTION, BRASS IV (1 cr.)

MUS 119 - PRIVATE INSTRUCTION, PIANO I (1 cr.)
MUS 219 - PRIVATE INSTRUCTION, PIANO II (1 cr.)
MUS 319 - PRIVATE INSTRUCTION, PIANO III (1 cr.)
MUS 419 - PRIVATE INSTRUCTION, PIANO IV (1 cr.)

MUS 129 - PRIVATE INSTRUCTION, PERCUSSION I (1 cr.)
MUS 229 - PRIVATE INSTRUCTION, PERCUSSION II (1 cr.)
MUS 329 - PRIVATE INSTRUCTION, PERCUSSION III (1 cr.)
MUS 429 - PRIVATE INSTRUCTION, PERCUSSION IV (1 cr.)

MUS 149 - PRIVATE INSTRUCTION, WOODWINDS I (1 cr.)
MUS 249 - PRIVATE INSTRUCTION, WOODWINDS II (1cr.)
MUS 349 - PRIVATE INSTRUCTION, WOODWINDS III (1cr.)
MUS 449 - PRIVATE INSTRUCTION, WOODWINDS IV (1 cr.)

MUS 159 - PRIVATE INSTRUCTION, VOICE I (1 cr.)
MUS 259 - PRIVATE INSTRUCTION, VOICE II (1 cr.)
MUS 359 - PRIVATE INSTRUCTION, VOICE III (1 cr.)
MUS 459 - PRIVATE INSTRUCTION, VOICE IV (1 cr.)

NUR - Nursing

NUR 101. WOMEN'S HEALTH ISSUES. This course addresses various health care issues, needs and concerns of women. Emphasis is on the biological, developmental, psychological and social concepts related to women's health care. OPEN TO ALL STUDENTS. (3 crs.)

NUR 105. PARENTING: INSIGHTS AND ISSUES. This course examines the challenge of parenthood and effective parenting. Explication of the functions, process and problems of parenting serves as a foundation for discussion of effective parenting skills and behaviors. OPEN TO ALL STUDENTS. (3 crs.)

NUR 120. THE INFORMED HEALTH CONSUMER. This course examines the role of consumer movement and its relationship to the health care delivery system. Emphasis is placed on educating the consumer to knowledgeably and effectively use the health care delivery system. OPEN TO ALL STUDENTS. (3 crs.)

NUR 200. TRANSITIONS IN NURSING. This RN/BSN transition course is designed to assist the registered nurse student in developing and achieving professional goals. Emphasis is on educational trends in nursing, concepts of professionalism, theories of role transition, and culture shock. (3 crs.)

NUR 330. PHILOSOPHY OF PROFESSIONAL NURSING. Focuses on theoretical frameworks for professional nursing practice, including an introduction to the nursing process and general systems theory. Assignments help students develop and apply a personal philosophy of professional nursing, and to independently plan appropriate interventions for multicultural clients of all ages. Prerequisite. BSN Status. (3 crs.)

NUR 350. HEALTH ASSESSMENT. Concepts and skills of history-taking and physical assessment are emphasized, focusing on the variations in approach as well as in findings at different stages of human development. Prerequisite: BSN Status. (3 crs.)

NUR 370. METHODS OF NURSING RESEARCH. Basic concepts and methods related to the research process. Opportunity is provided for the development of critical thinking and decision-making skills needed by the professional nurse to analyze and evaluate research findings for application to practice. Prerequisite. BSN Status. (3 crs.)

NUR 375. LEADERSHIP AND CHANGE IN NURSING. Enhances leadership skills through analysis of theories/concepts and experiential exercises. Practicums provide for application of general systems theory in critical analysis of situations and decision-making within the practice of nursing to meet emerging health needs of consumers. Prerequisite: BSN Status. (6 crs.: 3 crs. Theory, 3 crs. Clinical)

NUR 406. SCHOOL HEALTH NURSING. Examines the role of the school nurse in relation to child health supervision and health education for the schoolage population. Clinical practicum involves preceptorships with school nurses in local districts. Prerequisite: BSN Status. (4 crs.: 3 crs. Theory, 1 cr. Clinical).

NUR 410. RESEARCH UTILIZATION IN NURSING. Differentiates between conducting research and research utilization. Through participation in research utilization activities, students learn to synthesize research-based knowledge into applicable protocols of care and to utilize research on an organizational level. Prerequisite: NUR 370. (2 crs.)

NUR 450. TRENDS AND ISSUES IN NURSING. Analysis of professional nursing as well as bio-ethical issues from historical and contemporary viewpoints with implications for professional nursing practice in the health care delivery system. Prerequisite: BSN Status. (3 crs.)

NUR 470. FAMILY HEALTH NURSING. An introduction to the theory and practice of family nursing. A variety of nursing theories, as well as general systems theory, will provide the basis for serving families as units as well as family subsystems and individual family members. Clinical experiences will focus on home care of families for health promotion, restoration, and/or rehabilitation. Prerequisite: NUR 330 and NUR 350. (6 crs.: 3 crs. Theory, 3 crs. Clinical)

NUR 475. COMMUNITY HEALTH NURSING. Focuses on the synthesis of theories from nursing and the public health sciences with emphasis on improving the health of the community by identifying sub-groups that are at risk. Clinical activities focus primarily on health promotion directed toward a total community or population group. Prerequisite: BSN Status. (6 crs.: 3 crs. Theory, 3 crs. Clinical)

NUR 485. PROFESSIONAL DEVELOPMENT IN NURSING. Examines professional growth from entry into the BSN program to graduation. This capstone course culminates in completion of a professional portfolio. Prerequisite: This course must be taken the final semester in the nursing major. (1 cr.)

PHI - Philosophy

PHI 100. PERSPECTIVES IN PHILOSOPHY. An introduction to such major philosophical issues as the nature of knowledge, reality, religion and morals. (3 crs.)

PHI 115. LOGIC AND LANGUAGE. An introduction of basic principles and techniques for distinguishing correct from incorrect reasoning. (3 crs.)

PHI 200. WORLD RELIGIONS. The study of the seven world religions, including their origins and doctrines. (3 crs.)

PHI 201. HISTORY OF ANCIENT PHILOSOPHY. Study of the pre-Socratic philosophers, Plato, Aristotle, the Stoics, Epicureans, and the Skeptics. (3 crs.)

PHI 206. SIXTEENTH TO EIGHTEENTH CENTURY PHILOSOPHY. From Descartes to Kant; modern philosophy in the wake of the Scientific Revolution and the Reformation. (3 crs.)

PHI 211. FORMAL LOGIC I. Introduction to the syntax and semantics of truth-functional and first-order languages and also to proof theories for such languages. (3 crs.)

PHI 220. ETHICS. An examination of selected ethical systems and their philosophical foundations, with special emphasis on understanding such basic moral concepts as good, right and duty. (3 crs.)

PHI 225. SOCIAL AND POLITICAL PHILOSOPHY. An examination of selected social or political systems and their philosophical foundations. Special emphasis on such basic concepts as natural rights, equality, justice, individual freedom and political authority. (3 crs.)

PHI 231. PHILOSOPHY OF RELIGION. A consideration of the nature of religion, speculations and arguments about the nature and existence of God, the possibility of religious knowledge, claims to religious experience and revelation, the problem of evil, the belief in immortality and the meaning of religious language. (3 crs.)

PHI 247. SCIENCE, TECHNOLOGY, AND SOCIETY. Examines the philosophical issues that stem from the impact that evolving science and technology have on people's beliefs, values, and behavior. (3 crs.)

PHI 270. PHILOSOPHY OF MARXISM. An examination of the basic texts of Marx and Engels and the subsequent development of Marxist Philosophy. Attempts a critical evaluation in light of contemporary political Philosophy. (3 crs.)

PHI 305. MEDIEVAL PHILOSOPHY. Begins with Neo-Platonism and proceeds with such thinkers as Augustine, Eigena, Anselm, Thomas Aquinas, Roger Bacon, Duns Scotus and William of Ockham. (3 crs.)

PHI 370. MEDICAL ETHICS (3 crs.)

PHI 310. NINETEENTH CENTURY PHILOSOPHY. A survey of the development of German idealism after Kant and the voluntaristic reactions to it. Also considers British Empiricism and French Positivism. (3 crs.)

PHI 312. FORMAL LOGIC II. A continuation of PHI 211 Formal Logic I, with emphasis on the meta-theory of truth-functional and first-order languages. It also considers selected topics in the Philosophy of logic and the Philosophy of mathematics. Prerequisite: PHI 211. (3 crs.)

PHI 320. ETHICAL THEORY. An examination of the possibility and nature of ethical knowledge and the meaning of moral discourse. Special consideration is given to contemporary discussions. (3 crs.)

PHI 325. PHILOSOPHY OF SCIENCE. A study of the methods, concepts and presuppositions of scientific inquiry. An attempt is made to understand the historical development of science in the context of various theories of knowledge and reality. (3 crs.)

PHI 335. AESTHETIC THEORY. An examination of the nature and basis of criticism in the fine arts and literature, the nature and function of art, aesthetic standards, the concept of beauty, artistic creativity and the meaning of truth in literature and the arts. (3 crs.)

PHI 370. THE PHILOSOPHY OF LAW. A survey of the debate about the concept of law in the history of Philosophy and an examination of the recent revival of the debate in greater detail. Specific topics include the nature of legal reasoning, the legal enforcement of morality, the problem of responsibility, and the concept of justice. (3 crs.)

PHI 405. EPISTEMOLOGY. An examination of selected theories of knowledge including contemporary discussions. (3 crs.)

PHI 410. METAPHYSICS. Studies general problems and theories concerning the nature of reality. (3 crs.)

PHI 415. PHILOSOPHY OF MIND. An examination of important stages in the philosophical development of the notion of mind. Discusses such contemporary problems as the relation of mind and body and the nature of consciousness, and analyzes such notions as will, emotion, action and memory. (3 crs.)

PHI 426. PHENOMENONOLOGY AND EXISTENTIALISM. A study of the historical background and development of twentieth century European Philosophy, with particular emphasis on such philosophers as Husserl, Heidegger, Sartre and Merleau-Ponty. (3 crs.)

PHI 431. ANALYTIC PHILOSOPHY. An exploration of selected philosophical issues (e.g., knowledge, truth and meaning), utilizing recent work in conceptual and methodological analysis. Though the course is usually problem-oriented, a good deal of the history of recent Anglo-American Philosophy is covered. Recommended prerequisites: PHI 206 and a Logic course. (3 crs.)

PHI 459. TUTORIAL IN PHILOSOPHY. (Variable crs.)

PHI 470. SPECIAL PROBLEMS IN PHILOSOPHY. A discussion of some special problem or issue in Philosophy. (3 crs.)

PHI 490. SEMINAR IN PHILOSOPHY. A discussion of either one prominent philosopher or a movement in philosophy. (3 crs.)

PHS - Physical Science

PHS 117. BASIC PHYSICAL SCIENCE. An elementary, non–laboratory approach to the physical world. Topics may be selected jointly by the students and the instructor. Three class hours each week. (3 crs.)

PHS 125. OBSERVATIONAL ASTRONOMY. This course is designed to present an opportunity to acquire a general understanding of the Night–Time sky as it relates to Astronomy as well as experiences and opportunities for observation. Two class hours each week. (2 crs.)

PHS 135. CHEMISTRY OF MATERIALS. An introduction to the science of chemistry. This course is intended primarily for Graphic Arts Majors. This course shows how chemistry is an integral part of our lives and how it has both solved and created many problems in a modern technological society. Three class hours each week. (3 crs.)

PHS 145. ASTRONOMY. A presentation of methods of investigation and results of astronomical discoveries. Survey of facts and important astronomical theories. Solar system, what is a star, multiple star systems, variable stars and stellar evolution will be discussed. Instruments of the astronomer, telescopes, spectroscopes will be used. Three class hours each week. (3 crs.)

PHY - Physics

PHY 101. COLLEGE PHYSICS I. Introductory Physics. Vectors, mechanics, energy, momentum, conservation principles and oscillatory motion. Three class hours and three laboratory hours each week. Corequisite: MAT 281 (4 crs.)

PHY 121. GENERAL PHYSICS I. An introductory non–calculus course dealing with mechanics and heat. Three class hours and three laboratory hours each week. Functional knowledge of algebra and elementary trigonometry is assumed. (4 crs.)

PHY 122. GENERAL PHYSICS II. An introductory non–calculus course addressing the areas of sound, light and electricity and magnetism. Three class hours and three laboratory hours each week. Prerequisite: PHY 121. (4 crs.)

PHY 202. COLLEGE PHYSICS II. A continuation of College Physics I. Heat and thermodynamics, hydrostatics, waves and acoustics, electricity, magnetism and AC circuits. Three class hours and three laboratory hours each week. Prerequisite: PHY 101. Corequisite: MAT 282. (4 crs.)

PHY 203. COLLEGE PHYSICS III. A continuation of College Physics II. Maxwell's equation and electromagnetic waves, light, atomic and nuclear physics, and special relativity. Some review of material from College Physics I and II. Three class hours and three laboratory hours each week. Prerequisite: PHY 202. Corequisite: MAT 381. (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 equations, and special relativity. Three class hours and three laboratory hours each week. Prerequisite: PHY 202. Corequisite: MAT 381. (4 crs.)

PHY 235. GEOPHYSICS. Primary emphasis is on geophysical prospecting for oil. Particularly focuses on the following prospecting methods: seismic refraction and reflection, gravitational, magnetic, and electrical. Three class hours each week. (3 crs.)

PHY 301. INTERMEDIATE ELECTRICITY AND MAGNETISM. Electric and magnetic fields and energy, the effects of matter on them, circuits, Maxwell's equations, electromagnetic waves. Vector calculus and differential equations used. Prerequisites: PHY 203 and MAT 381. Recommended PHY 221, MAT 382 and MAT 341. Three lecture hours and three laboratory hours each week. (4 crs.)

PHY 331. MODERN PHYSICS I. Relativistic kinematics and dynamics, particle and wave aspects of radiation and particles, the structure of the hydrogen atom, and the many–electron atoms. Quantum mechanics introduced for the first time here. Prerequisites: PHY 203, MAT 381. Three class hours each week. (3 crs.)

PHY 341. MATHEMATICAL METHODS OF PHYSICS I. Vector calculus, Fourier series and integrals, ordinary differential equations, partial differential equations, general series representations of functions and special functions. Prerequisites: PHY 203 and MAT 381. Three class hours each week. (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. Prerequisite: 12 Physics credits. One class hour each week and three laboratory hours each week. (1 cr.)

PHY 495. PHYSICS SEMINAR. An introduction to literature, history, teaching, and research methods in the physical sciences. Prerequisites: Junior standing and at least 19 hours of physics (including College Physics I–II) (1 cr.)

POS - Political Science

POS 100. INTRODUCTION TO POLITICAL SCIENCE. This course is designed to introduce students to key ideas, institutions, processes, and actors in the political world. It is intended to be a general, not detailed, examination, and attempts to encourage understanding, reflection and critical thinking. (3 crs.)

POS 105. AMERICAN GOVERNMENT. This is an introductory course in American government, focusing on the major institutions and processes in the American political system. Topics discussed in the course include separation of powers, checks and balances, civil liberties, political parties, the Congress, the President, the Supreme Court, federalism, and policy–making processes. (3 crs.)

POS 205. MUNICIPAL GOVERNMENT. The organizational forms of municipalities, the process of decision–making and implementation, and proposed solutions to problems of an urban society. (3 crs.)

POS 210. POLITICS OF WESTERN EUROPE. A comparative analysis of the institutions, processes, and policies of the nations of Great Britain, France, and Germany, and how these nations relate to the United States system. Prerequisites: POS 100 and POS 105. (3 crs.)

POS 218. POLITICAL PARTIES, CAMPAIGNS, AND ELECTIONS. The organization and operations of political parties in the United States. Careful attention is given to the methods used by parties in nominating candidates and in conducting campaigns and to the significance of pressure groups, public opinion, and the electorate in our political life. Prerequisite: POS 105. (3 crs.)

POS 219. THE MASS MEDIA AND AMERICAN POLITICS. The interaction of politics and the mass media within American society. Topics include media effects on political socialization, techniques of opinion manipulation, propaganda, press responsibility, public opinion polling, and government control of the media. Special attention is devoted to the use of television as an instrument of communication. 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 conveys an understanding of the significant role played by administration in present–day American government and of the implications of that role for a democratic society. It has the further purpose of providing insight into the specific relationships between administration and the broad political environment from which it arises and in which it operates. Finally, and mainly, the course offers opportunity for consideration of those more specialized and technical factors, such as public organization, public personnel, budgeting, and executive leadership, that are involved in the formulation and administration of public policy. Prerequisites: POS 100, POS 105. (3 crs.)

POS 222. THE ADMINISTRATION OF CRIMINAL JUSTICE IN THE UNITED STATES. The operations of the criminal justice system in the United States. Topics include crime in American, the rule of law, the role of the police, the function of the prosecuting and defense attorneys, criminal courts and trial processes, sentencing, corrections, incarceration, probation and parole. Prerequisite: POS 105. (3 crs.)

POS 228. DEVELOPMENT OF POLITICAL THOUGHT: CLASSICAL AND MEDIEVAL. The basic ideas, values, and methods of the profound political thinkers and philosophers from Classical Greece, Rome, and the Christian Church. Prerequisites: POS 100 and POS 105. (3 crs.)

POS 229. DEVELOPMENT OF POLITICAL THOUGHT: MODERN. A sequel to the questions and approaches raised in POS 228. The major political philosophers from the Renaissance to the beginning of the twentieth century. Prerequisites: POS 100 and POS 105. (3 crs.)

POS 235. STATE AND LOCAL GOVERNMENT. A treatment of the organization, powers, functions, and problem of state and local governmental units. Emphasis is placed on the growing complexity of relationships among the various levels of government as a result of technological developments and the growth of metropolitan areas. (3 crs.)

POS 236. INTRODUCTION TO INTERNATIONAL RELATIONS. A practical and theoretical introduction to a study of systematic patterns in international relations. Includes analysis of rules, instruments, processes, decision–making factors, and conflict resolution. (3 crs.)

POS 237. INTERNATIONAL ORGANIZATIONS. An analysis and evaluation of the United Nations and other international organizations, and of some of the theoretical concepts and practical problems involved. Prerequisite: POS 100 or permission of instructor. (3 crs.)

POS 281. POLITICS OF RUSSIA. Basic components of Russian politics: background history, Marxist ideology, and the historical development of Russian political institutions and practices from the Revolution to the present. Prerequisites: POS 100, POS 105. (3 crs.)

POS 300. INTRODUCTION TO PUBLIC POLICY. Primarily in seminar fashion. Students present and discuss major ideas from assigned readings. Formal lectures are also scheduled when needed to present basic ideas and information. Prerequisite: Any Political Science course or permission of the instructor. (3 crs.)

POS 301. METHODS OF POLITICAL ANALYSIS. A description, analysis, and application of basic research tools in the discipline of Political Science. Prerequisite: POS 101, 105, or permission of the instructor. (3 crs.)

POS 306. CONGRESS. An intensive examination of the legislative problems and procedures of Congress. Students are introduced to such topics as the representational functions of Congress, the role of parties and leaders in Congress, the importance of the committee system, and the forces affecting congressional decision–making. Prerequisite: POS 105 or permission of the instructor. (3 crs.)

POS 307. REVOLUTION. A comparative study of the phenomenon of revolution, encompassing the causes, events, and principal actors in those periods that culminate in the outbreak of violent political change. Prerequisites: POS 100 and POS 105. (3 crs.)

POS 310. THE PRESIDENCY. Intensive study of the American presidency, focusing on personality, organization of the office, use and misuse of power, and policy making. Prerequisite: POS 105 or permission of instructor. (3 crs.)

POS 314. CONSTITUTIONAL LAW: GOVERNMENTAL POWERS. A study of the major provisions of the American Constitution and the growth of American constitutional law based on analysis and discussion of leading judicial decisions. Prerequisite: POS 105 or permission of instructor. (3 crs.)

POS 315. CONSTITUTIONAL LAW: CIVIL LIBERTIES. A study of the development and meaning of the rights and liberties guaranteed to persons under the Constitution of the United States. Special emphasis is placed on the antecedents of and the adoption of the Bill of Rights and a description of the court structure through which the meaning of civil liberties is determined in specific situations. Prerequisite: POS 105 or permission of the instructor. (3 crs.)

POS 316. JUDICIAL PROCESS. Intensive study of the judicial process in the United States and the relationship between the judicial system and the larger American social system. Prerequisite: POS 105 or permission of the instructor. (3 crs.)

POS 320. U. S. FOREIGN POLICY. Policy objectives, patterns of decision–making, and U.S. foreign policy actions. The roles of interest groups, public opinion, Congress, and other external influences in U. S. foreign policy are also examined. Prerequisite: POS 105. (3 crs.)

POS 322. POLITICS OF THE MIDDLE EAST. A comparative analysis of institutions, processes, and politics of Middle Eastern governments and how these have been shaped by international relations of the region. Prerequisite: POS 100. (3 crs.)

POS 323. POLITICS OF LATIN AMERICA. A comparative analysis of institutions, processes, and politics of Latin American countries and how these have been shaped by the international relations of the region. Prerequisite: POS 100. (3 crs.)

POS 325. POLITICS OF ASIA. A comparative analysis of the institutions, processes, and policies of China, Japan, and India and how these nations relate to the system in the United States. Prerequisites: POS 100 and POS 105. (3 crs.)

POS 326. POLITICS OF AFRICA. A comparative analysis of the institutions, processes and politics of selected African nations, and their place in the international arena. (3 crs.)

POS 327. CONTEMPORARY POLITICAL THOUGHT. A general survey of the major political ideas and thinkers of the twentieth century, drawing connections between these ideas and contemporary developments in philosophy, psychology, economics, and sociology. Prerequisites: POS 100 and POS 105. (3 crs.)

POS 329. INTERNSHIP IN POLITICAL SCIENCE. Practical field experience to supplement academic work, developing professional competencies in research and communication skills. (Variable crs.)

POS 330. AMERICAN POLITICAL IDEAS. An advanced course in political theory: the major political ideas and controversies that are associated with the development of American political thought. Prerequisite: Any Political Science course or permission of the instructor. (3 crs.)

POS 335. ADMINISTRATIVE LAW. The legal structure and political environment within federal administrative agencies in the United States that formulate public policy. Emphasis is given to the growth of the administrative state within the United States, the necessity for the delegation of legislative authority to administrative agencies and the need for judicial control of the bureaucracy. Prerequisite: POS 100, POS 105 or permission of the instructor. (3 crs.)

POS 450. SEMINAR IN AMERICAN POLITICS. This seminar, required of all Political Science majors, is designed to provide intensive examination of a specific and narrowly focused area in the field of American politics. The course is research–oriented and consists of individually prepared contributions by all participants, which are discussed and critically appraised by all members of the class. Prerequisite: Students taking this course must be Seniors majoring in Political Science. (3 crs.)

PSY - Psychology

PSY 100. GENERAL PSYCHOLOGY. This course is a general introduction to the scientific study of behavior. It explores topics such as methods of research, physiological development of the individual, learning, motivation, emotions, cognitive processes, sensation, perception, testing, personality, behavior disorders, and individual differences. Experimental research as well as practical application is stressed. (3 crs.)

PSY 205. CHILD PSYCHOLOGY. Age–related changes in social, cognitive, emotional, and physical characteristics. Development from prenatal stages through later childhood is included. Socialization of the child is examined. Prerequisite: PSY 100. (3 crs.)

PSY 206. ADOLESCENT PSYCHOLOGY. Factors that influence the growth and development of adolescents. Emphasis on the relationship among physiological, psychological and sociological factors and theoretical systems used to describe, explain, predict, and work with adolescents. Prerequisite: PSY 100. (3 crs.)

PSY 207. DEVELOPMENTAL PSYCHOLOGY. The patterns of physical, mental, social and emotional development throughout the life span. Prerequisite: PSY 100. (3 crs.)

PSY 208. EDUCATIONAL PSYCHOLOGY. The learning process is examined, with emphasis on learning in school settings. The application of current theories and research findings to classroom situations is stressed. This course examines cognitive development, intelligence, motivation, discipline, behavioral objectives, and measurement and evaluation. Prerequisite: PSY 100. (3 crs.)

PSY 209. INDUSTRIAL PSYCHOLOGY. This course is a comprehensive introduction to the field of Industrial Psychology. It demonstrates the application of psychological principles of behavior to people work conditions. An examination of business and industrial activities and the role a psychologist plays in such activities. A strong emphasis on the practical and every day problems that confront people in the world of work. Prerequisite: PSY 100. (3 crs.)

PSY 211. SOCIAL PSYCHOLOGY. The interaction between the individual and social groups within a cultural context: the individual in a social role, social groups, and social institutions. Prerequisite: PSY 100. (3 crs.)

PSY 215. PSYCHOLOGY OF EXCEPTIONAL CHILDREN. The psychological problems of children who have hearing, speech, mental and personality deficits, and of children who are culturally disadvantaged are explored, as well as characteristics of children of superior ability. A major purpose is to gain a functional understanding of these problems and of the procedures for helping to cope with them. The student is given the opportunity to gain firsthand experience with exceptional children in an observation of a special class in the public schools. Prerequisites: PSY 100, PHY 205 for Psychology Majors, PSY 100 and PSY 205 or PSY 207 for non–Psychology Majors. (3 crs.)

PSY 222. PSYCHOLOGY OF STRESS MANAGEMENT. Source of stress, effects of stress, manifestations of stress and methods of coping with stress will be examined with the focus being on practical application. Prerequisites: PSY 100. (3 crs.)

PSY 225. PSYCHOLOGICAL STATISTICS. This course provides the student with a working knowledge of statistical procedures, and their application to psychological measurement and research in the social and behavioral sciences. A variety of statistical methods, including measures of central tendency, variability, and correlation coefficients, are presented. Hypothesis testing and prediction are also included. The student uses the computer to analyze data and interprets the results generated. The application of statistical procedures to research questions in the fields of behavioral and social sciences is emphasized. Prerequisite: PSY 100, MAT 181 (3 crs.)

PSY 235. PSYCHOLOGY OF LEARNING. The major areas of learning which are focused on are behavioral, (classical conditioning, operant conditioning and observational learning), cognitive and neural networks. In each of these areas study progresses from basic research to applications. Prerequisite: PSY 100. (3 crs.)

PSY 305. PSYCHOLOGY OF PERSONALITY. The essential factors that result in creating individual differences of human behavior. Current theories used to explain the development and structure of personality are presented. The characteristics of the normal and the maladjusted personality are identified, with special concern for developmental patterns. Prerequisite: PSY 100. (3 crs.)

PSY 310. MENTAL HEALTH/PSYCHOLOGY OF ADJUSTMENT. Problems of personality and mechanisms of adjustment, including a study of the origin and resolution of conflicts, and the role of emotion in the patterns of behavior. Prerequisite: PSY 100. (3 crs.)

PSY 311. PSYCHOLOGY OF GENDER ROLES. How gender roles develop, the factors that sustain these roles, and how gender roles influence the daily lives of men and women. Sex differences are viewed from historical, biological, psychological, sociological, and anthropological perspectives. Prerequisite: PSY 100. (3 crs.)

PSY 340. PSYCHOLOGICAL TESTING. The nature and function of measurement in psychology with concentration on test construction problems and procedures and an examination of some typical tests in the fields of intelligence, personality, aptitudes, abilities, and interests. Prerequisites: PSY 100, PSY 225. (3 crs.)

PSY 345. HISTORY AND SYSTEMS OF PSYCHOLOGY. This course explores the evolution of psychological thought starting with its philosophical roots. The major perspectives of psychology explored are Structuralism, Functionalism, Behaviorism, Gestalt, Psychoanalysis, Humanism, and Cognitive. When looking at the impact of central figures in the field, a more inclusive approach will be utilized. Understanding the contextual forces which shaped the discoveries and thinking of the times on the course of the development of psychology as a science is emphasized. 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. Prerequisite: PSY 100. (3 crs.)

PSY 360. EXPERIMENTAL PSYCHOLOGY. This is a survey course emphasizing the design of research strategies for evaluating hypotheses about behavior and the quantitative analysis of research results. The major content areas explored are psychophysics, perception, learning, memory, cognition, individual differences, social influences, environmental and human factors. Each of these content areas will be studied using the statistical and research techniques of scientific psychology. Prerequisite: PSY 100, PSY 225. (3 crs.)

PSY 365. METHODS OF RESEARCH. Hands–on experiences in conducting research and the scientific study of behavior. Students apply a variety of methods to research problems in a number of content areas and are exposed to the research literature in these areas. Also included is instruction in the preparation of a formal research report. Students will be expected to conduct one research study and write one research proposal. Prerequisites: PSY 100, PSY 225, PSY 360. (3 crs.)

PSY 370. INTERVIEWING SKILLS. For students who will soon be seeking employment in an organizational setting, providing knowledge and practical experience in several different and specific types of interviews, especially the selection interview for employment, the career planning interview, exit interview and the performance evaluation interview. Prerequisites: PSY 100, PSY 209. (3 crs.)

PSY 375. PSYCHOPATHOLOGICAL DISORDERS OF CHILDHOOD. This course explores the various psychopathological disorders of childhood. The particular manifestation in children will be discussed for each disorder, with emphasis on the quantitative nature of clinical symptom characteristics as illustrated by case studies. The differentiation between similar diagnoses and symptoms, as well as the relationships between each disorder and other emotional familial problems, will be discussed. Prerequisites: PSY 100, PSY 205. (3 crs.)

PSY 400. ABNORMAL PSYCHOLOGY. A survey of behavior pathology including psychoses, neuroses, and character disorders including drug addiction and psychophysiological disorder together with a general consideration of etiology, treatment, and prognosis. Prerequisites: PSY 100 and 12 credits in Psychology. (3 crs.)

PSY 410. CLINICAL CHILD PSYCHOLOGY. This course is a comprehensive introduction to the field of Clinical Child Psychology. It will explore the major concepts, research findings, and professional issues influencing the practice of Clinical Child Psychology. Prerequisites: PSY 100, PSY 205, PSY 375. (3 crs.)

PSY 411. CLINICAL PSYCHOLOGY I. Designed to aid students to think creatively about the kinds of information and data to be obtained in studying individuals. Seeks to point out some of the problems and procedures which constitute 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, PSY 305, PSY 340, PSY 400, 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, PSY 350, PSY 340, PSY 400, and Senior standing. (3 crs.)

PSY 420. SCHOOL PSYCHOLOGY. This course is a comprehensive overview of the field of school psychology. It will explore issues related to the role and functions of school psychologists including the psychoeducational assessment of children and adolescents, therapeutic interventions for school-age children, consultation, and legal and ethical issues in the practice of school psychology. This course has relevancy for students pursing careers in education as well as for students pursuing careers in psychology. Prerequisite: PSY 100. (3 crs.)

PSY 425. SENIOR THESIS. This course is an opportunity for the student to integrate and synthesize all aspects of their prior collegiate academic experience as it relates to their chosen major of psychology. The student will review research methods and current research literature in an area that is of special interest to them, develop a proposal for further research on an approved project in an area of interest, conduct the research proposed, write a thesis, and present the findings in an appropriate forum. Students will be required to present their work for presentation and defense in a public forum, and will be encouraged to submit the thesis for publication. Prerequisites: PSY 100 and PSY 365 and senior standing. (3 crs.)

PSY 428. ADVANCED INDUSTRIAL PSYCHOLOGY. A more in-depth survey of several important issues considered in PSY 209, including organizational dynamics, psychological evaluations, employee rights laws, worker motivation, training and performance evaluation. Prerequisite: PSY 100, PSY 209, PSY 225 or equivalent. (3 crs.)

PSY 430. PHYSIOLOGICAL PSYCHOLOGY. The relationships between bodily processes and behavior. The relationship between psychological phenomena and the physiological functioning of the organism. Sensation and perception, reflexive behavior, motivation, emotional behavior, and critical functioning. Some laboratory experience is included. Prerequisite: PSY 100. (3 crs.)

PSY 452. CLINICAL PRACTICUM IN PSYCHOLOGY I. Special study in case study methods, psychological testing, and psychopathology. Prerequisites: PSY 100, PSY 340, PSY 400, PSY 411, and permission of the chairperson 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 100, PSY 452 and permission of the chairperson of the department. (3 crs.)

PSY 469. PSYCHOLOGY INTERNSHIPS. Students will be placed with professional psychological agencies off campus. They will integrate, under supervision, what they have academically been studying with the duties and responsibilities assigned to them by practicing psychologists in the field. Eligibility requirements and procedures for application are available at the departmental office. Prerequisite: PSY 100. (Variable crs.: 3–16)

SOC - Sociology

SOC 100. PRINCIPLES OF SOCIOLOGY. This survey course permits students to explore the rich variety of topics studied by sociologists. Central to all the topics are the structures and processes of human interaction. Emphasis is placed on the relationship of natural and social factors in human behavior. Attention also is given to topics such as the meaning and function of culture; the origin, function and characteristics of social institutions; and, the genesis and nature of social pathology. (3 crs.)

SOC 110. ETHNIC, RACIAL AND SEXUAL MINORITIES. Disadvantaged, or powerless, not simply numerical, minorities are studied in terms of their demographic and ecological characteristics. Contemporary issues are studied in historical context. (3 crs.)

SOC 125. MEN, WOMEN AND WORK. Through readings, audio–visual materials, panels and informal student reports, class members investigate the roles of men and women in the existing economic structure, the reasons for these roles and the development of trends and changes in the economic area. Discussion–centered. (3 crs.)

SOC 155. CHARISMATIC LEADERS. The characteristics of charismatic leaders and the methodology used to study this phenomenon are central themes of this course. Discussion–centered classes. (3 crs.)

SOC 165. MODERN FREEDOM MOVEMENTS. The study of social movements in American society. Basic focus is upon social change brought about by social movements. (3 crs.)

SOC 175. CONTEMPORARY WOMEN'S MOVEMENT. An investigation of themes, philosophies, and activists in the current women's movement. (3 crs.)

SOC 205. CONTEMPORARY SOCIAL PROBLEMS. Social issues of popular concern in America today, such as poverty, ecology, violence, and homosexual rights, are discussed and analyzed from a sociological perspective. Attention is not only given to the content of the issues; attention also is given to the place of statistics in data reporting and analysis, what are the objective data used in support of interest group claims, and the use of various theoretical schemes in providing alternative explanations for each issue being a social problem. Prerequisite SOC 100 or the permission of the instructor. (3 crs.)

SOC 210. SOCIAL STRATIFICATION. The student is made more aware of the class, status, and power inequities of our stratified society. Class, caste, and estate systems are compared. Prerequisite: SOC 110. (3 crs.)

SOC 216. SOCIOLOGY OF WORK. Basic patterns of work behavior in American culture. Some emphasis is placed upon career paths and the impact of technological changes upon work. (3 crs.)

SOC 220. THE FAMILY. The institution of the family within the context of American culture. Prerequisite: SOC 100. (3 crs.)

SOC 225. SOCIOLOGY OF AGING. Theoretical and research methodological issues in the sociological study of human aging are considered. Special emphasis is placed upon the interaction of pertinent biological and sociological variables as they relate to a variety of topics, including work, retirement, leisure, institutionalization, and death. Prerequisite: SOC 100. (3 crs.)

SOC 235. URBAN SOCIOLOGY. Focuses on the relationship between the demographics of urbanization and the social-psychological characteristics of urbanism. Determinist, compositional, and sub-cultural theories are compared. Prerequisite: SOC 100. (3 crs.)

SOC 240. SOCIAL INSTITUTIONS. Designed as a descriptive study of the basic institutions of society (particularly family, religion, economic, government, and education), the course uses a cross-cultural and comparative perspective. American institutions form the core of the comparative analysis. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 260. CRIME. Types of criminal behavior, the epidemiology of crime in the United States, the social basis of law, and major etiological forces responsible for lawbreaking. General systems theory is the basic theoretical perspective used in this course. Prerequisite: SOC 100. (3 crs.)

SOC 285. SOCIOLOGY OF SUBSTANCE USE AND ABUSE. The sociology of substance use and abuse, as well as the approaches for treatment. Special emphasis is given to alcohol and the more commonly abused drugs (e.g., nicotine, marijuana, cocaine). The course focuses on the social processes that influence substance abuse and the societal costs and consequences. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 300. SOCIOLOGY OF DEVIANCE. Discusses the various forms of deviant behavior, public responses to such behavior, and the causes of such behavior. Particular attention is given to the interactive processes which result in behavior being labeled as deviant. How the criminal justice system copes with deviant behavior also is considered. (3 crs.)

SOC 305. SYMBOLIC INTERACTIONISM. An in-depth study of one of the major theoretical perspectives in sociology. Its particular relationship with social psychology is considered. Prerequisite: SOC 100. (3 crs.)

SOC 308. SOCIAL SCIENCE RESEARCH METHODS. Course develops the technical and analytical skills necessary for the conduct of social science research. Students will learn what methods are appropriate to various types of research inquires; and, they will learn how to evaluate research reports. (3 crs.)

SOC 310. COLLECTIVE BEHAVIOR. Course is a descriptive and analytical inquiry into the relatively unstructured social responses to social change. War resistance movements, militia movements, stock market panics, popular fads and crazes are among the topics considered. Attention is given to the processes, emergent structures and theoretical explanations associated with various types of collective behavior. Prerequisite: SOC 100 or permission of the instructor. (3 crs.)

SOC 329. SOCIOLOGICAL INTERNSHIP. Designed to supplement the classroom studies of sociology majors with practical field experience, internships provide students not only with additional knowledge and skills but with the opportunity to apply what was learned previously to on site situations. Internships are intended to develop the major's professional competencies in observational, analytical and research skills. (Variable crs.)

SOC 330. RELIGION AS A SOCIAL PHENOMENON. The course is a descriptive and analytic, a scientific, study of religious phenomena. Although the course focuses on religion in American Society, it uses a comparative approach to understand the nature, forms and functions of religion in society. Prerequisite: SOC 100 or the permission of the instructor. (3 crs.)

SOC 370. SOCIOLOGICAL THEORY BUILDING. Intensive study of how theories are constructed with special attention to logic. Logical fallacies and the relation of theories to research hypotheses are discussed in depth. Prerequisite: SOC 100. (3 crs.)

SOC 376. SOCIOLOGICAL THEORY. Considers the historical development of sociological theory, as well as how theories are constructed and used to explain social phenomena. Special attention is given to the understanding and analysis of classical theorists, including Marx, Weber and Durkheim Prerequisite: SOC 100 or the permission of the instructor. (3 crs.)

SOC 495. SEMINAR IN SOCIOLOGY. Capstone course for sociology majors. The seminar will center around a current theme in sociology. Students will be expected to demonstrate the use of major concepts, methods and theories in analyzing the theme. Prerequisite: Sociology major with junior or senior status. (3 crs.)

SOW - Social Work

SOW 150. INTRODUCTION TO SOCIAL WORK. Social, political, economic and historical dimensions of poverty and welfare services in 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 relation 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, as well as minority experience in the rural environment. Sources of prejudice and discrimination and social processes including conflict, segregation, assimilation, accommodation and cooperation. Prerequisite: SOC 100. (3 crs.)

SOW 215. HUMAN GROWTH AND BEHAVIOR I. Foundation knowledge, contribution of studies, research and theory in understanding human development. SOW 215 begins the life cycle from prenatal influence through middle school age. Emphasis is on both normal development/behavior and on differences. Illustrates how diverse groups are affected in their development through the life cycle, with examples from rural experience. . Prerequisites: BIO 103, PSY 100, SOW 150; or permission of instructor. (3 crs.)

SOW 216. HUMAN GROWTH AND BEHAVIOR II. Foundation knowledge, contribution of studies, research and theory in understanding human development. SOW 216 continues the life cycle from adolescence through old age. Emphasis is on both normal development/ behavior and on differences. Illustrates how diverse groups are affected in their development through the life cycle, with examples from rural experience. Prerequisites: SOW 215 or permission of instructor. (3 crs.)

SOW 256. SOCIAL WORK INTERVIEWING. Theory, value, and skill components necessary for effective interviewing with diverse client systems. Communication techniques and personal attributes which enhance problem solving are explored. Demonstration and practice of core skills are thoroughly integrated. Prerequisites: SOW 150, PSY 100, ENG 102. (3 crs.)

SOW 265. JUVENILE DELINQUENCY. Causes, prevention, and treatment of deviancy among youth. Explores impact of sex, race, poverty, urban/rural context, and other social factors on deviance. Examines juvenile court system, its non-adversary role, changing attitudes toward treatment, and questions regarding change. Prerequisite: PSY 100. (3 crs.)

SOW 270. CHILD WELFARE. Welfare of children, rights, policies, problems, and programs. Historical and current practices, working with natural parents, supportive services, substitutes and residential care. Prerequisite: SOW 150 or permission of instructor. (3 crs.)

SOW 295. HISTORY AND PHILOSOPHY OF SOCIAL WELFARE. Historical trends and philosophical perspectives on social welfare programs and policy development. An overview of the relationship of cultural and professional values to social, political and economic institutions, with emphasis on the impact on oppressed and vulnerable client systems. Prerequisite: SOW 150. Recommended: POS 100, ECO 100. (3 crs.)

SOW 296. POVERTY AND RELATED SOCIAL PROBLEMS. Poverty as a dependent and independent variable in its relationship to other social problems and human behavior. Social policy and programs that attempt to respond to the variety of conditions that are both causes and effects of poverty and related behavior will be studied. Prerequisites: SOC 100, PSY 100, SOW 150. (3 crs.)

SOW 302 MICRO PRACTICE METHODS. Assumes that human service workers perform varied tasks with basic skills, attitudes and knowledge, and that their development will increase self awareness with subsequent emergence of a professional self. Students learn problem assessment, caseload management and a variety of counseling theories and interventive strategies with special emphasis on unique characteristics of the rural client. Prerequisite: SOW 215, SOW 256. (3 crs.)

SOW 303. HUMAN SEXUALITY AND SOCIETY. Biological, social and cultural underpinnings of human sexuality, how sexual behavior is learned, individual and societal problems resulting in sexual dysfunction, practice interventions which alleviate individual and collective societal problems. Increase students' level of comfort with own sexuality enabling them as practitioners to address a variety of sexual concerns. Prerequisite: Junior status or permission of instructor. (3 crs.)

SOW 306. SOCIAL WORK IN THE RURAL ENVIRONMENT. This course exposes the undergraduate social work student to the unique problems and social needs of non-metropolitan communities, in particular small towns and rural areas. Students will come to understand the social structure of such communities and the pervasiveness of many social problems, especially poverty. Existent social welfare systems will be examined along with recommendations for program development, resource identification, and social planning. Prerequisites: SOW 216, SOW 295, SOW 302. (3 crs.)

SOW 348. MEZZO PRACTICE METHODS. This course is the third in a four-course practice methods sequence. It builds on the skills developed in Interviewing and Micro Practice Methods, utilizing the ecological approach to assessment and problem-solving. The course covers the history of social group work, the stages of group development, assessment of goals and objectives for groups and families, and the principles and values for intervention and problem solving with groups and families. Prerequisites: SOW 216, SOW 302. (3 crs.)

SOW 349. MACRO PRACTICE METHODS. Macro Practice Methods refer to those skills that enable the generalist social worker to act at an organizational and community level to effect change in larger social systems. These skills encompass planning, organizing, and administrative tasks. Proficiency at the macro level is particularly important for the rural practitioner who may be relatively isolated from other service providers. Through a semester-long class project, students gain "hands on" experience in committee work, program development, action, research, budgeting, and many other specific skills. Prerequisite: SOW 348. (3 crs.)

SOW 350. SOCIAL WORK WITH THE AGING. Development and current status of policies and services related to the elderly, service delivery systems and implication for social work practice concepts for working with the elderly. Prerequisite: SOW 256 or permission of instructor. (3 crs.)

SOW 353. PSYCHOPATHOLOGY FOR SOCIAL WORKERS. Builds on psychosocial study, assessment and treatment introduced in Micro Practice Methods. Acquaints student with DSM-IV-R terminology and its use for generalist social work practice. Explores scope and depth of individual psychopathology, community concerns, prevention and intervention approaches. Prerequisites: SOW 216, SOW 302. (3 crs.)

SOW 366. POLICY ANALYSIS/SERVICE DELIVERY. This course examines the basic process of policy development and helps social work students develop a conceptual framework for analyzing and evaluating policies and their consequences. Students pay particular attention to the impact of social policy on people and human service organizations. Built on an interdisciplinary base (economic, political science, and sociological theories), the course prepares students for policy practice skills taught in Social Change (SOW 370). Prerequisite: SOW 295. (3 crs.)

SOW 370. SOCIAL CHANGE. Social change processes, strategies, reactions to change, the impact of change on social policy and social welfare institutions. Prerequisite: SOW 366. (3 crs.)

SOW 405. SOCIAL WORK RESEARCH METHODS. Social work scientific endeavor presented as a special type of problem-solving and analytical thinking activity. Thrust is toward becoming critical consumers of research reports, fundamentals for evaluating one's professional practice, and understanding critical importance of research as a professional endeavor. Prerequisites: SOW 302, SOW 295. (3 crs.)

SOW 419. SOCIAL WORK PRACTICUM I. Supervised placement in a practice setting under a trained social worker. Application of theoretical knowledge and skills, demonstrating competencies in working with various client systems. Minimum of 480 clock hours. Prerequisites: Permission of the instructor, Advanced Senior standing, SOW 208, SOW 216, SOW 295, SOW 302, SOW 303, SOW 348, and SOW 366. This course must be taken with SOW 420 SOCIAL WORK PRACT II. (6 crs.).

SOW 419-420 SOCIAL WORK PRACTICUM I and II. Supervised placement in a practice setting under a trained social worker. Application of theoretical knowledge and skills, demonstrating competencies in working with various client systems. Minimum of 480 clock hours. Prerequisites: Permission of the instructor, Advanced Senior standing, SOW 208, SOW 216, SOW 295, SOW 302, SOW 303, SOW 348, and SOW 366. This course must be taken with SOW 419 SOCIAL WORK PRACT I. (6 crs.)

SOW 479. HONORS COURSE IN SOCIAL WORK. In-depth study of selected social work topics for students in the Honors Program. Major paper required. Prerequisite: Permission of instructor. (3 crs.)

SOW 495 SEMINAR IN SOCIAL WORK. Selected topics of particular significance or current importance and interest to the social work profession. Prerequisite: Permission of instructor. (Variable crs.)

SPN - Spanish

SPN 101. ELEMENTARY SPANISH I. For the student without previous knowledge of Spanish who wishes to achieve a command of language fundamentals. Acquisition of speech skills in the classroom is reinforced in the language laboratory. Progressively greater emphasis is placed on reading and writing. Three class hours and one hour language laboratory per week. (3 crs.)

SPN 102. ELEMENTARY SPANISH II. A continuation of Spanish 101. Three class hours and one hour language laboratory per week. Prerequisite: SPN 101 or one year of high school Spanish. (3 crs.)

SPN 203. INTERMEDIATE SPANISH I. A review of the essentials of Spanish grammar through intensive oral and written practice to facilitate the use of Spanish grammar and to develop the use of words and expressions accepted throughout the Spanish-speaking world. Three class hours and one hour language laboratory per week. Prerequisites: SPN 101 and SPN 102 or their equivalents. (3 crs.)

SPN 204. INTERMEDIATE SPANISH II. Develops control of the principal structural patterns of the language through dialogue and oral reading, as well as through written exercises based on selected readings. Three class hours and one hour language laboratory per week. Prerequisites: SPN 203. (3 crs.)

Culture courses are taught in English and are intended to satisfy General Education Humanities elective requirements as well as those in the major. One culture course is offered each regular semester.

SPN 205. FOURTEENTH CENTURY SPAIN. This course examines the style of art, literature and music of the 14th century in Spanish culture. This is a period of consolidation, of gradual assimilation of many influences and of significant contributions to western culture. One of the outstanding books in literature, Libro de buen amor, and, in music, Las Huelgas Codex will be studied as well as Ferrer Bassa's murals and Luis Borrassa's three-dimensional works. (3 crs.)

SPN 206. GOLDEN AGE AND BAROQUE. The Golden Age of Spain is a course designed to capture the significance of Spain's reawakening. It describes Lope de Vega's revolutionizing the entire concept of dramatic form; it details Spain's contributions to Western Civilization in the form of great characters like Don Juan and Don Quixote and how they influenced the cultures of the world. (3 crs.)

SPN 207. 1700-MID NINETEENTH CENTURY. This course will examine the style of Peninsular art, literature and music in the 18th and first half of the nineteenth centuries. Members of the House of Bourbon are on the Spanish throne and thereby there is a strong French influence upon artistic expression. This is the Age of Reason and the age of false and dictatorial sophistication of neoclassic standards which ends with the flowering of romanticism. (3 crs.)

SPN 208. GENERATION OF 1898 MODERNISM. This course examines the latter part of the nineteenth century, a time in Spain when a new literary and social awareness was being expressed in the arts. Developments in the arts set the atmosphere in which an entire generation of artists the generation of 1898, as they were referred to, set about the business of representing the heart and soul of Spain. This course closes by examining the work of the intellectuals who brought the Modernismo of Rubin Dario of Nicaragua to Spain. (3 crs.)

SPN 209. TWENTIETH CENTURY SPAIN PART I. In this course we will consider the concept of a generation and two earlier movements in Spanish poetry (Ultraism and Creationism) before dealing with the poetry and the theater of the artists known as the generation of '27. Also, the composers of the Grupo de Madrid, an international film-maker, Luis Bunuel, as well as a very notorious painter, Salvador Dali, will be discussed. (3 crs.)

SPN 210. TWENTIETH CENTURY SPAIN PART II. The explosive growth and rebirth of Spanish culture during the present century, especially the period following the repressive years of the Franco regime, is studied through the works of notable intellectuals and artists such as Salvador Dali, Pablo Picasso and Federico Garcia Lorca. The student is offered a panoramic orientation to the culture of contemporary Spain. (3 crs.)

SPN 213. SPANISH CARIBBEAN. The cultural achievements of contemporary Spanish Caribbeans. It reviews changes in Caribbean societies since the movement de avance (Vanguardism, 1927). A sampling of the countries' art, unique music, architectural styles and folk dances will be presented. (3 crs.)

SPN 240. ORIGINS OF SPANISH CULTURE. The style of art, literature and music of the twelfth and thirteenth centuries in Spain, in which the tendency to recount wars, weddings and conquests is evident. (3 crs.)

SPN 301. ROMANTICISM IN LATIN AMERICA. The style of art, literature and music of nineteenth century in Latin America. Attention will be given to the subordination of form to content, the emphasis given to imagination and emotion which often celebrates nature, and the utilization of common man and freedom of spirit themes. (3 crs.)

SPN 302. MEXICO TWENTIETH CENTURY. The cultural achievements of contemporary Mexicans. Changes in Mexican society since the 1910 revolutions and the concern of Mexican writers with social and political themes. A sampling of the country's art, unique music, architectural styles, murals and folk dances will be presented. (3 crs.)

SPN 303. CONTEMPORARY ARGENTINA. A view of Argentina's cultural tendencies in the twentieth century such as Surrealism, as well as the intellectuals' choice of a simpler expression of reality, surrealism, as well as the existential and neo-natural styles in literature, music and visual arts. (3 crs.)

SPN 311. SPANISH CONVERSATION, COMPOSITION, AND PHONETICS I. Intensive practice in conversation, composition and phonetics, based on modern prose provides models of natural, spontaneous speech, including colloquialisms. Written compositions use orthographic rules. Three class hours and one hour language laboratory per week. Prerequisite: SPN 311. (3 crs.)

SPN 312. SPANISH CONVERSATION, COMPOSITION, AND PHONETICS II. A study of the essential Spanish morphology, syntax, semantics, and linguistics as reflected in some representative authors. Prerequisite: SPN 312. (3 crs.)

SPN 401. ADVANCED COMPOSITION: GRAMMAR AND STYLISTICS. This course is intended to provide an in-depth grammatical analysis of the Spanish language, emphasizing shades of differences in the meaning of words and expressions as used in oral and written expression. (3 crs.)

SPN 405. CERVANTES: DON QUIXOTE. Prerequisite: SPN 321 or SPN 322. (3 crs.)

SPN 416. GOLDEN AGE NOVEL. The major prose works of the Renaissance and Baroque styles are studied: the Pastoral, Chivalric, and Picaresque novels. Prerequisite: SPN 421 or SPN 422. (3 crs.)

SPN 421. SURVEY OF SPANISH LITERATURE. An introduction to the masterpieces of Spanish literature, ranging from Poema de Mio Cid to current authors. Represented will be all of the important Spanish literary genres: narrative poetry (epic and ballad), lyric verse, the short story, and selections from novels and dramas. (3 crs.)

SPN 422. SURVEY OF SPANISH-AMERICAN LITERATURE. A study of representative selections from the Colonial period to the present, with emphasis on the salient characteristics and the distinctive contributions of each literary form in the period or movement under study. (3 crs.)

SPN 444. HISTORY OF THE SPANISH LANGUAGE. A history of the development of modern Spanish, beginning with Vulgar Latin as used in the Iberian peninsula. Attention is given to the impact of political and cultural influences on linguistic development as well as to making comparisons with the evolutionary development of other Romance languages. Prerequisite: Twelve hours of Spanish. (3 crs.)

SPN 450. FOREIGN LANGUAGE COLLOQUIUM IN SPANISH. This course is intended to promote interaction, to stimulate critical thinking, to provide argumentative situations which will develop the student's capacity and ability in oral and written expression. (3 crs.)

SPN 469. STUDIES IN SPANISH LITERATURE. Subject matter to be arranged. Designed for Spanish majors who wish to take additional credits and/or study abroad. Prerequisite: 18 hours of Spanish (Variable crs.)

TED - Technology Education

TED 111. COMMUNICATION SYSTEMS (LAB). This course provides a broad overview of communication systems, specifically, print, acoustic, light, audiovisual and electronic media as they relate to the realm of communications. The student will experience individualized and group laboratory activities in the combined area of generating, assembly, processing, disseminating and assimilating of a communicative message. Course will meet for two hours of lecture and four laboratory hours per week. (3 crs.)

TED 115. MATERIAL PROCESSING (LAB). This laboratory-based course is an introduction to basic types of materials and processes of industry. Students will study and execute a variety of industrial processes including: casting and molding, forming, separating, conditioning, assembling, and finishing. Students will become proficient in processing various industrial materials such as metals, woods, and plastics. This course serves as a foundation for all other laboratory courses which require the processing of materials. Course will meet for two hours of lecture and four laboratory hours per week. (3 crs.)

TED 305. INTRODUCTION TO TECHNOLOGY EDUCATION/ EARLY FIELD EXPERIENCE. A class for all technology education majors; to be taken during the sophomore year. Students study the development of general education in relationship to technology as found in a pluralistic society. Readings and discussions will focus on the taxonomies and systems for technology education, professional organizations, development rates of youth, special needs students, laboratory safety, teacher liability and certification requirements. The technology education major will be required to spend each Friday visiting industrial sites, urban schools and a regular teaching center. Prerequisites: IND 110, TED 111, and TED 115. (3 crs.)

TED 315. CONSTRUCTION SYSTEMS (LAB). Students will develop a basic understanding of the design and behavior of structures. Through laboratory activities, students will learn how structures are designed, why certain materials are used, how structures withstand loads, and the impacts of structures on societal, biological, and technological systems. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: IND 110, TED 111, and TED 115. (3 crs.)

TED 325. MANUFACTURING SYSTEMS (LAB). The class begins with an introduction to manufacturing technology, technical systems, and a look at the historical evolution of manufacturing. Students will examine the organization and management of manufacturing endeavors. Finally, students will explore the various aspects of research and development and will work through the process of identifying, designing, selecting and producing products. This will be done in a production laboratory using current equipment and processes. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: IND 110, TED 111, and TED 115. (3 crs.)

TED 335. TRANSPORTATION SYSTEMS (LAB). This course focuses on developing a basic understanding of the behavior of land, water, air, and space transportation systems. Students engage in problem solving activities to design, produce, test, and analyze transportation systems while studying the technical subsystems of propulsion, structure, suspension, guidance, control, and support. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: IND 110, TED 111, and TED 115. (3 crs.)

TED 425. MANUFACTURING ENTERPRISE (LAB). An advanced study course designed to provide laboratory based applications of a variety of content related to the field of manufacturing. Students will participate in the design and production of a product in a manufacturing enterprise situation which closely parallels the functions of a manufacturing corporation. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: TED 325 or Junior/Senior Status. (3 crs.)

TED 435. TRANSPORTATION RESEARCH & DEVELOPMENT (LAB). This course provides individual and/or small groups of students within a laboratory class the opportunity to conduct a focused investigation of a particular transportation system or subsystem. The nature of this investigation requires direct contact by the student with corporate, university, and governmental libraries, laboratories, and associations. The scope of the research and development problem could relate to local, national, as well as international topics. The time frame of the research could be historical, contemporary, or futuristic. Each student and/or group is required to design, build, operate, and analyze some type of transportation model, prototype, or simulation that demonstrates with precision the essence of the research problem. Portfolio documentation of the progress of the research and development problem is required. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisites: TED 335 and PHY 121. (3 crs.)

TED 450. TEACHING TECHNOLOGY IN THE SECONDARY SCHOOL (LAB). In this course, participants learn to apply pedagogical skills in developing curriculum materials, applying teaching techniques, assessing student achievement and designing laboratory layouts in the systems of communication, construction, manufacturing, transportation and bio-related technologies. Integrating math and science concepts in a technology learning activity is an integral component of the course as students learn to design, produce, use and assess technological systems. Course will meet for two hours of lecture and four laboratory hours per week. Prerequisite: TED 305. (3 crs.)

TED 461. STUDENT TEACHING - TECHNOLOGY EDUCATION. Student teaching is the culminating experience of teacher education majors in the Technology Education curriculum. The student teacher is assigned to and works under the supervision of two different master teachers at two different field locations during the semester. The development and refinement of contemporary pedagogical skills constitute the primary learning purpose for each student teacher. Specific teacher-learning skills which are developed are lesson planning, delivery methods, organizational procedures, class control, laboratory management, safety practices, record keeping, and educational measurement and evaluation. An integral component of the student teaching experience is a weekly practicum. The practicum serves as a means of coordinating activities and interchanging ideas and experiences of the student teachers. (12 crs.)

TED 500. TEACHING TECHNOLOGY IN THE ELEMENTARY SCHOOL. This course is designed for elementary and technology education majors. The primary objective is to develop a perspective of the role of technology as a universal integrator of primary school learning activities. Each student is required to develop a series of technology-based thematic units that integrate the learning of math, science, language arts, geography and history. As part of the development of each thematic unit, each student designs and constructs an elementary level artifact that reinforces all relevant learning concepts. (3 crs.)

TED 310. STUDIES IN COMMUNICATION (1-3 crs.)
TED 330. STUDIES IN TRANSPORTATION (1-3 crs.)
TED 340. STUDIES IN CONSTRUCTION (1-3 crs.)
TED 350. STUDIES IN MANUFACTURING (1-3 crs.)
In independent study courses, 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, special conditions, expected findings, and assessment methods. Students are entitled to a minimum of five hours of individual faculty time per credit. Proposals must receive instructor and department approval before the student registers in the course.

TED 460. HONORS IN COMMUNICATION (1-3 crs.)
TED 465. HONORS STUDY IN CONSTRUCTION (1-3 crs.)
TED 475. HONORS STUDY IN MANUFACTURING (1-3 crs.)
TED 480. HONORS STUDY IN TRANSPORTATION (1-3 crs.)
Honors courses are reserved for those with a 3.0 quality point average or better in the Technology Education curriculum specialty courses taken.

THE - Theatre

THE 100. INTRODUCTION TO THEATRE. A study of the art and craft of theatre from play script 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. Students can expect to participate in classroom performances. (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 International Phonetic Alphabet for correct pronunciation. (3 crs.)

THE 126. MAKEUP. This course covers modeling the face and the body with makeup and with three dimensional prostheses. Historical, character, fantasy, corrective, street, and fashion makeup will be researched and applied. Students with an advanced interest will construct three-dimensional prostheses and hair pieces. (3 crs.)

THE 131. FUNDAMENTALS OF ACTING. An introduction to the basic tools of the actor's craft and personal discipline for the student through the use of acting exercises, sensitivity exercises, theatre games, and improvisation. (3 crs.)

THE 132. BALLET TECHNIQUE I. Introductory instruction in the basic techniques applicable to ballet as practiced in western Europe and in the United States. Basic techniques include barre exercises, port de bras, and center practice with jumps, beats, and turns. This course is only suitable for the student who has no previous experience. (3 crs.)

THE 133. JAZZ TECHNIQUE I. Introductory, entry level experience instruction in the basic techniques applicable to American jazz dance. The focus is on lengthening muscles and developing isolation techniques necessary for most forms of jazz dance. The Luigi Technique which includes standing floor, warm-up/stretch, and center practice jumps, turns, and isolations is studied. (3 crs.)

THE 141. STAGECRAFT I. Introduction to the theory and practice of stagecraft, involving basic set construction, painting, and play reading. Practical experience for students majoring in all performance media (e.g., television, film). (3 crs.)

THE 201. VOICE AND INTERPRETATION. Introduction to the basic vocal and analysis techniques necessary for effective interpretation and presentation of non-dramatic literature; poetry, prose, and narrative literature. (3 crs.)

THE 211. LIGHTING I. The basic theory and practice of lighting for the stage primarily, as well as film, and television. Practical experience for students majoring in performance media (stage, television, film) is stressed. (3 crs.)

THE 225. COSTUME CONSTRUCTION. Basic pattern drafting and sewing techniques applied to the construction of costumes. (3 crs.)

THE 231. INTERMEDIATE ACTING. The development of a personal and useful acting method to develop believable characters for the stage. The acting method is developed through intense scene work that includes character and script analysis. Prerequisite: THE 131 Fundamentals of Acting or permission of instructor. (3 crs.)

THE 232. BALLET TECHNIQUE II. The development of strength and fluidity through an extension of techniques demonstrated in specialized study and drill. Emphasis is placed on quick retention of complex combinations. Further emphasis is placed on center work to develop the student's artistry in the dance form. Prerequisite: THE 132 or permission of instructor. Variable credits are awarded depending on the student's experience and abilities. (1-3 crs., repeatable only for a maximum of 7 credits to count toward graduation.)

THE 233. JAZZ TECHNIQUE II. The development of strength and fluidity through an extension of jazz techniques demonstrated in specialized study and drill. Emphasis is placed on quick retention of complex combinations. Further emphasis is placed on center work to develop the student's artistry in the dance form. Prerequisite: THE 133 or permission of instructor. Variable credits are awarded depending upon student's experience and abilities. (1-3 crs., repeatable only for a maximum of 7 credits to count toward graduation.)

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. This course includes matching the proper plays with the stages of child development. Excellent class for potential teachers, parents and recreational personnel. Prerequisites: ENG 101, ENG 102 are suggested. (3 crs.)

THE 255. PUPPETRY. The planning and production of puppet plays. (3 crs.)

THE 271. SCENE DESIGN I. Introduction to the theories and practice of designing scenery with emphasis on designing for various environments. Prerequisite: THE 141 or permission of instructor. (3 crs.)

THE 300. THEATRE DANCE I. Introductory instruction in the basic techniques applicable to the various dance forms used in the musical theatre. Basic forms include tap, jazz, ballet, ethnic, and modern dance. Choreographic styles originated by Agnes DeMille, Jerome Robbins, Bob Fosse, and Jack Cole will be demonstrated and applied. Prerequisite: THE 232, THE 233 or permission of instructor. (3 crs.)

THE 301. THEATRE DANCE II. The development of strength and fluidity through an extension of techniques demonstrated in specialized study and drill. Emphasis is placed on the principles stressed in Theatre Dance I with the addition of character shoes for the women, and partnering work. . Prerequisite: THE 300 or permission of instructor. Variable credits are awarded depending upon student's experience and abilities. (1-3 crs., repeatable only for a maximum of 7 credits to count toward graduation.)

THE 302. HISTORY OF THEATRE I. The development of theatre from the Classics through the Baroque, including representative plays. Prerequisites: ENG 101, ENG 102 are suggested. (3 crs.)

THE 303. AMERICAN THEATRE HISTORY. A survey of the American theatre from colonial times to the present, including representative plays. (3 crs.)

THE 304. WORLD DRAMA. Classical to 19th century plays (excluding Shakespeare) studied as blueprints for theatrical presentation. Prerequisites: ENG 101, ENG 102 are suggested. (3 crs.)

THE 305. SHAKESPEARE IN THE THEATRE. Representative Shakespearean plays studied as theatrical presentation. Prerequisites: ENG 101, ENG 102 are suggested. (3 crs.)

THE 306. MODERN DRAMA. 19th and 20th century plays studied as blueprints for theatrical presentation. Prerequisites: ENG 101, ENG 102 are suggested. (3 crs.)

THE 308. HISTORY OF COSTUME. A survey of the history of costume in the western world. (3 crs.)

THE 309. READER'S THEATRE. Advanced theory and practice of oral interpretation techniques. Focus moves from solo to group performance and the basic staging techniques of both Reader's Theatre and Chamber Theatre. Prerequisite: THE 201 or COM 224 or permission of instructor. (3 crs.)

THE 311. LIGHTING II. Advanced theory and practice of lighting design for stage, television and film. Practical experience is stressed. Prerequisite: THE 211 or permission of instructor. (3 crs.)

THE 312. HISTORY OF THEATRE II. The development of western theatre from the Baroque to the present, including representative plays. Prerequisites: ENG 101, ENG 102 are suggested. (3 crs.)

THE 320. FUNDAMENTALS OF DIRECTING. The comprehensive study of the director's pre-production planning of a dramatic production for the stage. The directorial analysis of plays and basic fundamentals of composition, picturization, movement, and improvisation with gesture, costume, and properties is studied. The in-class preparation of a complete directorial script of a one act or a cutting from a longer play may be directed as part of a public program of student-directed plays. (3 crs.)

THE 325. COSTUME DESIGN. Basic principles of costume design. Students complete various design projects for specific plays selected from a variety of historical periods. (3 crs.)

THE 328. SCENE PAINTING. The practice of scenery painting for the theatre. Students work with a variety of paints, texturing materials, and application techniques. Particular emphasis is placed on the enlargement of existing art works to a size suitable for stage use. (3 crs.)

THE 331. ADVANCED ACTING. This course challenges the actor's ability to demonstrate a personal and useful acting method through a wide range of textual problems, historical and modern plays and acting styles. Prerequisite: THE 231 or permission of the instructor. (3 crs.)

THE 341. STAGECRAFT II. Advanced practice and principles of scenery and property construction. Practical experience with plastics, metals, drafting, and advanced woodwork is stressed. Prerequisite: THE 141 or permission of instructor. (3 crs.)

THE 371. SCENE DESIGN II. Advanced theory and practice of designing scenery and lighting, with emphasis on designing for various environments. Prerequisite: THE 271 or permission of instructor. (3 crs.)

THE 439. SPECIAL PROBLEMS IN TECHNICAL PRODUCTION. An introduction to the rigor of professional work. This course will acquaint the student with immovable deadlines and budgets in preparation of graduate or professional work. (3 crs.)

THE 350. THEATRE PRACTICUM: ACTING.(Variable crs.)
THE 351. THEATRE PRACTICUM: DANCE. (Variable crs.)
THE 352. THEATRE PRACTICUM: DIRECTING. (Variable crs.)
THE 353. THEATRE PRACTICUM: DESIGN. (Variable crs.)
THE 354. THEATRE PRACTICUM: MANAGEMENT. (Variable crs.)
THE 355. THEATRE PRACTICUM: TECHNICAL DIRECTOR. (Variable crs.)
THE 356. THEATRE PRACTICUM: TECHNICAL PRODUCTION. (Variable crs.)
Theatre Practicum courses are the application of learned skills in specific areas of theatre and dance. Credit is variable to a maximum of five credits per term and a maximum of eighteen to be counted toward graduation. (Variable crs.)

THE 357. THEATRE PRACTICUM: TOURING THEATRE. May be repeated only to a maximum of 10 credits. (Variable crs.)

THE 358. THEATRE PRACTICUM: SUMMER THEATRE. May be repeated only to a maximum of 10 credits. (Variable crs.)

THE 359. THEATRE PRACTICUM: SENIOR THESIS. Special acting, directing, management, and design or technical involvement in a play production. Prerequisite: Senior level only. (3 crs.)

WST - Women's Studies

WST 200. INTRODUCTION TO WOMEN'S STUDIES. An overview of a fast growing multi-disciplinary field, focusing on the effect of gender on human lives, including cultural beliefs about women's nature, abilities, and role; the realities of women's personal family, economic and political lives; and the dynamics of change. Western and especially US materials predominate, but diverse situations of women internationally will be considered. (3 crs.)

WST 300. SELECTED TOPICS IN WOMEN'S STUDIES. Discussion and research on selected topics in women's studies. Topics may be developed on an experimental basis according to the instructor's expertise and student interest. (3 crs.)

WST 400. FEMINIST SCHOLARSHIP AND RESEARCH: A SEMINAR. An exploration of classic and current controversies in feminist theory and the impact of feminist scholarship on the pursuit of knowledge, particularly in terms of method. The emphasis will be on individual research on topics relevant to the student's major field. (3 crs.)

WST 425. PRACTICUM IN WOMEN'S STUDIES. Provides practical experience in women's studies related work. field. In consultation with the advisor, a student may seek placement in such situations as women's centers, shelters, health clinics, political organizations, special interest organizations, or newspapers. Coursework may include individual student-instructor consultations, presentations, reading discussions, guest lectures, field trips, research, and experiential papers. (3 crs.)

XCP - Career Planning

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

XGE - Gerontology

XGE 101. INTRODUCTION TO GERONTOLOGY. An introduction to the field of aging for majors and non-majors. A general overview of the psychosocial, biological, cultural, and behavioral aspects of late life. (3 crs.)

XGE 102. AGING IN AMERICAN SOCIETY. Examination of psychosocial aspects of work, retirement, leisure, institutionalization, and death as experienced in contemporary America. Examination of roles and adjustments in later life. (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 are the Older Americans Act and amendments. Prerequisites: XGE 101. (3 crs.)

XGE 202. MIDDLE YEARS OF LIFE. Multidisciplinary life cycle approach to middle scene. Relationship of middle-age to family, work, and community examined. Adult developmental tasks and stages emphasized. (3 crs.)

XGE 204. BIOLOGY OF AGING. Introduction to biological aspects of aging, both normal and pathological. Studied are age-related changes in the digestive, skin, musculoskeletal, endocrine, and reproductive systems. Prerequisite: XGE 205.(3 crs.)

XGE 205 MEDIA & LIBRARY RESOURCES IN AGING (3 crs.)

XGE 210. GROUP WORK WITH OLDER ADULTS. Focuses on basic principles of group dynamics and information about aging as it applies to group work. Students are introduced to skills and specific techniques required to facilitate groups with older adults in institutional and community based settings. (3 crs.)

XGE 249. AGING AND THE FAMILY. Overview of the theory/ research on families in later life including a synthesis and review of existing literature, identification of research issues and needs, and implications of this information for practitioners, researchers, and family members. (3 crs.)

XGE 289. MINORITY AGING / INSTITUTIONALIZATION. An overview of the theory, research, and policy issues regarding minority aging and institutionalization, and implications of this information for practitioners, researchers, and society. (3 crs.)

XGE 300. HEALTH AND SAFETY IN AGING. Information and experience relative to health assessment, maintenance, and promotion of wellness among older adults. Safety issues for older adults will be presented. (3 crs.)

XGE 320. COUNSELING THE OLDER ADULT. Combines information about the aging process with information and skills practice in counseling intervention. (3 crs.)

XGE 340. ACTIVITIES IN LONG-TERM CARE. Basic principles of therapeutic recreation and activity program planning as it applies to serving older adults in long-term care settings; primarily nursing homes, personal care homes, and adult day care facilities. Students will be introduced to the skills needed to develop and implement a well-balanced activity program. (3 crs.)

XGE 349. SELECTED TOPICS. Roundtable discussions of selected gerontological topics. For students wanting to study either a new topic or a topic in more detail. Topics vary according to students and instructor. Prerequisite: XGE 101. (Variable crs.)

XGE 350. EXERCISE FOR THE ELDERLY. Course provides information and experiences to develop and conduct physical activity programs for the elderly. Activities to maintain and improve health and fitness, and corrective and therapeutic activities are also presented. Prerequisites: XGE 204, HPE 314. (3 crs.)

XGE 369. RURAL AGING. Overview of rural, non-metropolitan areas as they relate to older adults. Course compares rural older adults to their urban metropolitan counterparts. (3 crs.)

XGE 370. NURSING HOMES. Examines nursing homes from historical, medical, managerial, environmental, and psychosocial perspectives. (3 crs.)

XGE 380. ADULT DEVELOPMENT AND AGING. Introduction to psychology of aging. An overview of late life cognitive processes including intelligence, learning, memory, problem solving, and creativity. Examination of adult socialization, personality adjustment, psychopathology, and death. Prerequisites: XGE 101, XGE 102, XGE 204, XGE 205, and junior level standing. (3 crs.)

XGE 439. SEMINAR IN AGING. For advanced Gerontology students to intensively examine and discuss selected aging subjects. Topics chosen by instructor, research paper/project required. Prerequisites: XGE 101, 102, 201, 204, senior standing, and permission of instructor. (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, nursing homes, adult day care centers, independent living facilities, or area agencies on aging. Prerequisites: Permission of instructor and extensive coursework. (Variable crs.)

Louis L. Manderino Library

At the entrance to the university, the Louis L. Manderino Library is one of the most prominent and most important buildings on campus. With more than a quarter million books in open stacks, subscriptions to 1450 newspapers, magazines, journals, and other serial publications, it is first of all the chief and most accessible source of information on any subjects. With a seating capacity of more than 1500, it is also a place to study and to read, whether the reading is required for a course or a term paper, or for browsing or recreational reading. During the fall and spring semesters the library is open 15 hours a day during the week and 9-10 hours a day on weekends. The library is open until midnight the last week of each term. Hours in the summer are dependent upon student enrollment.

VULCAT

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

INFOTRAC SEARCHBANK

INFOTRAC SEARCHBANK, is an Internet resource that students can use to access 1000 full-text magazine and journal articles. This resource is also accessible via telephone modem. In addition, the library also has a local area CD-ROM network that provides access to PSYCLIT, CUMULATIVE INDEX TO NURSING AND ALLIED HEALTH LITERATURE, NEWSPAPER ABSTRACTS, MODERN LANGUAGE ASSOCIATION BIBLIOGRAPHY, EDUCATION INDEX, ERIC, APPLIED SCIENCE AND TECHNOLOGY INDEX, BOOKS IN PRINT PLUS, and BUSINESS PERIODICALS INDEX. Other specialized sources on disc include GROLIER MULTIMEDIA ENCYCLOPEDIA, PC GLOBE, and PC USA. Brief tutorial sessions, on-line help, and individual assistance from reference librarians aid the student who may need additional guidance.

The library also offers such services as a large reference collection, Netscape access to the World Wide Web, photocopiers, a pamphlet file, syllabi for courses offered at the university, computer software, a collection of art slides, a curriculum library for teacher education students, and a media services center with equipment and audiovisual materials plus lamination and binding services. In addition, Manderino Library is an official Federal Government Documents Depository and regularly receives, in hard copy, microform, or CD-ROM format, large number of government documents, such as census data, reports, maps, and the CONGRESSIONAL RECORD. The Documents Librarian will assist with the use of these important resources.

The staff of the Louis L. Manderino Library are "user-friendly" and welcome any suggestions not only for materials to add to the collection but for improvement of services as well.

Technology On Campus

Computing Services Center

The University Computing Services Center is located in the basement of Manderino Library. Staff offices are open Monday through Friday from 8:00 A.M. until 4:00 P.M. User facilities in the World Culture Building are available for student use.

The computer facilities at the University are separated into two distinct functional areas. One area deals with providing computer resources to meet the instructional and research needs of the University, such as student access for coursework and the Manderino Library on-line catalog. The other area deals with providing resources to meet the administrative needs of the University.

Computer Accounts

Students who register for classes automatically have a VMS and Windows/NT computer account created for their use during the semester. There is no charge for the service or for the use of the computer network.

User Information Resources

An Introductory Users' Manual for VMS Users is available for a nominal charge at the information desk in the lobby of the Student Union. This manual is a must for all new or infrequent VMS users. It describes some of the basics to effectively utilize the VMS computers on campus. Included in the guide are instructions on how to log on to the systems, how to use the file editor, and how to compile programs.

There is also an Introductory Internet Guide available at the information desk in the Student Union for a nominal charge. This guide contains the basics to assist the user in getting started in accessing the resources available on the Internet.

In addition, there are several handouts on specific topics available in the Instructional Computing Facility to assist in the use of the computer systems.

Campus Network

University VMS computers and PC laboratories and many campus buildings are connected together via a high-speed local area network. The fiber optic network is comprised of ATM, FDDI and Ethernet technologies. This state-of-the-art network enables system users to share and more easily access computing resources from buildings on campus and the Southpointe Center. The network also provides the capability for distance learning programs.

Computing Services Center Facilities

The VMS computers which service the campus are maintained by the Computing Services Center. The computer system is a VMS-Cluster with a total of 1,172 Megabyte of Memory and approximately 43 Gigabytes of disk storage. Tape processing for system backups and restores is managed using a tape cartridge system. A magnetic tape drive is also available. Printing is accomplished with high speed line printers and laser printers with PostScript capability.

Instructional Computing Facility

The Instructional Computing Facility (ICF) located in the basement of the World Culture building is the main center for student campus network access and general use desktop computing. This facility contains various personal computer systems and printers in the laboratories and classroom. The facility provides access to adaptive technology systems.

Entrance to the ICF is through the University Avenue (west) entrance or via the elevator. Generally, the labs are open seven days a week during fall and spring semesters and five days a week during summer sessions. However, schedules may change and the hours are posted each semester in the ICF and can be requested by calling 938-4335 or by typing HOURS at the system prompt.

Instructional Applications

The University maintains many applications packages in support of instructional computing which are served to the university community from a central location. These applications include statistical packages, word processing systems, spreadsheet and database applications, and computer aided design and drafting. In addition, the university provides World Wide Web browsers for both graphical and text-based Web access.

Other Campus Facilities

Additional campus microcomputer laboratories are located in and operated by various departments on campus including; Industry and Technology, Business and Economics, and Mathematics and Computer Science. The Office of Lifelong Learning developed a microcomputer laboratory. The Southpointe Center provides a laboratory for instructional use. Contact individual departments for specific information about laboratory facilities available for student use.

Teacher Education Computer Lab

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

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

The laboratory facilities are used for formal instruction for the course EDF 301, Computers for Teachers, about one half of each weekday.

During the remainder of the day, until 10:00 p.m., the laboratory is staffed and available to complete assignments for the course, which is required of all Teacher Education majors, or other uses students may have. Other than the inexpensive data disks, there is no cost to students.

English Department Computer Center (EDCC)

The English Department has its own computer center for word processing, desktop publishing, Internet research and distance learning. The EDCC, located in Dixon Hall, consists of a lab classroom with 26 PC-compatible computers, an open lab area with 10 PC-compatible computers, and an additional lab with 10 Macintosh computers. The EDCC classroom is available for various English courses, including Scientific and Technical Writing, Business Writing, Journalism and English Composition I and II. When the EDCC is not being used for teaching, it is available for general student use.

These computers are a part of the university's network, and they can be used to communicate via e-mail, access the Internet and browse the World Wide Web. Currently, the PC-compatible computers facilitate word processing through WordPerfect 5.1 and MS Word 7.0. The Macintosh computers are have MacWrite II and Pro, ClarisWorks, and Super Paint. For desktop publishing, the lab has Windows 95 with MS Office 97, Paint Shop Pro, Calera Wordscan, Aldus Pagemaker 5.0 and a few other graphics conversion utilities for creating Web pages.

For printing, there are four laser printers networked to the computers. Two or three expert student workers are always on hand to assist students and monitor the equipment. The EDCC also has opportunities for work-study jobs for students with a moderate to strong background in word processing or computer science.

The EDCC director is available via e-mail or in person to answer questions about the lab. More information about the EDCC or the English department is available on the department's website at http://www.english.cup.edu.

Student Access Center Computer Lab

Located on the first level of the Natali Student Center, the access center houses a Macintosh Computer Lab.

The computer lab permits student access to a number of computers provided for personal use. The lab is open seven days a week (including evening hours) and remains open twenty-four hours a day during the last weeks of the semester. The Student Association, Inc., supports and maintains the computer lab.

Campus Learning Labs

Mathematics Lab

The following services and resources are offered free in the Mathematics Laboratory in 115 Noss Hall:

1. tutorial support in math and math-related courses
2. video tape tutorials on most algebra topics
3. computer-directed instruction software for many topics
4. math anxiety software and reference books

Success in a math course is achieved by working on assignments as soon as possible after class and by making accomplishments each day. Students who have difficulty with math courses should call 938–5893 to schedule a 30–minute appointment. They should bring attempted homework with them.

The Lab's video tape tutorials are written by one of the authors of the Introductory Algebra text. They are informative to students who need algebra assistance in any course. The tapes, 15-30 minutes long, are available for use in the Math Lab and on overnight sign-out basis.

One hundred fifty computer–directed instruction software disks are available. The disks give two to three screen overviews, three or four worked problems, and three or four practice problems. Software is available for topics from basic mathematics to calculus. Most computer software lessons can be completed in 15 minutes.

Nationally renowned authors claim that half of all college students are math anxious. Many math anxious students have physiological symptoms, including headaches or stomach aches. Students with these symptoms only in math environments should discuss this with a Math Lab tutor or with the Math Lab Director.

The Math Lab is located in 115 Noss Hall, the telephone number is 938-5893.

Reading Clinic

When your reading assignments make you feel as if you are lost in the university jungle, come to the Reading Clinic for a free one–hour tutoring session. Staffed by one faculty member and two graduate assistants, the Clinic teaches techniques to improve reading comprehension and vocabulary.

The Clinic offers help in identifying main ideas, making inferences, drawing conclusions, understanding concepts and facts, test–taking skills and building vocabulary. Students make appointments to work privately with a tutor or schedule an independent lab session that is staff-directed.

The Reading Clinic is housed in the Keystone Building, Room 200A and is open from 9:00 a.m. to 4:00 p.m., Monday through Friday.

Writing Center

The Writing Center is a non-credit English language resource provided by, and administered through, the English department. An integral part of the three-course Composition Program, the Writing Center's main purpose is to assist students at every level and from every academic discipline with their writing projects. Students visit the Writing Center for various types of assistance, including help in getting started on a writing assignment; consultation about thesis, organization and development; assistance with grammar; information about bibliographies and footnotes; and help with proofreading and editing. Proceeding entirely on a one-to-one basis, visitors receive the optimal amount of individual attention from trained tutors who use a collaborative model tutoring method. In this model, tutors function not as authoritarian experts who take over a student's paper in order to "fix it up," but rather as coaches and guides who collaborate with writers in ways that facilitate the process of writers solving their own writing problems and developing their own ideas.

Located on the first floor of Dixon Hall adjacent to the English Department Computer Lab, the Center is open during the regular academic year from 9:00 a.m. to 9:00 p.m., Monday through Thursday, 9:00 a.m. to noon on Friday, and 4:00 p.m. to 9:00 p.m. on Sunday (a variable summer schedule is also offered). In addition, the Center provides on-line tutorial services via its "Virtual Writing Center," accessible at the following URL: http://www.english.cup.edu/wcenter/wcenter.html

At this web site, students can utilize the "Virtual Library," a collection of eight rich links dealing with just about any writing subject imaginable, from scores of grammar handouts, to on-line dictionaries and search engines, to the broad world of publishing and more. In addition, students can receive on-line tutoring assistance with their writing via the OWL (On-line Writing Lab). The OWL allows a writer to electronically pose a question about her writing, or to electronically send a portion of her writing, to which she will receive an e-mail answer or response from one of the Writing Center tutors.

A completely free service, anyone is welcome to walk in, call for an appointment (938-4336), or visit via the Virtual Writing Center.

CARE Project

Services for Students with Learning Disabilities

The CARE Project is the designated provider of services to students with learning disabilities who are enrolled in California University of Pennsylvania. The university is committed to providing services for this population which will increase the prospects for success. Students with learning disabilities have two different levels of service available to them.

Specialized Support Service Program (SSSP)

The Specialized Support Service Program (SSSP) serves a maximum of 40 participants each semester on a fee-for-service basis. A commitment by the student to the required responsibilities and procedures of the SSSP is carried out through a contractual agreement with the participants, parents and CARE staff. All SSSP students must participate in Structured Academic Management Seminars. First semester students attend seminars for a minimum of eight hours per week. Subsequent levels of participation are based on the student's academic performance. The SSSP provides:

* mandatory, supervised study/seminar sessions;
* daily monitoring of academic performance;
* training in recording assignments and grades;
* assistance in task management for immediate and long-term course assignments;
* individual and small group training in implementation of appropriate study skills;
* guidance and training as needed for skills related to independence and self-advocacy (legal and academic responsibilities, accountability, organization);
* word processing equipment and appropriate software;
* progress reports to parents; and
* referral to/liaison with other campus support facilities and departments.

Non-fee accommodations are provided upon request from the student and when supported by the documentation on file with the CARE Project office.

Modified Basic Support Program (MBSP)

The MBSP insures the availability of basic services for all students with learning disabilities enrolled in the university. Non-fee accommodations are provided upon request from the student and when supported by the documentation on file with the CARE Project office.

MBSP participants generally function independently within the university system. The CARE Project staff is available to assist these students in the development of self-advocacy skills as required by the learning disability, e.g., providing assistance with accommodation requests and university procedures and providing information regarding available tutorial centers. Participants may meet with a member of the CARE Project staff in a conference setting if requested.

Additional Information

1. It is the responsibility of the student to self-identify to the CARE Project office regarding the disability.

2. It is the responsibility of the student to provide appropriate documentation to the CARE Project office.

3. Students follow the same California University admission procedures and standards required by the Admissions office. Question regarding California University's admission procedures should be directed to that office at 412/938-4404.

4. Determination of eligibility of services from the CARE Project is a **separate procedure**. Questions regarding CARE Project application, required documentation and subsequent follow-up communications should be directed to the CARE office at Keystone Education Building - Room 110, phone 412/938-5781.
   Applicants may also write to:
   CARE Project
   California University of Pennsylvania
   250 University Avenue - Box 66
   California, Pennsylvania 15419-1398

5. Applicants are encouraged to begin correspondence with the CARE Project **as soon as possible**.
   To facilitate the provision of services, applicants may begin procedures with the CARE Project office at the same time as they begin the admissions procedures with the Admissions office.

Career Services

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

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

Students are encouraged to visit Career Services in the Morgan Learning and Research Center to:

- schedule a session on the computerized guidance sys tem;
- use the career center media, including: videos, audio tapes, and computerized software resources;
- see a staff member about any career issues, including graduate and professional schools;
- attend career workshops, job fairs, and special programs;
- learn about alumni who will discuss their careers;
- investigate cooperative education, internships, and community service opportunities;
- register for undergraduate one-credit JOB READINESS course;
- register for graduate one-credit CAREER TRANSITION SEMINAR course
- make an appointment for a "mock" interview;
- access "Career Connections" Job Hot Line for full-time, part-time, co-op, internships, and seasonal jobs;
- enroll in disc management;
- information guides for resume writing, interviewing, cover letters, and job search;
- get the most up-to-date information on company recruiting visits;
- sign-up for campus interviews and information sessions.

Cooperative Education

Cooperative Education allows students to be employed—whether in business, industry, government, education or service organizations—in paid positions directly related to their academic majors or career plans. Cooperative Education positions are pre-professional, monitored by faculty members, and coordinated by the university. Students may be employed part or full-time, and may choose to work during the fall, spring and/or summer semester. Undergraduates, as well as graduate students, in all academic majors are encouraged to participate provided they meet the eligibility requirements. It is expected that the student's cooperative education experience(s) will span two semesters or summers while enrolled at California.

CO-OP Requirements

- An undergraduate student must first complete 30 credits (Associate's 15; Master's 6).
- Student must have at least a 2.0 overall quality grade point average (3.0 for Master's).
- Students must register for 1 credit Job Readiness Course.

Cooperative Education positions are advertised on the Job Hotline. Students who enroll in Cooperative Education are eligible to apply for advertised positions. Additional information and appointments with members of the Cooperative Education staff are available in the Career Services Department in the Morgan Learning and Research Center.

Visiting Student Program

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

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

Further information may be obtained from the Office of the Provost. Catalogs of the participating institutions may be consulted in the offices of the college deans, or in Manderino Library.

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

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

Public Safety

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

The department consists of professionally trained individuals capable of responding to requests for assistance in routine and emergency situations. The department, a diverse group of police officers, communications, and secretarial staff, provides continuous 24 hour assistance to the university community.

The staff includes a director, assistant director, two shift supervisors and ten additional commissioned police officers who have received training at the Pennsylvania State Police Academy. Three public safety communications officers and one departmental secretary contribute to the operation of the department. Public safety personnel are certified in CPR, basic first aid procedures, and the emergency medical airborne evacuation policy and procedure for transportation of the seriously ill or critically injured.

Additional services offered to university students, faculty, and staff consist of parking and traffic management, criminal investigations, health, fire, and safety surveys, special event planning, accident investigation, and crime prevention information and presentations.

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

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

Character Education Institute

The California University Character Education Institute opened in January 1995, in response to a report from the Pennsylvania State System of Higher Education urging the system's universities to give increased attention to values during the 1990s.

Goals of the Institute

The Character Education Institute has two broad goals:

- To serve as a resource to the university's colleges, departments, and student organizations as they contribute to the moral development of California University students.

- To provide an outreach to local school districts and parents as they influence the moral development of their children.

Services

- The institute maintains a resource center that contains character education curriculum materials, books, journals, newsletters, audio and videotapes, and a clipping file on special subjects; e.g., values in athletics.

These materials are available to university faculty, staff, administrators, and students and to staff and school directors from local school districts.

- The director of the Character Education Institute can provide consultant help to members of the university community as they seek to infuse the school's core values into their areas of responsibility.

- Consultant services are also available to local school districts that want to study formal character education programs.

- Parenting programs are available to local school districts and other organizations concerned with character development.

The Character Education Institute is located in 409 Keystone Education Center, across Third Street from Natali Student Center. To obtain additional information about the California University Character Education Institute, please contact:

Director, Character Education Institute
California University of PA
250 University Avenue
California, PA 15419-1394

Telephone: (412) 938-4500
Fax: (412) 938-4156

University Advancement

The Office of University Advancement develops programs and undertakes activities that promote understanding of, and support for the university's goals. It provides information and services for students, parents of students, alumni, faculty, the business community, regional citizens, the media and donors to the university and the Foundation for California University of Pennsylvania. University Advancement is responsible for alumni relations, public relations, development and public service.

Alumni Relations

The Office of Alumni Relations, located in Old Main under the twin towers, is the liaison between the university and its 37,000 living alumni, who receive copies of *The Cal U Review* (alumni magazine), *The University Viewbook* (the university's annual report), and notices about various special events. The office arranges Move In Day, Homecoming, Alumni Day, and numerous social and cultural programs for alumni both on and off campus. Alumni Relations manages the network of alumni chapters across the nation and works closely with the Alumni Association (see below). In addition, the office of Alumni Relations is home to the Student Ambassadors Program and maintains a toll-free telephone hotline with information changing daily (1-800-4-CAL-NEWS or 938-4507 locally).

Public Relations

The Office of Public Relations, located on the first floor of Dixon Hall, informs the campus community and public at large of the university's activities and news. For example, this department notifies hometown newspapers of student accomplishments. The department also manages university advertising, information on the university web site, produces numerous publications and acts as the media contact.

Foundation for California University of Pennsylvania

The Foundation for California University of Pennsylvania, located on the third floor of South Hall, raises funds from foundations, businesses, alumni, staff, faculty and friends to benefit the university. It undertakes annual fund campaigns, deferred or planned giving programs and capital campaigns. It also administers a fund which loans money to students for travel in the event of family emergency.

Mon Valley Renaissance

Mon Valley Renaissance, located on the first floor of South Hall and various other sites, is the university's unique public service agency which helps foster regional economic development. It helps individuals and businesses through counseling, training, business consulting services and government contracting/export assistance.

Alumni Association

The California University Alumni Association serves California University and its alumni by fostering beneficial relationships among alumni, students and the university. By awarding scholarships, it also encourages outstanding academic and extracurricular achievement by undergraduate and graduate students.

The university's alumni have been organized since 1939. Today, nearly 37,000 graduates and numerous former students are members of the Association. A board comprised of three classes of alumni directors is elected for three-year terms. The board officers work closely with the University's President and the Office of Alumni Relations.

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 and Services, 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 program is personalization of the university experience, with concern for not only individual intellectual development but for personal, social, and physical development as well.

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

Opportunities for work-study jobs, graduate assistantships, internships, and volunteer work assignments are available for qualified students. Check with the various offices or departments to inquire about openings. This can be an opportunity to enhance curriculum studies.

A directory of Student Development and Services staff may be found at the end of said department's listings in this catalog.

Student Development and Services provides services to students in the following areas:

- Activities
- Athletics
- Campus Ministry
- Commuter Center
- Dining Service
- Drug/Alcohol Program (CHOICES)
- Health Center
- Housing
- Judical Affairs
- Media/Publications
- Residence Hall Programming
- Student Government
- Summer Camps/Conferencing
- Veterans Affairs
- Adult Learners
- Bookstore
- Co-curricular courses
- Counseling Center
- Disabled Student Services
- Greek Life
- Herron Rec and Fitness Center
- International Students
- Leadership Development
- Minority Affairs
- Student Association, Inc.
- Study Around The World
- Women's Center
- Wellness/Awareness

Student Association, Inc.

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

Programs provided by the Student Association, Inc., are determined by the student congress and by the Student Association, Inc., board of directors. Student Association fees are budgeted, appropriated, disbursed and accounted for by SAI with the concurrence of the president of the university.

SAI coordinates the co–curricular activities provided by the university, including homecoming, Roadman University Park, concerts, plays, musical productions, movies, outdoor recreation, the Herron Recreation and Fitness Center, intramural sports, dances, picnics, California University Television (CUTV), WVCS Radio, and other special events. Intercollegiate athletics are partially funded by SAI. In addition, SAI coordinates the activities of student clubs and organizations. The student handbook provides a complete listing of active student clubs and organizations.

Publications coordinated by SAI include a student handbook, an organizational handbook, *The California Times* (the student newspaper), *Monocal* (the yearbook), and a number of brochures and pamphlets.

SAI is responsible for the development and maintenance of the George H. Roadman University Park, a 104-acre area located one mile from campus on Route 88 South. Facilities include tennis courts, baseball, football, soccer, softball, rugby, and intramural fields; picnic areas and Adamson Stadium.

Co-curricular Courses

Student Development and Services and the Student Association, Inc. are responsible for the administration of a number of co-curricular (CCU) courses. Check the course descriptions in this catalog for more information.

Student Congress

Student congress is the official student governing body. It represents and serves the entire student population. It provides for a student forum, establishes channels for the communication of students' concerns to the proper administrative and faculty personnel, implements programs and activities that enrich campus life, and creates opportunities for students to exercise and develop leadership skills. Student congress may be taken as a co-curricular (CCU) course.

Student Activities Board (SAB)

Many diverse forms of cultural and contemporary entertainment are offered to our students primarily through the Student Activities Board (SAB.) This organization is composed entirely of full-time students who meet weekly to view and discuss the possibilities of hosting different entertainment acts on this campus. The type of acts that SAB sponsors or co-sponsors with other university organizations include: the weekly movies shown in the Vulcan Theatre, the series of events surrounding our Homecoming Theme, the spring "Jazz Experience" celebration, The Reed Arts Center Gallery Exhibits and many others. In addition, SAB sponsors and co-sponsors several off-campus trips to several Pittsburgh sporting events, performances at the Pittsburgh Public theatre and opportunities to see national and local recording artists in concert venues in the Pittsburgh area.

To find out more about SAB, the types of entertainment they provide, and how you can become a member call 938-4303 or stop by their office located on the third floor of the Natali Student Center.

Housing

The university provides residence hall accommodations for approximately 1300 students in six separate facilities.

Women reside in Clyde Hall and Stanley Hall; men reside in Longanecker Hall and McCloskey Hall. Men and women are accommodated on separate floors of Binns Hall and Johnson Hall. Johnson has been designated the "Cal Hall" honors hall.

Application for Housing

First-time freshman students are required by the university to live in the residence halls for the first two semesters of their college career with the following general exceptions:

1. students commuting from the residence of their parents or legal guardians,
2. married students,
3. students who are 21 years of age or older by the date of registration.

Freshmen and transfers who indicate the need for on–campus housing receive application forms with their acceptance letter. On–campus housing is at a premium and there are a limited number of spaces available. Freshmen are given priority as long as available space exists. Students are encouraged to apply no later than May 1.

Upper–class students interested in on-campus housing should contact the housing office in Johnson Residence Hall.

Mailing address is:

Residential Facilities Office
Johnson Residence Hall - Box 39
250 University Avenue
California University of Pennsylvania
California, PA 15419-1394

Upper-class students are given specific instructions for securing a space in the residence halls for the fall semester. The instructions and the contract are distributed in the halls during the spring semester. An upper-class housing fair is conducted in April. The university retains the right to assign all students to certain residence halls, floors and roommates in the best interests of the university.

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

Room Deposit

An advance room deposit of $100* is required with the housing contract in order to reserve a room for the following academic year. The deposit is held in the student's account and applied toward the spring semester. First–year students who wish to reside in a residence hall will receive a housing contract with their admissions packet. The contract and card must be signed and returned to the Bursar's Office, 250 University Avenue, California University of Pennsylvania, with the $100 deposit.

Upper–class students will receive specific instructions on obtaining a housing contract are available from the Director of Housing, Residential Facilities Office, Johnson Residence Hall. Schedules and deadlines for housing contracts are posted for each academic year. Withdrawal from the contract will result in partial or total forfeiture of the deposit. In addition, the student may be held liable for that semester's room and board charges.

*Student who experience difficulty paying this advance deposit should contact the Housing office.

Damage Charges

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

Residence Life

Each university residence hall is supervised by a staff which is headed by a residence hall director who lives in the residence hall. Residence hall directors are readily available to students who may request direction or assistance. The director, with the assistance of graduate assistants and undergraduate resident assistants, has charge of the residence facility, including programming activities. A detailed description of the university's residence life program, residence facilities, and residence hall rules and regulations is included in the Residence Life Handbook.

Specialty Housing

Residence Life offers students the option to live in a wellness community made up of students who philosophically share a concern for personal health issues. Although possession or consumption of alcohol and drugs on state property is not permitted, students who abstain from the use of tobacco, alcohol or other chemical substances may request a space in one of these areas. Please check the front of the housing card to make this request and return all information as early as possible to ensure the best chance of your request being honored.

An academic leadership area is also available in Johnson Residence Hall. This area is offered to students who have completed 24 semester hours at California University, have maintained a minimum grade point average of 3.0 or better and demonstrate leadership potential. Selection for residency in this area is competitive and depends on the number of students who qualify. In addition to the grade point average requirement, other eligibility criteria will be used including a possible interview. All rooms are wired with fiber optic computer hookup and each floor in Johnson Hall has a computer lab.

Residence Life also offers students the opportunity to live in other designated specialty housing. Those requesting an assignment to a specialty housing area would reside in a community of students who share a common interest in a variety of student organizations such as Greek letter affiliations, athletics, band, choir or clubs and organizations. Any group of students interested in living together can follow a simple procedure to secure a location in the residence halls. Please indicate your desire to live in a special housing area on the front of the housing card under the special interest section. All contracts received by the April deadline will be reviewed and those groups and organizations that have shown a desire to live together will be contacted for further details concerning their specific housing needs.

Fiber Optics

Residence Life is in the process of having each residence room wired for direct access to the university mainframe system via fiber optic connections. This will allow residence hall students to access e-mail, library information and the internet from their rooms. There are hardware requirements and special instructions for requesting an interface card to be installed in computers to gain access to the system. Residents of buildings not yet wired with fiber optic connections may still access the system via modem. Contact the Residence Life office in Johnson Hall for further details.

Evening Tutoring Program

In cooperation with the Academic Services department, an evening tutoring program is available in three of the residence halls. This program is available to all students. A detailed schedule of evening tutor sites and hours is posted throughout the campus each semester.

Residence Life Support Services Program

The initial objective of the Residence Life Support Services Program is to assist new students with the transition from home to college. The voluntary "Buddy Program" matches a new student with a well-adjusted upper-class resident student in the same residence hall in order to assist in the transition. The upper-class mentor is available to guide, direct, encourage and support the new student throughout the first year. The Residence Life Support Services Center in Stanley Hall is available to assist students in finding university support programs suited for the individual's needs.

Off-campus housing

The primary consideration of off-campus housing is to help the student secure safe, appropriate housing and to educate the student about this endeavor.

The principle goals of the off-campus housing office are:

- to provide a "base of operation" for securing off-campus housing.
- to assist in securing off-campus housing and to promote responsible landlord/tenant/community relations.
- to promote the safety and welfare of all students residing in off-campus housing.
- to ensure that students have useful resource materials at their disposal.
- to provide effective communication between the university, area officials and the community about off-campus housing issues.
- to expand programs to include campus/community/civic service and volunteerism within the off-campus student community.
- to ensure that the rights of individuals with disabilities are upheld in relation to off-campus living and accommodations.

Our on-going objective is to educate and promote the safety and welfare of all students residing in off-campus housing facilities.

University Off-Campus Housing Disclaimer

The information contained in the off-campus housing list is provided as a service to students. The data collected or transcribed may at times be inaccurate. The university, its employees, or the students are not responsible for any claims or damages that may be incurred. The Off-Campus Housing and Affairs Office makes no warranty of the conditions, terms, prices or other information contained therein. This information is to be used as a guide to help students locate off-campus housing and is not to be taken as approved or sanctioned off-campus housing. This does not create an enforceable obligation to any party from California University of Pennsylvania, the Pennsylvania State System of Higher Education, or the students of California University.

CalCard - The University ID Card

The CalCard is both a campus identification card *and* a convenient and safe way to make purchases and use services on campus. The CalCard is available to all California University of Pennsylvania students, faculty, staff and eligible guests.

The CalCard comes ready to use, preprogrammed with basic services, and then enhanced based on your needs. To begin using the deposit accounts, simply make an initial deposit at the Bursar's Office.

CalCard Services

Manderino Library - The CalCard is the key to checking out materials at Manderino Library. This basic service is included on every CalCard.

Tickets* - Cal U students receive free admission to all home intercollegiate sporting events. Faculty, staff and Southpointe students who purchase season tickets will use their CalCard to gain admission to these events.

Fitness Center* - Cal U students receive unlimited access to the Herron Recreation and Fitness Center. Faculty, staff, alumni, and Southpointe students who have purchased a membership, will use their CalCard to gain admission to the fitness center.

Entertainment* - Cal U students receive free admission to most entertainment events sponsored by the Student Association, Inc. Your CalCard will provide free admission to the Vulcan Theater, Comedy Roundup, Underground Cafe, as well as dozens of other events each semester.

AAA - Part of the basic service of each student CalCard is the AAA - roadside assistance program. Under this program, Cal U students can receive free limited roadside assistance from AAA. To use this feature, simply call the toll free number on the back of your CalCard.

*Students matriculated at Cal U Southpointe Center must purchase membership or tickets for recreational and entertainment events on campus.

CalCard Accounts

CalCard works like a credit card in that you don't have to carry cash. But it's better than a credit card because you deposit money in your account *in advance* so you don't have to worry about paying a bill at the end of the month. Finance charges are eliminated.

CalCard works like a checking account in that your accounts are debited each time you make a purchase. But it's better than a checking account because you don't have to carry your checkbook, replace checks, or carry several forms of identification for check approval.

Meal - Everyone enrolled in a meal plan will use the CalCard to pay for their meals. Whether eating at Gallagher Dining Hall, or using the meal equivalency at the Patio Grille, or the Food Court, just give your CalCard to the cashier. Your **Meal** account is automatically reduced by one meal. Everyone enrolled in a meal plan will automatically receive a **Dine** account with an amount of $100 or $200 depending on the meal plan purchased.

Dine - Opening a declining balance **Dine** account is as simple as making a deposit or transferring funds from your master **Shop** account. This expands eating options to include the Bag It convenience store. Your **Dine** account can be used to pay for food at Gallagher Dining Hall, Patio Grille, the Gold Rush Room, and the Washington Food Court.

Shop - A CalCard **Shop** account is your master debit account and it allows for the purchase of items and services. This debit account is opened by making an initial deposit. Use your **Shop** account to purchase textbooks and other merchandise in the Cal U Bookstore, food from any campus location including Gallagher Dining Hall, and snacks from vending machines. You can also use your CalCard to operate laundry and copy machines, pay parking tickets, purchase postage stamps and pay overdue book fines and lab fees.

Vend - Once you have deposited money in your **Shop** account, you can begin to make purchases from various machines located on campus. These machines include most food vending and beverage machines, Manderino Library copy machines and circulation printers, and all laundry machines.

Dining Services

The goal of University Dining Services is to provide a quality, cost effective, innovative dining program for students living on and off campus. The university encourages student involvement and awareness to help provide quality, nutritious meals at a reasonable cost. The dining halls provide an important environment for student interaction and socialization.

Do you want an all-you-can-eat, one-price-at-the-door option? Gallagher Dining Hall offers something for everyone, and even provides take-out. Are you looking for fast food with friends between classes? The staff at Herron Patio and the Washington Food Court aim to please. What about an early morning bagel, gourmet coffee or late night munchie? The convenience store provides those items, and much more. Interested in a formal lunch with faculty and staff? Try the dining room buffet in the Gold Rush Room, Natali Student Center. Need advice on special dietary concerns? The management team at Gallagher Dining Hall provides dietary services for all your needs.

Students living in the residence hall have the opportunity to choose from three meal plans:

Plan A: 19 meal plan with $100 Dine dollars.
Plan B: 14 meal plan with $100 Dine dollars.
Plan C: 10 meal plan with $200 Dine dollars.

Commuters may choose from the three meal plans above, or select from the following additional options offered specifically to meet the needs of the busy off-campus resident:

Plan D: 5 meal plan with $200 Dine dollars.
Plan E: Dine dollars-only plan, with initial minimum balance of $50 Dine dollars.

All students who live in a university residence hall are required to accept assignment to the meal program. The off-campus and commuter plans are for one full semester and may not be terminated. Dine dollars are included in each meal package and are non-refundable. The meal package refund policy for students who withdraw from the university is based on the Refund/Repayment Schedule published by the bursar's office under the refund section of this catalog. A detailed dining service brochure may be obtained from the assistant dean for student services, Natali Student Center, (412) 938-4303, ext. 202.

Commuter Center and Services

Commuter students comprise nearly two-thirds of the total student population. The commuter center has been established as a "home base" for these students. Located on the second level of the Natali Student Center, a number of services and opportunities can be found and are made available with the assistance of the staff assigned to this area.

In addition to the professional support staff, the center is staffed by members of the Commuter Council. Students will find a comfortable place to relax away from the classroom. The center provides a lounge, general university information, travel information, a food preparation area including a microwave oven and refrigerator, television and lockers. A telephone is available for essential calls.

The Commuter Council also provides leadership, socialization and support for commuter students. All members of the university community are encouraged to take part in activities associated with the center.

Student Service Access Center

Located on the first level of the Natali Student Center, the access center houses a Macintosh Computer Lab, the Community Service Information Outlet, and Study Around the World program resources.

The computer lab permits student access to a number of computers provided for personal use. The lab is open seven days a week (including evening hours) and remains open twenty-four hours a day during "finals" week. The Student Association, Inc., supports and maintains the computer lab.

Students can obtain information regarding opportunities in community service by volunteering through the Community Service Information Outlet. Information regarding a number of organizations which enlist volunteers in a wide variety of activities is provided through the Guidebook to Community Service Opportunity.

Re-Entry Students

The university has a long-standing tradition of serving our region by providing educational opportunities to re-entry students. Re-entry students are generally identified as individuals who 1) seek a degree following a hiatus from schooling; 2) seek a second degree; 3) seek career skills enhancement; or 4) take non-degree, or continuing education courses.

California University continually strives to plan and deliver programs to enhance re-entry student services.

Contact the Commuter Center Office, located on the second floor of the Natali Student Center, for further details or assistance. 938-4439 Ext. 243.

Women's Center

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

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

Activities are designed to help female students grow and develop an understanding of how women can impact the future. Through special programs and individual counseling, the Center highlights options available to women. In addition, the Center provides programs to help students find creative ways to solve problems and manage the ever-changing roles of women.

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

Opportunities are available for students to serve on the Advisory Board of Directors, serve on special events committees, share ideas for programs and participate in the Mentoring Program. The Women's Center, 114 Clyde Hall, is open Monday through Friday from 8:00 a.m. to 4:00 p.m.

Veterans Affairs

The Office of Veterans Affairs, located in the Center for Student Growth and Development (ext. 4076/4077), is open from 8 a.m. to 4 p.m., Monday through Friday. Evening hours may be arranged by appointment.

All matters pertaining to veterans and those entitled to veterans' benefits are handled in this office. The staff also processes all VA forms and enrollment certifications for eligible students.

All Veterans, Reservists, National Guard personnel, and eligible dependents applying for entrance to the university should contact the Office of Veterans Affairs at an early date so that necessary VA paperwork can be processed to assure timely payments of educational benefits. Veterans are also advised to take advantage of the university's program to award college credits for military service schools.

The on–campus Veterans Club sponsors the Colonel Arthur L. Bakewell Veteran's Scholarship Fund. Two $1,000 scholarships are currently awarded.

Campus Ministry

Spiritual development is an integral part of the process of education and of human growth. A campus ministry, staffed by professional campus ministers, fosters the development of spiritual and religious student life.

The Campus Ministry of California University of Pennsylvania is located in the Natali Student Center, Room 143. Office hours are from 10 a.m. until 4 p.m. on weekdays while the university is in session. Campus ministers are on call twenty–four hours a day. Some of the services provided are worship, pastoral counseling, spiritual direction, information about local churches, and literature from participating faiths. The Campus Ministry sponsors or co–sponsors a variety of religious or service programs.

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

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

Study Around the World Program

Through the student exchange experience, students may complement or supplement their degree program. The Study Around the World program (SAW) administers both domestic and study-abroad opportunities. Each participant selects a program that will enrich their academic, cultural, recreational and social background in consultation with the SAW coordinator and their academic advisor. Students return from exchanges with new perspectives on their education and lives.

A successive candidate for exchange has a willingness to undertake exposure to unfamiliar academic, cultural and social environments. Through exchange exposure, the student frequently becomes more independent as a learner, reflecting the self-reliance and self-confidence gained as a result of having taken a decisive role in planning their future and carrying through with those plans.

The SAW Program is essentially divided into two opportunities; domestic exchanges through the National Student Exchange (NSE) consortium and study-abroad through a multitude of program offerings.

The Study Around the World program coordinator will assist California University students, prospective students and visiting exchange students. The coordinator may be contacted through the Office of Student Development and Services, located in Natali Student Center.

National Student Exchange

The NSE is most popular with California University students as it combines the ease of academic applicability to programs at California University with financial affordability. A student may study at the NSE member institution of their choice for up to a full academic year, undertaking courses approved for application to their degree program at California through approval of their academic advisor. In most cases, the student has the choice to pay either California University tuition or in-state tuition at the host institution.

Basic familiarity with surroundings can also be viewed as advantageous by the student as all NSE member institutions are located in either the United States or U.S. territories. The number of NSE consortium member institutions grows each year. The following schools are currently members of NSE: Alabama A & M University; Alabama State University; University of Alabama; University of Alaska, Anchorage; University of Alaska, Fairbanks; University of Alaska, Southeast; Northern Arizona University; California Polytechnic State University, San Luis Obispo; California State Polytechnic University, Pomona; California State University, Bakersfield; California State University, Chico; California State University, Domingue Hills; California State University, Fresno; California State University, Hayward; California State University, Los Angeles; California State University, Northridge; California State University, San Bernardino; Humbolt State University; Sonoma State University; Fort Lewis College; Mesa State College; University of Northern Colorado; University of Southern Colorado; Western State College; Eastern Connecticut State University; University of Connecticut; University of Delaware; Florida International University; Florida State University; University of West Florida; University of Georgia; University of Guam; University of Hawaii at Hilo; University of Hawaii at Manoa; Boise State University; Idaho State University; Illinois State University; Northeastern Illinois University; Indiana University; Purdue University, Fort Wayne; University of Northern Iowa; Fort Hays State University; Morehead State University; Murray State University; Grambling State University; Louisiana State University; Southern University; University of New Orleans; University of Maine; University of Maine at Farmington; University of Maine at Fort Kent; University of Southern Maine; Bowie State University; St. Mary's College of Maryland; Towson State University; University of Maryland at College Park; University of Massachusetts at Amherst; University of Massachusetts at Boston; Westfield State College; Michigan Technological University; Mankato State University; Moorehead State University; University of Minnesota, Twin Cities; Southwest Missouri State University; University of Missouri–Columbia; University of Missouri-St. Louis; Montana State University-Bozeman; University of Montana; University of Nebraska at Kearney; University of Nevada, Las Vegas; University of Nevada, Reno; University of New Hampshire; Rutgers University; The College of New Jersey; William Paterson College of New Jersey; Eastern New Mexico University; New Mexico State University; University of New Mexico; Hunter College of the City University of New York; SUNY College at Buffalo; SUNY at Plattsburgh; SUNY College at Potsdam; SUNY Center at Stony Brook; East Carolina University; North Carolina Central University; North Carolina State University; University of North Carolina at Wilmington; Bowling Green State University; East Central University; Oklahoma State University; Eastern Oregon State College; Oregon State University; Portland State University; Southern Oregon State College; University of Oregon; California University of Pennsylvania; East Stroudsburg University of Pennsylvania; Indiana University of Pennsylvania; West Chester University of Pennsylvania; Inter American University of Puerto Rico, San German; Universidad del Sagrado, Coraon; University of Puerto Rico, Cayey; University of Puerto Rico, Humacao; University of Puerto Rico, Mayague; University of Puerto Rico, Rio Piedras; Rhode Island College; University of Rhode Island; College of Charleston; South Carolina State University; University of South Carolina; Winthrop University; Northern State University; South Dakota State University; University of South Dakota; University of Memphis; Southwest Texas State University; University of North Texas; University of Texas at El Paso; University of Texas at San Antonio; University of the Virgin Islands; University of Utah; Utah State University; Johnson State College; Virginia Commonwealth University; Virginia State University; Virginia Tech; Central Washington University; University of Washington; Washington State University; Western Washington University; West Virginia University; University of Wisconsin, Eau Claire; University of Wisconsin, Green Bay; University of Wisconsin, River Falls; University of Wyoming.

Study Abroad

A multitude of Study Abroad opportunities exist for students at California University as Study Abroad can take a student to practically any corner of our earth. Inherently, Study Abroad exchange presents a unique challenge to the student. Study Abroad requires advanced planning with respect to academic, cultural and financial considerations. The student must also be willing to carry through with this planning over an extended period of time. However, the result of the Study Abroad commitment can be a splendid one that in many ways sets the Study Abroad student apart from others.

Cal U Student Bookstore

The Cal U Student Bookstore, located on the second level of the Natali Student Center, offers a variety of services for all students, faculty and staff. Students can purchase new or used textbooks for their classes, with used books representing a 25% savings. A textbook reservation service is also available, allowing students to pre-order books before the first week of class.

The Cal U Student Bookstore offers a variety of other items: Cal U clothing and giftware, magazines, newspapers, CDs, greeting cards, and computer software. School supplies, general reading books, and health and beauty aids are also available. We offer free special orders for any book that is not in stock.

Convenient store hours are:

Monday - Thursday 7:45 a.m. - 7 p.m.
Friday 7:45 a.m. - 5 p.m.
Saturday 11 a.m. - 5 p.m.

To place telephone orders or make inquiries, call (412) 938-4324 during business hours.

CUTV (California University Television)

CUTV, California University Television, is the university's cable TV station. It is owned and operated by the Student Association, Inc. CUTV is received by over 50,000 homes, 24 hours a day, via the Helicon and Armstrong cable systems. The station also provides programming to other cable networks, including Fox Sports Pittsburgh.

The mission of CUTV is to produce and provide programming of regional community interest while also providing valuable hands-on educational experience for interested students. At CUTV, students may learn a variety of technical jobs such as camera work, editing, direction and other production roles, and on-air talent positions.

The station has broadcast several regional distance learning courses, allowing viewers to earn college credit from the comfort of their homes. CUTV covers collegiate and high school sports and local government meetings and also produces a weekly news show, a news magazine for Fayette County, a skit-oriented horror movie show and a new movie preview/review program. Many of the sports games are rebroadcast to a multi-state audience of over four million homes by Fox Sports Pittsburgh.

Become part of the award-winning team by dropping in at the CUTV studios located in the Natali Student Center or by calling the director of media services at 938-4303 (room 343).

CUTV may be taken as a CCU course.

WVCS (California Radio Station)

WVCS is a 3,300-watt radio station located in the Natali Student Center. It is owned and operated by the Student Association, Inc.

Students become familiar with on-air skills and they also learn how to operate the radio station equipment.

WVCS may qualify for CCU course credit.

The California Times (California Student Newspaper)

The California Times introduces students to the basic newspaper publication process. The newspaper is published on a weekly basis during the fall and spring semester, and four times during the summer. Students learn production skills using the computers available for production and students also learn writing and editing skills.

The California Times may be qualify for CCU course credit.

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. It is governed by the Office of Student Development and Services with the vice president as the senior administrative officer.

Thirteen varsity sports are available to students who desire to participate in intercollegiate athletics and who meet the academic standards of the university, the PSAC and the NCAA. Freshman students must apply to the NCAA Clearinghouse to be eligible to compete in intercollegiate athletics during their freshman year. Specific requirements may be obtained from the high school counselor, the university athletic director or the Dean for Enrollment Management and Academic Services.

Academic progress for athletes is monitored and a professional staff of athletic trainers is always available. Many assistant coaches and graduate assistants help to coordinate the varsity sports program.

Thirteen varsity sports are available to students: for men, baseball, basketball, football, soccer; for women, basketball, softball, tennis, soccer and volleyball. Cross–country and track and field are available for both men and women.

Multicultural Student Programming

The Office of Multicultural Student Programming provides programs and activities which support the ideals of a culturally diverse student population. It serves as an advocate for students from various backgrounds and offers consultation to other members of the university community when they plan programs or activities.

The office of Multicultural Student Programming is located in the Center for Student Growth and Development, telephone extension 4056. Hours are 8 a.m. to 4 p.m. Monday through Friday.

Social Fraternities and Sororities

A sorority or fraternity is an organization whose members have chosen to establish a close affirmation and friendship with each other. Membership helps to provide leadership opportunities and career preparation.

There are 22 sororities and fraternities to choose from at California University. Every chapter encourages and expects above average scholarship and participation in various activities which offer valuable experience. Community service is also encouraged.

The decision to join a sorority or fraternity is up to the individual and should not be taken lightly. Both the Panhellenic and Interfraternity (IFC) councils suggest that individuals who may be undecided about Greek membership consider participating in Rush before making that decision.

Rush is a series of open houses, informal gatherings, parties and other social events which potential members attend to help them choose membership in a particular fraternity or sorority.

Greek Life can ultimately enhance the college experience at Cal U and leave you with positive experiences that last a lifetime.

Initiates are expected to pay for pledging, initiation and social dues. Pledging fees are used to purchase pledge manuals, notebooks, materials and pledge pins. Initiation fees pay for national dues, subscription to the national magazine, lifetime membership dues and the initiation ceremony. Social dues help to pay for officer budgets and for Rush, special events and social service projects.

California University of Pennsylvania adheres to state, local, and federal guidelines in all hazing matters. Our position on hazing is consistent with state prohibition on hazing activities. This prohibits all forms of hazing by all members of fraternities and sororities. Any infraction of state, local, or federal guidelines reported to a Greek advisor or to the Office of Student Development and Services will be dealt with accordingly. Cal U has recognized the dignity of every individual and has expressed strong opposition to all forms of hazing.

For more information call the Greek Development Office at (412) 938-4303.

Fraternities

Acacia
Alpha Chi Rho
Alpha Kappa Lambda
Alpha Phi Alpha
Delta Chi
Delta Sigma Phi
Kappa Alpha Psi
Phi Beta Sigma
Phi Kappa Theta
Phi Mu Delta
Phi Kappa Sigma
Tau Kappa Epsilon
Theta Xi

Sororities

Alpha Kappa Alpha
Alpha Sigma Alpha
Alpha Sigma Tau
Delta Phi Epsilon
Delta Zeta
Theta Phi Alpha
Phi Sigma Sigma
Sigma Kappa
Zeta Phi Beta

Health Services

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

The Downey–Garofalo Health Center is open 24 hours a day, seven days a week while the university is in session. A staff of full–time registered nurses is on duty at all hours. A qualified physician is on duty for four hours a day, Monday through Friday, during specified hours.

University health services are available to all registered undergraduate and graduate students. Employees, both faculty and staff, conference participants, visiting athletes and other visitors will be given emergency treatment if such an emergency occurs on the university campus. For the most part, the University Health Center is an out–patient facility. However, from time to time, emergencies may be accommodated overnight. In some cases, short–time confinement of students coming from homes located a great distance from the university is also approved. One of the university physicians will determine when a student should return home for treatment and recovery. The physician will also refer students to local hospitals in emergencies and for other treatment beyond the capabilities of the University Health Center. The University Health Center does not assume responsibility of doctor, hospital bills or prescription costs accrued by the students for treatment beyond capabilities of the University Health Center. In cases of emergency, Brownsville General Hospital will usually be used for primary care. The final decision in hospital selection is the student's.

Medical Absences

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

(1) If a student consults a health care professional at the Health Center, and the health care professional determines that the student has or had sufficient medical reason not to attend class (or to fulfill other academic obligations), notification will be sent to the student's professors but only if the student makes a request at that time.

(2) If a student has consulted a private physician, who has determined that the student has or had sufficient medical reason not to attend class (or to fulfill other academic obligations), and the physician notifies the Health Center to that effect in writing, notification to this effect will be sent to the student's professors.

(3) If a student is confined for longer treatment or care at the infirmary section of the Health Center, verification of the confinement will be sent to the student's professors. If a student is hospitalized elsewhere or requires extended recovery with bed rest, written notification should be sent from the attending physician to the Health Center, which will notify the student's professors.

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

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

The delivery of high quality health care is the heart of the Health Center. All areas of the Health Center are under strict rules of confidentiality. Medical information will be released by patient's written consent, by a properly executed subpoena, and to appropriate university offices in an emergency if knowledge of the information is necessary to protect the health and safety of the student and other individuals.

Counseling and Psychological Services

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

Students having trouble understanding their feelings, maintaining satisfactory social and interpersonal relationships, or coping with academic demands, may benefit from seeing a counselor, social worker or psychologist at the Counseling Center.

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

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

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

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

A formal agreement between Southwestern Pennsylvania Human Services, Inc. (SPHS) and California University of Pennsylvania provides diversified counseling services beyond the scope of the Counseling Center.

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

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

CHOICES

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

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

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

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

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

Services For Students With Disabilities

Students with disabilities are provided an equal opportunity to participate in student services and activities conducted by the university. No qualified student is, on the basis of disability, 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 post–secondary program or activity offered or sponsored by this university. Students with disabilities must provide official documentation of disabilities.

University programs and facilities are accessible to students with disabilities, and special needs of students are recognized. The Office of Services for Students with Disabilities, Room 114, Clyde Hall, provides individualized assistance to those in need. Information on disabled students services may be obtained through the coordinator of Services for Students with Disabilities.

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

Office for Students with Disabilities' Assistive Technology Laboratory

The Office for Students with Disabilities' Assistive Technology Laboratory provides students with severe disabilities experiential contact with state-of-the-art technology to augment their abilities to identify resources and to bridge the gap between their educational tenure and their preparation for gainful employment. The goals of the Assistive Technology Lab are to provide:

- a comprehensive resource base, and
- accessibility and support services.

The Lab is multi-purpose, and the equipment is designed to provide structured learning opportunities for students with severe disabilities. It helps students establish their learning and information gathering goals for assistive technology, and focuses on (1) what needs to be accomplished, and (2) what needs to be learned. It helps students with severe disabilities to define their needs.

The Lab provides assessment, evaluation and individual initiatives for assistive technology. It provides students with severe disabilities the opportunity to learn about and use various assistive technology devices and equipment. In addition, students have an opportunity to use these specialized devices on a temporary loan basis.

The Assistive Technology Laboratory hours are 9 a.m. to 4 p.m., although additional hours may be negotiated. For more information, contact the Office for Students with Disabilities at (412) 938-4012, or stop in 114 Clyde Hall.

Parking for Students with Disabilities

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

Persons with disabilities who require special parking privileges must apply for a special temporary/permanent parking permit at the Office of Public Safety. Persons with disabilities desiring a permanent privilege must apply to the state Department of Transportation. Applications are available in the Office of Services for Students with Disabilities and the Office of Public Safety.

General Code of Conduct

The responsibility for administering student discipline at the university is vested in the Division of Student Development. Staff in the division investigate cases of misconduct, meet with students to discuss their rights and responsibilities and refer the case to the appropriate hearing body. Conduct rules, disciplinary penalties and complete hearing procedures are contained in the Rules of Conduct and Judicial Procedures handbook.

The university reserves the right, in the interest of all its students, to decline admission, to suspend, or to require the withdrawal of a student from university housing and/or the university after all appropriate university procedures have been followed.

Registration at the university assumes the student's acceptance of responsibility for compliance with all regulations published in the catalog, as well as any rules found in any official publication.

Student Judicial System

The Dean of Student Development is responsible for administration of the judicial system and the conduct regulations. His office conducts pre-hearing interviews with students charged with a violation of the conduct regulations which may take place on or off campus, takes administrative disciplinary action in certain cases, conducts student/faculty judicial board hearings, maintains all university disciplinary records and serves as a resource to faculty, staff and students for disciplinary matters.

For additional information and regulations governing student life and conduct, students should refer to the current edition of the Vulcan Adventure student handbook and the Rules of Conduct and Judicial Procedures handbook.

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Stephanie Urchick
Dean of Admissions
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Charlene McVay
Dean for Student Development/University Judicial Officer
Timothy Susick
Dean for Residence Life
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Alan K. James
Assistant Dean of Residential Facilities/Conferences
Shawn Urbine
Assistant Director of Veterans Affairs/ADA Compliance Officer
Charles Williamson
Director of Women's Center, Coordinator of Disabled Services
Albertha Graham
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Director of Athletic Development/Off-campus Housing Coordinator
Wayne Miller
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Counseling Psychologists
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Counselor, Drug & Alcohol Specialist
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David Smith
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Tentative Academic Calendar
1997-98

Fall Semester 1997

August 24	Move-In Day for Residence Hall Students
August 25-26	Orientation & Registration
August 27	Classes Begin
August 25-30	Add Period
September 1	Labor Day (no classes)
October 7	Last Day to Drop a Course or Withdraw from the University without Academic or Financial Aid Penalty
October 21	Last Day for Fee Adjustments for Returning Students
October 28	Last Day for Fee Adjustments for New Students
November 21	Last Day to Drop a Course or Withdraw from the University
November 26-30	Thanksgiving Break (no classes)
December 13	Semester Ends (Last Day of Class)
December 15	Grades Due From Faculty

Spring Semester 1998

January 11	Orientation
January 12-13	Orientation & Registration
January 14	Classes Begin
January 12-17	Add Period
February 24	Last Day to Drop a Course or Withdraw from the University without Academic or Financial Aid Penalty
March 16-22	Spring Break (no classes)
March 10	Last Day for Fee Adjustments for Returning Students
March 24	Last Day for Fee Adjustments for New Students
April 9	Last Day to Drop a Course or Withdraw from the University
April 10-11	Easter Break (no classes)
May 1	Semester Ends (Last Day of Class)
May 2	Commencement
May 4	Grades Due from Faculty

Summer Sessions 1998

May 4	May Session Classes Begin
June 1	First Five Week/Ten Week Summer Sessions Begin
July 2	First Five Week Summer Sessions End
July 6	Fourth of July Holiday (no classes)
July 7	Second Five Week Summer Sessions Begin
August 6	Second Five Week/Ten Week Summer Sessions End

Tentative Academic Calendar
1998-99

Fall Semester 1998

August 30	Move-In Day for Residence Hall Students
August 31-September 1	Orientation & Registration
September 2	Classes Begin
August 31-September 5	Add Period
September 7	Labor Day (no classes)
October 6	Last Day to Drop a Course or Withdraw from the University without Academic or Financial Aid Penalty
October 20	Last Day for Fee Adjustments for Returning Students
October 27	Last Day for Fee Adjustments for New Students
November 24	Last Day to Drop a Course or Withdraw from the University
November 25-29	Thanksgiving Break (no classes)
December 19	Semester Ends
December 21	Grades Due From Faculty

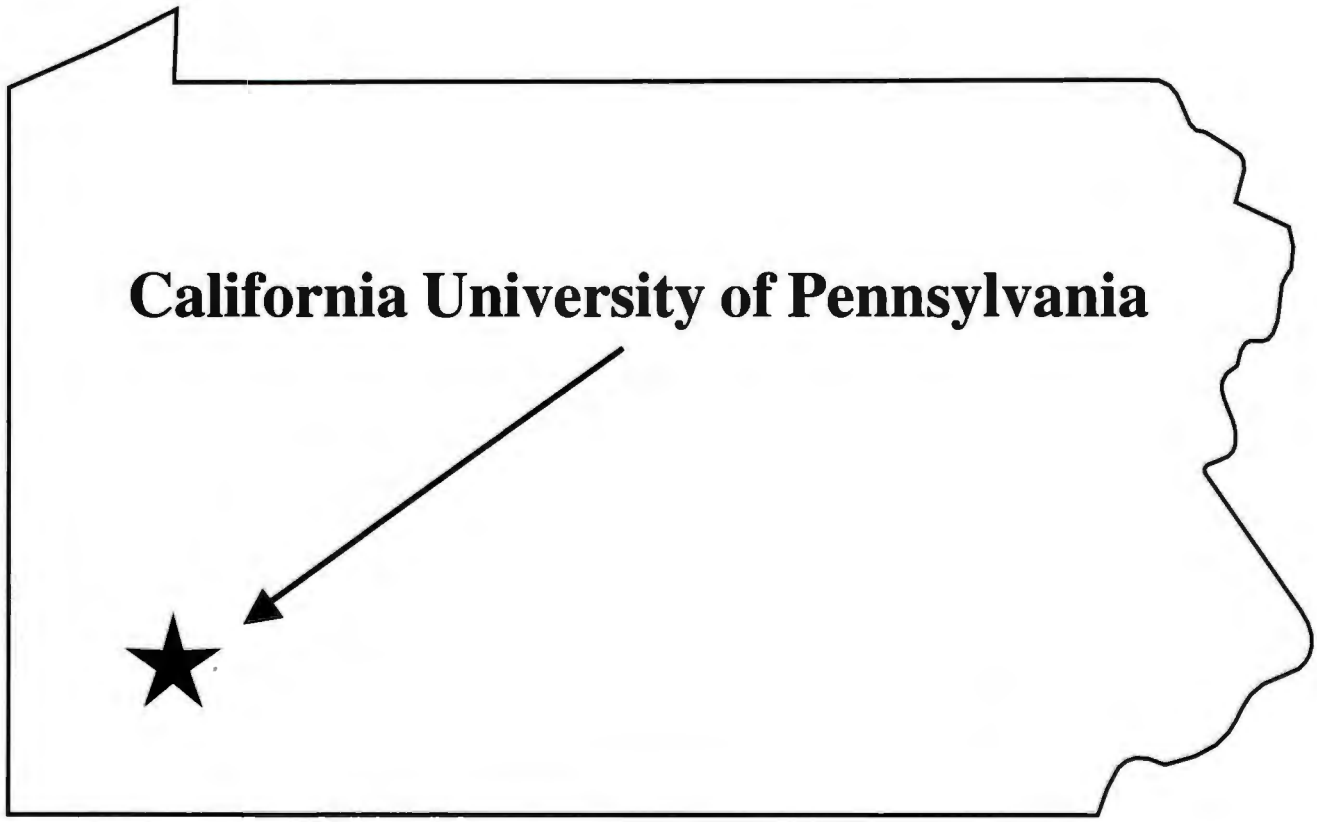
Spring Semester 1999

January 17	Orientation
January 18-19	Orientation & Registration
January 20	Classes Begin
January 18-23	Add Period
March 2	Last Day to Drop a Course or Withdraw from the University without Academic or Financial Aid Penalty
March 15-20	Spring Break (no classes)
March 23	Last Day for Fee Adjustments for Returning Students
March 30	Last Day for Fee Adjustments for New Students
April 2-3	Easter Break (no classes)
April 16	Last Day to Drop a Course or Withdraw from the University
May 8	Semester Ends
May 8	Commencement
May 10	Grades Due from Faculty

Summer Sessions 1999

May 10	May Session Classes Begin
May 31	Memorial Day (no classes)
June 7	First Five Week/Ten Week Summer Sessions Begin
July 9	First Five Week Summer Sessions End
July 5	Fourth of July Holiday (no classes)
July 12	Second Five Week Summer Sessions Begin
August 12	Second Five Week/Ten Week Summer Sessions End

Pennsylvania Map



Directions to California

From Harrisburg, Philadelphia
PA Turnpike West to New Stanton, Exit #8
Interstate 70 West to Exit 15A (Toll Road 43)

From Scranton
Interstate 81 South to PA Turnpike
PA Turnpike West to New Stanton, Exit #8
Interstate 70 West to Exit 15A (Toll Road 43)

From Erie, Pittsburgh
Interstate 79 South to Interstate 70 Exit
Interstate 70 East to Exit 15A (Toll Road 43)

From Pittsburgh
PA 51 South to Interstate 70 West to Exit 15A (Toll Road 43)

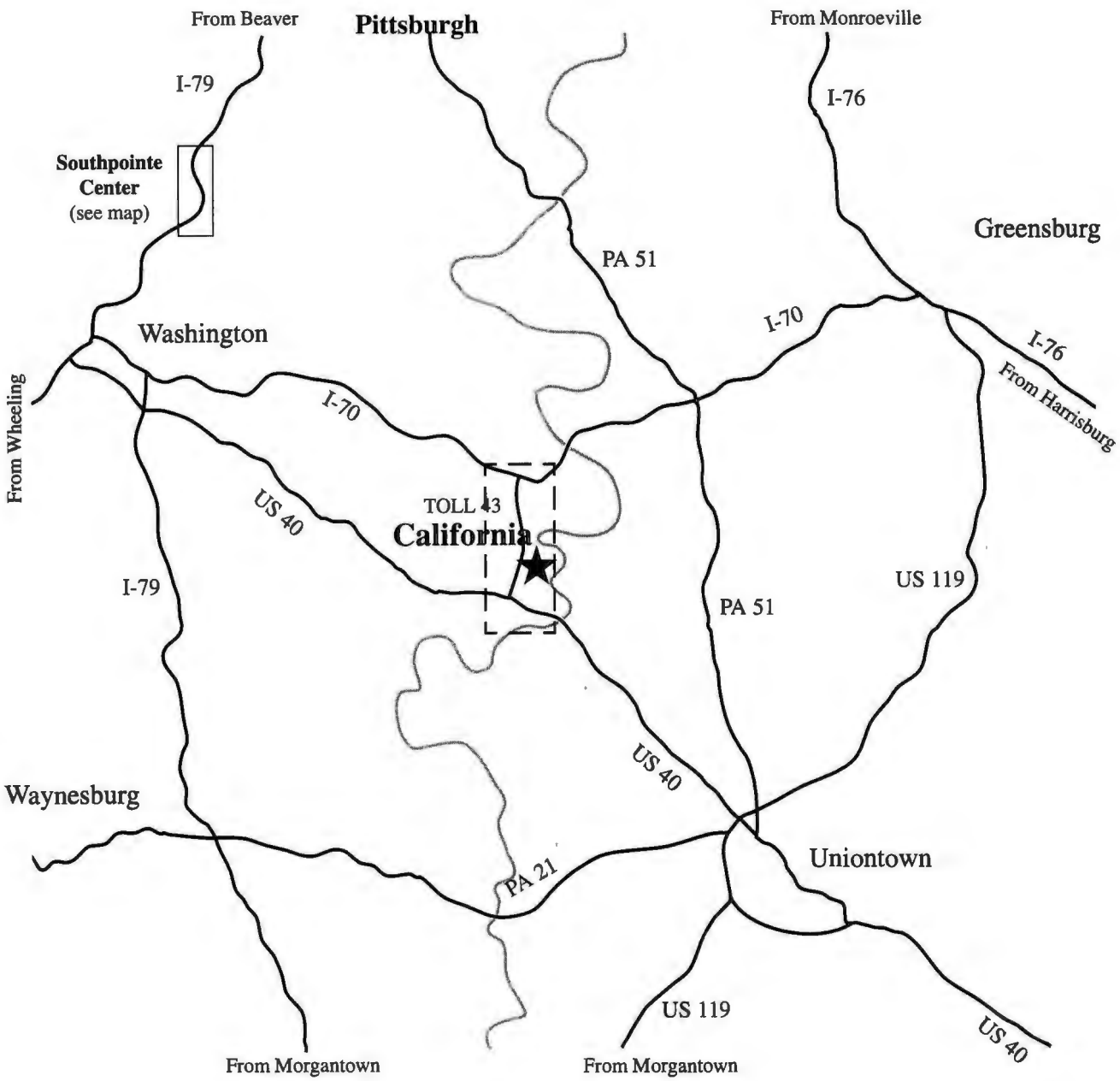
From Baltimore MD, Washington DC
Interstate 70 West to PA Turnpike West to New Stanton, Exit #8
Interstate 70 West to Exit 15A (Toll Road 43)

From Ohio, Wheeling WV
Interstate 70 East to Exit 15A (Toll Road 43)

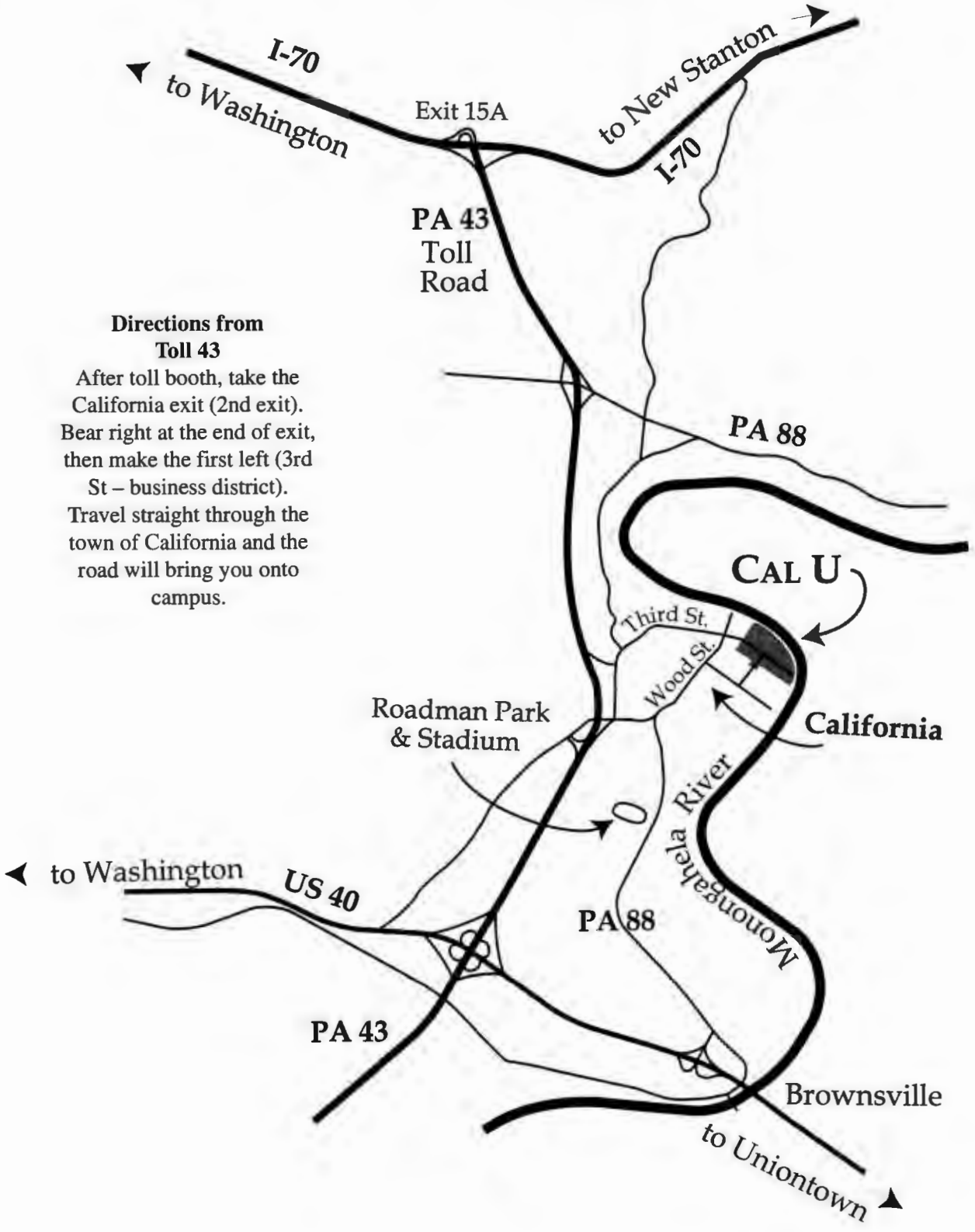
From Charleston, Morgantown WV
Interstate 79 North to Interstate 70 East to Exit 15A (Toll Road 43)

From Uniontown
Route 40 West to Toll Road 43 North exit. Take the California exit. At end of ramp go straight through business district. Follow road straight to campus.

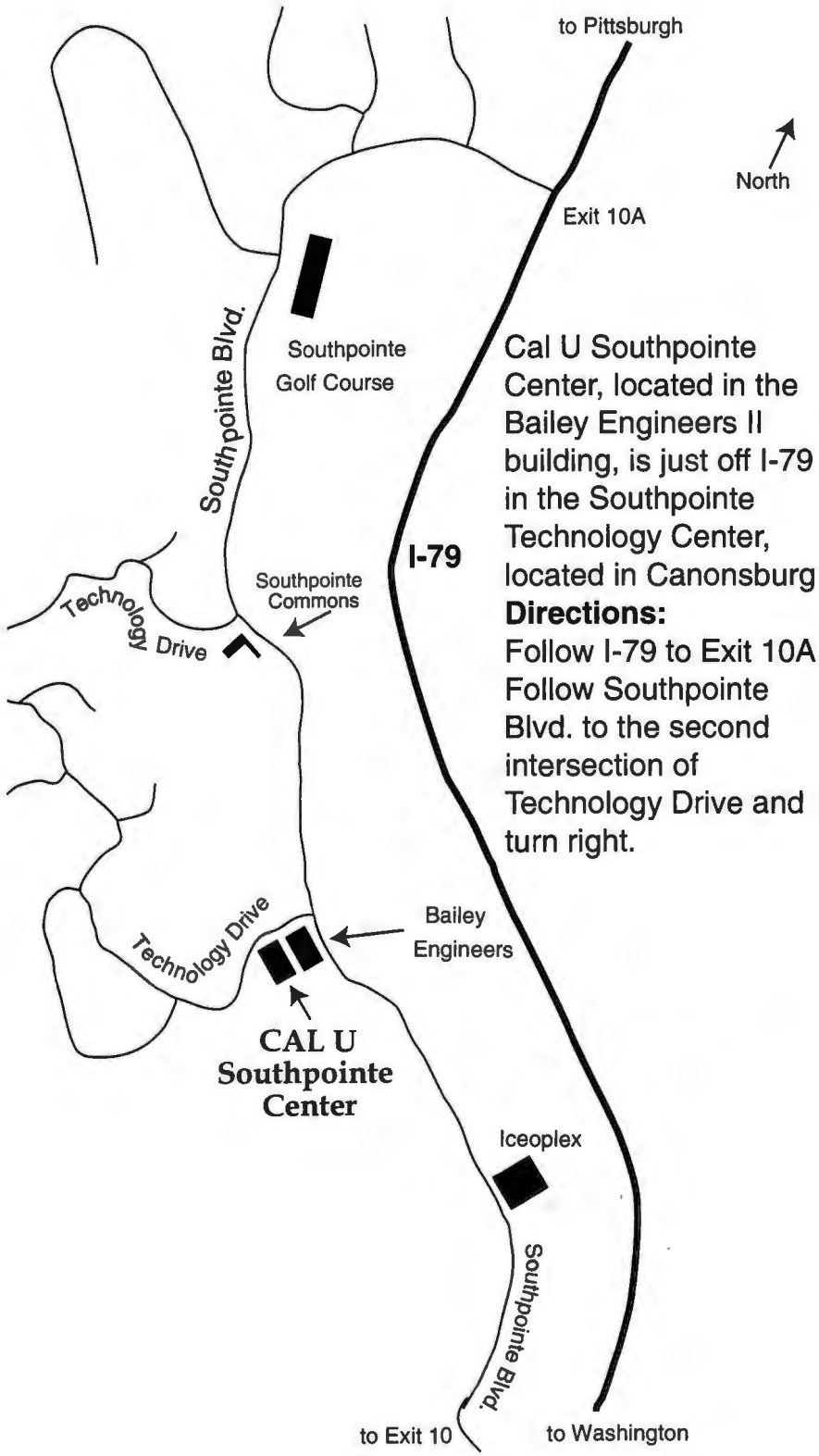
Southwestern Pennsylvania Map



California Area Map



Cal U Southpointe Center



Cal U Southpointe Center, located in the Bailey Engineers II building, is just off I-79 in the Southpointe Technology Center, located in Canonsburg

Directions:

Follow I-79 to Exit 10A

Follow Southpointe Blvd. to the second intersection of Technology Drive and turn right.

Campus Map

Handicap Parking
Handicap Parking
Public Safety
Hickory Street
Sixth Street
Third Street
University Avenue
Entrance Garden
Future Site of Eberly Science & Technology Center
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BUILDING DIRECTORY

1. Azorsky Administration Building
2. *Frich* Biological Science Bldg. (BSC)
3. Carter - Black Culture Center
4. Coover Hall (COO)
5. Dixon Hall (DIX)
6. Gallagher Dining Hall
7. Hamer Hall (HAM)
8. *Downey-Garofalo* Health Services Bldg.
   Student Growth and Development Center
9. Herron Fitness Center (HER)
10. Industrial Arts Building (IAR)
11. Keystone Education (EDU)
12. *Morgan* Learning and Research Center (LRC)
13. Main Hall (MAI)
14. Manderino Library (LML)
15. Military Science Building
16. Natali Student Center
17. New Science Building (NSC)
18. Noss Annex
19. Noss Hall (NOS)
20. Public Safety
21. Reed Arts Center
22. South Hall
23. Steele Auditorium
24. Student Development Annex
25. Vulcan Hall
26. *Duda* World Culture Building (WCU)
27. Watkins Academic Building (WAC)

RESIDENCE HALLS

28. Binns Hall (Men's Dorm)
29. Longanecker Hall (Men's Dorm)
30. Stanley Hall (Women's Dorm)
31. Clyde Hall (Women's Dorm)
32. Johnson Hall (Cal Hall Honor's Dorm)
33. McCloskey Hall (Men's Dorm)

OTHER BUILDINGS

34. Maintenance Building
35. Maintenance Building
36. Maintenance Building

PARKING AREAS

B - Faculty and Staff
C - Faculty and Staff
D - Faculty and Staff
E - Faculty and Staff
J - Faculty and Staff
L - Faculty and Staff
M - Faculty and Staff
S - Student
X - Faculty and Staff

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California University of Pennsylvania

Undergraduate Catalog 1997-98

Social Security Number: _____

Last Name: _____ First Name: _____ MI: ___

Please circle one: Ms. Miss Mrs. Mr.

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: ( ) _____

Starting Year: _____ Please Circle One: Fall Spring Summer

High School: _____ High School Graduation Date: ____

If applicable, list college/university last attended and degree earned: _____

_____

Intended Major: _____

Please circle prospective level of entry:

Freshperson Transfer Certification Visiting Student

Activity/Athletic Interest: _____

California University of Pennsylvania

Undergraduate Catalog 1997-98

Social Security Number: _____

Last Name: _____ First Name: _____ MI: ___

Please circle one: Ms. Miss Mrs. Mr.

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: ( ) _____

Starting Year: _____ Please Circle One: Fall Spring Summer

High School: _____ High School Graduation Date: ____

If applicable, list college/university last attended and degree earned: _____

_____

Intended Major: _____

Please circle prospective level of entry:

Freshperson Transfer Certification Visiting Student

Activity/Athletic Interest: _____

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California, PA 15419-1394
412-938-4000